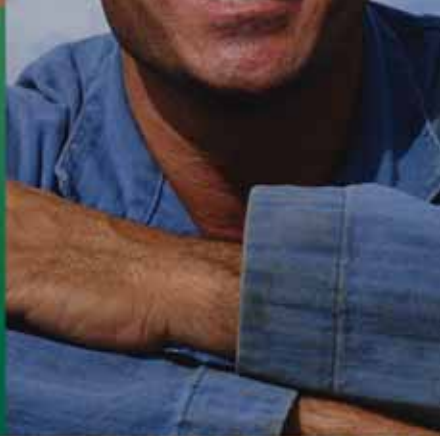
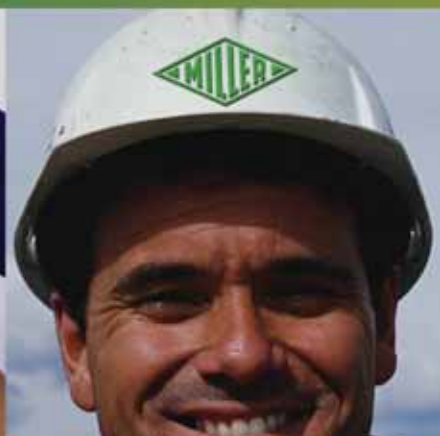




SAFETY
TOOLBOX
TALKS



MILLER
ELECTRIC
COMPANY



*"Quality Service
Since 1928"*



SAFETY TOOLBOX TALKS INTRODUCTION



EC-11

MILLER ELECTRIC COMPANY

"Quality Service Since 1928"

INTRODUCTION TO SAFETY TOOLBOX TALKS

Welcome. If you are reading this, it must mean that you have been selected to give a safety meeting or what is often referred to as a "toolbox talk." This book is **NOT** supposed to tell you how you should conduct these safety meetings. **YOU** know best how to communicate with your personnel. This book serves only as an outline to help you in this process.

The next page is a "Table of Contents." You will notice that there are 244 different talks. The first 4 are actually Miller Electric Co. policies that you may use at your discretion in order to explain different rules of our Company.

The first section of the other meetings is an overview of the topic. This section should be read before you actually give the talk. This will give you a general "heads-up" of what you are going to talking about. The next sections are about the specific subject. Feel free to read this aloud to your personnel. Other sections in each of these meetings are the "training tips" and "Where to go for more information." These sections are great for customizing this training to your site. If you need more information, it will also tell you where you need to go, as well as telling you where it acquired this data.

Use the talks to your advantage. If you see an area where a little more care should be exercised, talk about it. You can give safety meeting whenever you want, however you are required to give them at least once a week. All safety meetings must be documented. There are sheets in the back of this booklet you may use for this purpose. You may need to make copies of these sheets before you run out. Make sure you keep a folder/binder of these safety meetings on the site. This is one of the first things an OSHA inspector will ask for when inspecting a site.

If you have any questions/suggestions about these safety meetings please contact the Miller Electric Co. safety office.

THANK YOU AND HAVE A SAFE DAY.



SAFETY TOOLBOX TALKS

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MILLER ELECTRIC COMPANY

"Quality Service Since 1928"

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Workplace Violence





ANTI-HARASSMENT & NON DISCRIMINATION POLICY

M.5

Miller Electric Company is committed to a work environment in which all individuals are treated with respect and dignity. Each individual has the right to work in a professional atmosphere that promotes equal employment opportunities and prohibits discriminatory practices, including harassment. Therefore all relationships among persons in the employment of Miller Electric Company will be business-like and free of bias, prejudice and harassment.

(A) EQUAL EMPLOYMENT OPPORTUNITY

It is the policy of Miller Electric Company to ensure equal employment without discrimination or harassment on the basis of race, color, religion, sex, sexual orientation, age, disability, marital status, citizenship or any other characteristic protected by law. Miller Electric Company prohibits any such discrimination or harassment.

(B) RETALIATION IS ALSO PROHIBITED

Miller Electric Company encourages reporting of all perceived incidents of discrimination or harassment. It is the policy of Miller Electric Company to investigate such reports. Miller Electric Company prohibits retaliation against any individual who reports discrimination or harassment or participates in an investigation of such reports.

(C) DEFINITIONS OF HARASSMENT

Sexual harassment constitutes discrimination and is illegal under federal, state and local laws. Sexual harassment is defined, as in the Equal Employment Opportunity Commission Guidelines, as unwelcome sexual advances, requests for sexual favors and other verbal or physical conduct of a sexual nature when, for example:

- (1) Submission to such conduct is made explicitly or implicitly a term or condition of an individual's employment.
- (2) Submission or rejection of such conduct by an individual is used as the basis for employment decisions affecting such individual; or,
- (3) Such conduct has the purpose or effect of unreasonably interfering with an individual's work performance or creating an intimidating, hostile or offensive working environment.
- (4) Sexual harassment may include a range of subtle and not so subtle behaviors and may involve individuals of the same or different gender. Depending on the circumstances, these behaviors may include, but are not limited to:
 - (i) Unwanted sexual advances or requests for sexual favors,
 - (ii) Sexual jokes and innuendo,

- (iii) Verbal abuse of a sexual nature,
 - (iv) Commenting about an individual's body,
 - (v) Sexual prowess or sexual deficiencies,
 - (vi) Leering, whistling or touching,
 - (vii) Insulting or obscene comments or gestures,
 - (viii) Display in the workplace of sexually suggestive objects or pictures,
 - (ix) Other physical, verbal or visual conduct of a sexual nature.
- (5) Harassment on the basis of any other protected characteristic is also strictly prohibited. Under this policy, harassment is verbal or physical conduct that denigrates or shows hostility or aversion toward an individual because of his/her race, color, religion, sex, sexual orientation, national origin, age, disability, marital status, citizenship or any other characteristic protected by law or that of his/her relatives, friends or associates, and that:
- (i) Has the purpose or effect of creating an intimidating, hostile or offensive work environment;
 - (ii) Has the purpose or effect of unreasonably interfering with an individual's work performance; or,
 - (iii) Otherwise adversely affects an individual's employment opportunities.
- (6) Harassing conduct includes, but is not limited to:
- (i) Epithets, slurs or negative stereotyping,
 - (ii) Threatening, intimidating or hostile acts,
 - (iii) Denigrating jokes,
 - (iv) Written or graphic material that denigrates or shows hostility or aversion toward an individual or group that is placed on walls or elsewhere on the employer's premises or circulated in the workplace.

(D) INDIVIDUALS AND CONDUCT COVERED

M.5(d)(1) These policies apply to all applicants and employees, whether related to conduct engaged in by fellow employees or someone not directly connected to Miller Electric Company (e.g., an outside vendor, consultant or customer).

M.5(d)(2) Conduct prohibited by these policies is unacceptable in the workplace and in any work-related setting outside the workplace, such as during business trips, business meetings and business-related social events.

(E) REPORTING AN INCIDENT OF HARASSMENT, DISCRIMINATION OR RETALIATION

- (1) Miller Electric Company encourages reporting of all perceived incidents of discrimination, harassment or retaliation, regardless of the offender's identity or position. Individuals who believe that they have been the victim of such conduct should discuss their concerns with the Safety Director (Michael B. Oliver, 904-981-0205) or the Secretary/Treasurer (Susan Walden, 904-981-0221) of Miller Electric Company. See the Complaint Procedure described below
- (2) In addition, Miller Electric Company encourages individuals who believe they are being subjected to such conduct promptly to advise the offender that his/her behavior is unwelcome and request that it be discontinued. Often this action alone will resolve the

problem. Miller Electric Company recognizes, however, that an individual may prefer to pursue the matter through informal or formal complaint procedures

(F) COMPLAINT PROCEDURE

(1) Informal Procedure

- (i) If for any reason an individual does not wish to address the offender directly, or if such action does not successfully end the offensive conduct, the individual should notify the Safety Director (Michael B. Oliver, 904-981-0205) or the Secretary/Treasurer (Susan Walden, 904-981-0221), if the individual so requests, talk to the alleged offender on the individual's behalf. In addition, there may be instances in which an individual seeks only to discuss matters with one of the Miller Electric Company designated representatives, and such discussion is encouraged
- (ii) An individual reporting harassment, discrimination or retaliation should be aware, however, that Miller Electric Company may decide it is necessary to take action to address such conduct beyond an informal discussion. This decision will be discussed with the individual. The best course of action in any case will depend on many factors and, therefore, the informal procedure will remain flexible. Moreover, the informal procedure is not a required first step for the reporting individual

(2) Formal Procedure

- (i) As noted above, individuals who believe they have been the victims of conduct prohibited by this policy statement or believe they have witnessed such conduct should discuss their concerns with the Safety Director (Michael B. Oliver, 904-981-0205) or the Secretary/Treasurer (Susan Walden, 904-981-0221)
- (i) Miller Electric Company encourages the prompt reporting of complaints or concerns so that rapid and constructive action can be taken before relationships become irreparably strained. Therefore, while no fixed reporting period has been established, early reporting and intervention have proven to be the most effective method of resolving actual or perceived incidents of harassment
- (ii) Any reported allegations of harassment, discrimination or retaliation will be investigated promptly. The investigation may include individual interviews with the parties involved and, where necessary, with individuals who may have observed the alleged conduct or may have other relevant knowledge
- (iii) Confidentiality will be maintained throughout the investigatory process to the extent consistent with adequate investigation and appropriate corrective action
- (iv) Retaliation against an individual for reporting harassment or discrimination or for participating in an investigation of a claim of harassment or discrimination is a serious violation of this policy and, like harassment or discrimination itself, will be subject to disciplinary action. Acts of retaliation should be reported immediately and will be promptly investigated and addressed
- (v) Misconduct constituting harassment, discrimination or retaliation will be dealt with appropriately. Responsive action may include, for example, training, referral to counseling and/or disciplinary action such as warning, reprimand, withholding of a promotion or pay increase, reassignment, temporary suspension without pay or termination, as Miller Electric Company believes appropriate under the circumstances
- (vi) False and malicious complaints of harassment, discrimination or retaliation as opposed to complaints which, even if erroneous, are made in good faith, may be the subject of appropriate disciplinary action

(G) CONCLUSION

Miller Electric Company has developed this policy to ensure that all its employees can work in an environment free from harassment, discrimination and retaliation. Miller Electric Company will make every reasonable effort to ensure that all concerned are familiar with these policies and aware that any complaint in violation of such policies will be investigated and resolved appropriately

Any employee who has any questions or concerns about these policies should talk with the Secretary/Treasurer or Safety Director.



SAFETY TOOLBOX TALKS SAFETY DISCIPLINE PROGRAM



MILLER ELECTRIC COMPANY

"Quality Service Since 1928"

SAFETY DISCIPLINE PROGRAM

M.10

(A) OBJECTIVE

To establish enforcement procedure by which violations of Company safety rules and regulations are addressed. This policy will apply to all Miller Electric Company employees and sub-contractors. The intent of this policy is to empower those Miller Electric Company employees in supervisory positions (as defined below) to enforce the safety discipline policy described herein.

(B) DEFINITIONS

Company – Miller Electric Company

Safety Violation – Any violation of Company safety policy as stated in the Project Safety, Hazard Communication & Substance Abuse Manual. This shall include all site-specific and customer safety rules.

Life-Threatening Safety Violation – Any violation of Company safety policy that has been determined by project supervision as a violation that can directly result in a serious or fatal injury.

Supervisory Personnel or Project Supervision – Any employee, who is foreman class or higher, including Safety personnel, Project managers and Company officers. Except on those projects or work situations where there are no foremen assigned, then the journeyman designated as in-charge shall be classified as a supervisory personnel for the purposes of this policy.

Safety Personnel – Any employee who is working in a designated safety capacity.

Written Warning – Written documentation of a safety violation using the four-part Employee Warning Form.

(C) PROCEDURES

- (1) Any employee observed by supervisory personnel who are committing a safety violation shall be subject to the issuance of a Written Warning. The distribution of the Written Warning shall be as follows:
 - (i) White copy – Employer (personnel file)
 - (ii) Canary copy – Employee
 - (iii) Pink copy – Local Union
 - (iv) Goldenrod – Safety Director
- (2) Any employee observed by supervision that is committing a Life-Threatening Safety Violation shall be subject to immediate termination and shall not be eligible for re-hire.

(D) SAFETY VIOLATIONS – PENALTIES

- (1) Any employee, who has received two Written Warnings within a twelve (12) month period, shall be subject to a suspension without pay for a period not greater than seven (7) days.
- (2) Any Employee who has received three (3) Written Warnings within a 12 months period, shall be subject to immediate termination and shall not be eligible for re-hire.



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- (a) **Miller Electric Company is committed to safeguarding the health of our employees, providing a safe place to work, and supplying our customers with the highest quality of service possible. The objective of this program is to provide a safe and productive workplace environment free from drug and alcohol abuse. This policy provides guidance to all employees and supervisors concerning Miller Electric’s position on the use of controlled substances and their effect on the workplace. Additionally, this policy provides standards for those Miller Electric Company employees who have a Commercial Driver License (CDL) as a requirement of their job. This class of employee is subject to drug and alcohol testing rules established by the Federal Highway Administration in 49 CFR 382, *Controlled Substances and Alcohol Use and Testing* and 49 CFR 40, *Procedure for Transportation Workplace Drug and Alcohol Testing Programs*.**

(b) DEFINITIONS

- (1.) **“Accident”** means an auto accident or a jobsite related injury. For auto accidents, the employee must have been operating a company owned, rented or leased vehicle or who was operating any vehicle on company property including jobsites.
- (2.) **“Chain of Custody”** refers to the methodology of tracking specified materials or substances for the purposes of maintaining control and accountability from initial collection to final disposition for all such materials or substances and providing for accountability at each stage in handling, testing, and storing specimens and reporting test results.
- (3.) **“Confirmation test”, “confirmed test”, or “confirmed drug test”** means a second analytical procedure used to identify the presence of a specific drug or metabolite in a specimen, which test must be different in scientific principle from that of the initial test procedure and must be capable of providing requisite specificity, and quantitative accuracy.

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- (4.) **"Drug"** means alcohol, including a distilled spirit, wine, a malt beverage, or an intoxicating liquor; an amphetamine; a cannabinoid; cocaine; phencyclidine (PCP); a hallucinogen; methaqualone; an opiate; a barbiturate; a benzodiazepine; notwithstanding the definitions in this section, the only hallucinogen to be tested for is phencyclidine (PCP) and the only synthetic narcotics to be tested for are methadone and propoxyphene, and there will not be testing for the presence of designer drugs until standard testing procedures are developed for such drugs.
- (5.) **"Drug rehabilitation program"** means a service provider that provides confidential, timely, and expert identification, assessment, and resolution of employee drug abuse.
- (6.) **"Drug test" or "test"** means any chemical, biological. Or physical instrumental analysis administered, by a laboratory certified by the United States Department of Health and Human Services or licensed by the Florida Agency for Health Care Administration, for the purpose of determining the presence or absence of a drug or its metabolites.
- (7.) **"Employee"** means any person who works for salary, wages, or other remuneration for Miller Electric Company, Inc.
- (8.) **"Employee assistance program"** means an established program capable of providing expert assessment of employee personal concerns; confidential and timely identification services with regard to employee drug abuse; referrals of employees for appropriate diagnosis, treatment, and assistance; and follow-up services for employees who participate in the program or require monitoring after returning to work.
- (9.) **"Employer"** For purposes of this policy, Miller Electric Company, Inc.
- (10.) **"Initial drug test"** means a sensitive, rapid, and reliable procedure to identify negative and presumptive positive specimens, using an immunoassay procedure or an equivalent, or a more accurate scientifically accepted method approved by the United States Food and Drug Administration or the Agency for Health Care Administration as such more accurate technology becomes available in a cost-effective form.
- (11.) **"Job applicant"** means a person who has applied for a position with Miller Electric Company and has been offered employment conditioned upon successfully passing a drug test and may have begun work pending the results of the drug test.

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- (12.) **“Medical review officer” or “MRO”** means a licensed physician, employed with or contracted with an employer, who has knowledge of substance abuse disorders, laboratory testing procedures, and chain of custody collection procedures; who verifies positive, confirmed test results; and who has the necessary medical training to interpret and evaluate an employee’s positive test result in relation to the employee’s medical history or any other relevant biomedical information.
- (13.) **“Prescription or nonprescription medication”** means a drug or medication obtained from a licensed medical physician, or a medication that is authorized pursuant to federal or state law for general distribution and use without a prescription in the treatment of human diseases, ailments, or injuries.
- (14.) **“Reasonable suspicion drug testing”** means drug testing based on a belief that an employee is using or has used drugs in violation of the employer’s policy drawn from specific objective and articulable facts and reasonable inferences drawn from those facts in light of experience. Among other things, such facts and inferences may be based upon;
- (i.) Observable phenomena, such as direct observation of drug use or of the physical symptoms or manifestations of being under the influence of a drug.
 - (ii.) Abnormal conduct or erratic behavior while at work or a significant deterioration in work performance.
 - (iii.) A report of drug use, provided by a reliable and credible source.
 - (iv.) Evidence that an individual has tampered with a drug test during his or her employment with Miller Electric Company.
 - (v.) Information that an employee has caused, contributed to, or been involved in an accident while at work.
 - (vi.) Evidence that an employee has used, possessed, sold, solicited, or transferred drugs.
- (15.) **“Safety-sensitive position”** means a position in which a momentary lapse in attention could result in injury or death to another person.
- (16.) **“Specimen”** means tissue, hair, or a product of the human body capable of revealing the presence of drugs or their metabolites, as approved by the United States Food and Drug Administration or the Agency for Health Care Administration.

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(c) EFFECTIVE DATE – NOTICE TO EMPLOYEES

- (1.) The policies set forth in this policy are effective immediately. Each current employee will be furnished a copy of this policy and will sign a receipt for same. Newly hired employees will be furnished a copy at time of hire. These policies have been implemented in a manner that complies with all applicable federal and state laws. The company will continue to monitor developing laws impacting this area to be certain administration of this program complies with applicable laws.
- (2.) The company shall include notice of drug testing on vacancy announcements for those positions for which drug testing is required. A notice of the drug testing policy will also be posted in an appropriate and conspicuous location on the company's premises, and copies of the policy will be made available for inspection during regular business hours in the safety office or other suitable locations.
- (3.) Cut-off levels used by the testing laboratory when analyzing specimens to determine whether they are positive or negative for drugs and metabolites may change from time to time. The company will follow recommendations established for these agencies and will modify the company's policy to comply with any new standard.

(d) TYPES OF TESTING

- (1.) Job Applicant, Pre-employment- Miller Electric Company will require job applicants to submit to a drug test and will use a refusal to submit to a drug test or a positive confirmed drug test as a basis for refusal to hire the job applicant.
- (2.) Random Testing- To meet regulatory requirements for CDL holders, two Random Testing pools are established. Random Testing will be administered to the average number of CDL holders at the annual rate of 25% for alcohol and 50% for controlled substances. The second

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Random Testing pool is for all other Miller Electric Company employees and will be administered to the average number of employees at the annual rate of 10%. Only tests for controlled substances will be administered to this group, unless there is reasonable suspicion of alcohol use evident to the test administrator.

The employee selection pools shall be generated randomly by employee number via computer program maintained by the Director of Human Resources and the Director of Safety. To ensure confidentiality, no other personnel shall have access to this program unless authorized access is necessary for program maintenance.

These tests will be performed on an unannounced basis throughout the year. An employee may randomly be tested for controlled substances and alcohol at the same time or at different times during the year. Random testing pools for CDL holders and all other Miller Electric Company employees are exclusive of one another. An employee cannot be in both pools.

Once an individual has been selected, an order form shall be generated specifying the testing facility and restating the requirements of the procedure. This letter shall be sent by the Safety Director or the Director of Human Resources (via email) to the Project Manager or Branch Manager that supervises the chosen individual. Once this letter is received, the manager shall then contact the individual and have him/her report to their location in order to receive the order form and a Custody and Control Form (CCF). Upon notifying the individual, time shall be marked on the order form indicating how long the individual has to complete the test (3 hours). A copy of this form shall then be sent to the Safety Department for review and retention.

Once the chosen individual has been notified that they should report for a random test, the employee must proceed immediately to the testing facility. Employees who do not report for the random test and provide a sample within three (3) hours will be considered to have refused to cooperate and subject to disciplinary action up to and including termination of employment.

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- (3.) Reasonable Suspicion- Employees are required to submit to alcohol and /or controlled substance testing when a supervisor believes there is a reasonable suspicion that the employee has violated the prohibitions of this policy.

Reasonable suspicion is a judgment made by the supervisor, or Manager, after reviewing an employee's physical, behavioral, speech, and performance indicators associated with the probable misuse of alcohol or drugs. This testing must be authorized by the Director of Human Resources or the Director of Safety or appropriate designee. The supervisor shall maintain a written record of the observations, which led to the testing. This record shall be signed by the supervisor who made the observations.

A supervisor may receive notice from a customer, citizen or other employee that there is a reasonable suspicion that an employee is misusing alcohol and/or drugs. The supervisor shall immediately investigate the matter to determine if the employee is displaying any suspicious behaviors that would warrant testing. If testing is warranted, the supervisor shall immediately begin the testing process. If testing is not warranted, supporting documentation will be maintained.

Employees who have reasonable suspicion that their supervisor has violated the prohibitions of this policy should report this information to the next highest level of supervision. Employees may also report concerns to the Director of Human Resources or the Director of Safety.

Reasonable Suspicion Tests shall be administered within 2 hours of the observance of indicators of alcohol or drug use. If this 2-hour time is not met, the following actions are required based on the elapsed time:

Drug Testing

2-32 Hours- The supervisor shall prepare and maintain on file a record stating why the test was not promptly administered. Attempts to test the employee shall continue.

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32+ Hours- The supervisor will cease attempts to test the employee and will prepare and maintain a record explaining this further delay.

Alcohol Testing

2-8 Hours- The supervisor shall prepare and maintain on file a record stating why the test was not promptly administered. Attempts to test the employee shall continue.

8+ Hours- The supervisor will cease attempts to test the employee and will prepare and maintain a record explaining this further delay.

All incidents where tests are not promptly administered must be reported to the Manager, Director of Human Resources and the Director of Safety.

For Reasonable Suspicion Testing, the employee will be placed on Administrative Leave With Pay from the time tests are administered until the test results have been provided to Miller Electric Company.

- (4.) Routine Fitness for Duty- Miller Electric Company will require an employee to submit to a drug test if the drug test is conducted as part of a routinely scheduled employee fitness-for-duty medical examination that is part of Miller Electric Company's established policy or that is scheduled routinely for all members of an employment classification or group. (Example Department of Transportation)
- (5.) Follow-up- If the employee in the course of employment enters an employee assistance program for drug related problems, or an alcohol and drug rehabilitation program, Miller Electric Company will require the employee to submit to a drug test as a follow-up to such program, and on a quarterly basis for up to two years thereafter.
- (6.) Customer Requirements- If a customer of Miller Electric Company requests that personnel working on a jobsite have a current drug test, all Miller Electric Company employees will comply with the requirements of the customer.
- (7.) Post Vehicular and Equipment/Machine Accident Testing- Within two (2) hours following an accident involving a vehicle used for Company

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business, the driver must be tested for alcohol and controlled substances when the accident meets the following guidelines.

Vehicular Accidents

1. When there is a Company vehicle accident involving personal injury or property damage, and employee is operating the vehicle and the employee is determined to be at fault of a moving violation.
2. When there is a Company vehicle accident involving personal injury or property damage, and employee is operating the vehicle and the Police Officer or supervisor at the scene suspects drug or alcohol may have contributed to the cause of the accident.

Equipment/Machine Accidents

1. When the Company employee failed to use the appropriate safety equipment or procedures in operating the equipment/machinery
2. When there is injury to persons or property caused by the employee's failure to use appropriate safety equipment or procedures.
3. When a supervisor at the scene suspects drug or alcohol may have contributed to the cause of the accident.

It is the supervisor's responsibility to assure compliance with this requirement. This includes motorized equipment as well as cars and trucks. If this 2-hour time is not met, the following actions are required based on the elapsed time:

Drug Testing

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2-32 Hours- The supervisor shall prepare and maintain on file a record stating why the test was not promptly administered. Attempts to test the employee shall continue.

32+ Hours- The supervisor will cease attempts to test the employee and will prepare and maintain a record explaining this further delay.

Alcohol Testing

2-8 Hours- The supervisor shall prepare and maintain on file a record stating why the test was not promptly administered. Attempts to test the employee shall continue.

8+ Hours- The supervisor will cease attempts to test the employee and will prepare and maintain a record explaining this further delay.

All incidents where tests are not promptly administered must be reported to the Project Manager and the Director of Safety.

- (8.) Post Worker's Compensation Accident Testing- Employees are required to submit to alcohol and/or controlled substance testing within two (2) hours following an accident that has met the determination that a Worker's Compensation accident has occurred.

Drug Testing

2-32 Hours- The supervisor shall prepare and maintain on file a record stating why the test was not promptly administered. Attempts to test the employee shall continue.

32+ Hours- The supervisor will cease attempts to test the employee and will prepare and maintain a record explaining this further delay.

Alcohol Testing

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2-8 Hours- The supervisor shall prepare and maintain on file a record stating why the test was not promptly administered. Attempts to test the employee shall continue.

8+ Hours- The supervisor will cease attempts to test the employee and will prepare and maintain a record explaining this further delay.

All incidents where tests are not promptly administered must be reported to the Project Manager, Director of Human Resources and the Director of Safety.

Employees subject to post-accident testing must refrain from consuming alcohol for eight (8) hours following the accident, or until the alcohol test is administered, whichever comes first. In addition, until testing is arranged, employees must remain readily available, or Miller Electric Company will consider the employee to have refused to submit to testing.

(e) TESTING GUIDELINES

- (1) For all types of tests, employees will be notified of the pending test by their supervisor or designee.
- (2) All persons presenting themselves for testing must provide a pictured identification issued by state or federal government, such as a driver's license, or military identification as proof of identity. Lack of proper identification presented prior to the end of the reporting period will be considered refusal to submit to testing.
- (3) Employees must report immediately to the test location within:
 - Three hours for Random Testing,
 - Two hours for Reasonable Suspicion Testing, and
 - Two hours for Post-Accident Testing.
- (4) After signing in at the testing facility- if employees leave before providing a specimen, they will be considered as refusing to submit to testing.

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- (5) Employees must proceed with the prescribed test as directed by the person conducting the test.
- (6) Evidence of adulteration or dilution of urine samples, per Department of Transportation guidelines, will result in witnessed collection.
- (7) Breath Alcohol Test results are available immediately. Appropriate action shall be initiated based on those results.
- (8) Forensic Urine Drug Test results are not immediately available. Appropriate action shall be initiated pending receipt of those results. Employees who are tested because of reasonable suspicion will be placed on Administrative Leave With Pay pending the receipt of test results. All other employees will remain on active duty status pending the receipt of test results. When the test results are received, appropriate action shall be initiated based on those results.

(f) PRESCRIPTION AND NON-PRESCRIPTION MEDICATIONS

- (1.) No prescription drug shall be brought upon the company premises or jobsite by any person other than the person for whom the drug is prescribed by a licensed medical practitioner, and shall be used only in the manner, combination and quantity as prescribed. Employees must keep all prescribed medicine in its' original container, which identifies the drug, date of prescription, and the prescribing doctor. Employees must also report to the Safety Director, Michael Oliver, (904)981-0205, the use of any prescribed drug which may alter the employee's behavior or physical or mental ability prior to commencing work. The company may change the employee's job assignment during the period of treatment.
- (2.) Employees and job applicants have the right to consult with the Medical Review Officer for technical information regarding prescription

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or non-prescription medication for the purpose of interpreting the test result to determine whether the result could have been caused by prescription or non-prescription medication taken by the employee or job applicant.

(g) PROHIBITIONS

- (1.) Use, possession, manufacture, distribution, dispensation or sale of illegal drugs or drug paraphernalia on company premises or company business, in company supplied vehicles, or during working hours;
- (2.) Unauthorized use or possession, or any manufacture, distribution, dispensation or sale of a controlled substance on company premises or company business, in company supplied vehicles, or during working hours;
- (3.) Unauthorized use or possession, or any manufacture, distribution, dispensation or sale of alcohol on company premises or company business, in company supplied vehicles, or during working hours;
- (4.) Storing in a locker, desk, automobile, or other repository on company premises or company business any illegal drug, drug paraphernalia, any controlled substance whose use is unauthorized, or any alcohol;
- (5.) Being under the influence of an unauthorized controlled substance, illegal drug or alcohol on company premises or company business, in company supplied vehicles, or during working hours; being "under the influence" of alcohol is defined as a blood alcohol content of .05 or higher; "being under the influence" of an unauthorized controlled substance or illegal drug is defined as testing positive at a specified ng/ml level;
- (6.) Use of alcohol off company premises or company business that adversely affects the employee's work performance, his own or others' safety at work, or the company's regard or reputation in the community;

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- (7.) Possession, use, manufacture, distribution, dispensation or sale of illegal drugs off company premises or company business that adversely affects the employee's work performance, his own or others' safety at work, or the company's regard or reputation in the community;
- (8.) Switching or adulterating any urine sample submitted for testing;
- (9.) Refusing consent to testing or to submit a breath, saliva, urine or blood sample for testing when requested by management under the requirements of this policy.
- (10.) Refusing to submit to an inspection when requested by management under the requirements of this policy.
- (11.) Failing to adhere to the requirements of any drug or alcohol treatment or counseling program in which the employee is enrolled;
- (12.) Conviction under any criminal drug statute;
- (13.) Arrest under any criminal drug statute under circumstances which adversely affects the company's regard or reputation in the community;
- (14.) Failure to notify the company of any arrest or conviction under any criminal drug statute within 5 days of the arrest or conviction;
- (15.) Failure to report to the Supervisor, Safety Director, or Director of Human Resources, the use of a prescribed drug which may alter the employee's behavior or physical or mental ability;
- (16.) Failure to keep prescribed medicine in its original container;
- (17.) Refusing to sign a statement agreeing to abide by the company's Substance Abuse Policy;
- (18.) Refusal to complete a Consent Form prior to testing;
- (19.) Refusal to complete the Chain of Custody Form after submission of a urine or blood specimen.

(h) TESTING PROCEDURES

- (1.) Drugs for Which a Test Will be Conducted
 - (i.) ALCOHOL (booze, hootch, drink, beer, liquor, wine, moon shine). All liquid medications containing ethyl alcohol (ethanol). Please note the label for alcohol content. As an example, Vicks Nyquil is 25% (50 proof) ethyl alcohol. Comtrex is 20% (40 proof). Contact Severe Cold Formula Night Strength is 25% (50 proof) and Listerine is 26.9% (54 proof).

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- (ii.) AMPHETAMINES (bennies, black beauties, crystal, speed, uppers, crank) Obetrol, Biphetamine, Desoxyn, Dexedrine, Didrex.
- (iii.) CANNABINOIDS (Marijuana, Hashish, mary-jane, grass, reefer, pot, dope, etc.) Marinol (Dronabinol, TEC)
- (iv.) COCAINE (coke, crack, blow, nose candy, toot, snow) Cocaine HCl topical solution (Roxanne)
- (v.) PHENCYCLIDINE (PCP, angel dust)
- (vi.) METHAQUALONE (ludes, Quaalude, optimil, parest, somnafac, sopor)
- (vii.) OPIATES (heroin, horse, smack, powder) Paregoric, Parepectolin, Donnagel PG, Morphine, Tylenol with Codeine, Empirin with Codeine, APAP with Codeine, Aspirin with Codeine, Robitussin AC, Guiatuss AC, Novahistine DH, Novahistine Expectorant, Dilaudid (Hydromorphone), M-S Contin and Roxanol (morphine sulfate) Percodan, Vicodin, etc.
- (viii.) BARBITURATES (barbs, rainbows, downers, goofballs, reds, yellows, blues) Phenobarbital, Tuinal, Amytal, Nembutal, Seconal, Lotusate, Fiorinal, Fioricet, Esgic, Butisol, Mebaral, Butabarbital, Butabital, Phrenilin, Triad, etc.
- (ix.) BENZODIAZEPINES Ativan, Azene, Clonipin, Dalmane, Diazepam, Librium, Xanax, Serax, Tranxene, Valium, Verstran, Hacion, Paxipam, Restoril, Centrax.
- (x.) METHADONE Dolophine, Methadose.
- (xi.) PROXYPHENE Darvocet, Darvon N, Dolene, etc.

(2.) **Individuals to be tested** – All employees and job applicants are subject to testing under this policy.

(3.) **Voluntary notification of drug use and/or abuse** – An employee who has not previously tested positive for drug or alcohol use, entered an employee assistance program for abuse-related problems, or entered a drug or alcohol rehabilitation program, and who come forward voluntarily seeking treatment shall not be subject to discipline solely for coming forward. All such employees are urged to seek help immediately. Once a test has been scheduled, all employees are required to cooperate with the designated Medical Review Officer to

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provide information regarding prescriptive and over-the-counter medications which could cause a positive result.

(4.) **Refusal to test** – If an employee refuses to submit to a test for drugs or alcohol, he/she forfeits his/her eligibility for all workers compensation medical and indemnity benefits and will be terminated from employment.

(5.) **Initial test** – The initial screen for all drugs shall use an immunoassay procedure or equivalent, or a more accurate scientifically accepted method approved by the U.S. FDA or the Agency for Health Care Administration. The initial test for alcohol shall be an enzyme oxidation methodology. The following cutoff levels shall be used when first screening specimens to determine whether they are positive or negative for these drugs or metabolites. All levels equal to or exceeding the following shall be reported as positive:

- (i.) Alcohol .04 g/dl%
- (ii.) Amphetamines 1,000 ng/ml
- (iii.) Cannabinoids 50 ng/ml
- (iv.) Cocaine 300 ng/ml
- (v.) Phencyclidine 25 ng/ml
- (vi.) Methaqualone 300 ng/ml
- (vii.) Opiates 2000 ng/ml
- (viii.) Barbiturates 300 ng/ml
- (ix.) Benzodiazepines 300 ng/ml
- (A.) Synthetic Narcotics:
 - (I.) Methadone 300 ng/ml
 - (II.) Propoxyphene 300 ng/ml

(6.) No employee shall be terminated solely on the basis of a positive initial test.

(i.) **Confirmation test** – All specimens identified as positive on the initial tests shall be confirmed using a second test, a gas chromatography/mass spectrometry (GC/MS) test or an equivalent or more accurate scientifically accepted method

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approved by the Agency for Health Care Administration or the U.S. FDA as such technology becomes available in a cost-effective form. The following confirmation cutoff levels shall be used when analyzing specimens to determine whether they are positive or negative for these drug or metabolites. All levels equal to or exceeding in the following shall be reported as positive:

- (A.) Alcohol .04 g/dl%
- (B.) Amphetamines 500 ng/ml
- (C.) Cannabinoids 15 ng/ml
- (D.) Cocaine 150 ng/ml
- (E.) Phencyclidine 25 ng/ml
- (F.) Methaqualone 150 ng/ml
- (G.) Opiates 2000 ng/ml
- (H.) Barbiturates 150 ng/ml
- (I.) Benzodiazepines 150 ng/ml
 - I. Synthetic Narcotics:
- (J.) Methadone 150 ng/ml
- (K.) Propoxyphene 150 ng/ml

(7.) Collection Site Procedures – Chain of Custody

- (i.) As part of the Company's Drug Free Workplace Policy, the Company will only utilize a laboratory licensed and certified by the Agency for Health Care Administration.
- (ii.) The laboratory will be required to follow all applicable state laws and the rules established by the Agency for Health Care Administration.

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(I) REPORTING OF RESULTS

(1.) Medical Review Officer (MRO)

- (i.) The laboratory shall report test results to the MRO within seven working days after receipt of the specimen by the laboratory.
- (ii.) The laboratory shall report as negative to the MRO all specimens which are negative on the initial test or negative on the confirmation test. Only specimens which are confirmed as positive on the confirmation test shall be reported as positive to an MRO for a specific drug.
- (iii.) The laboratory shall transmit results to the MRO in a manner designed to ensure confidentiality of the information. The laboratory and the MRO must ensure the security of the data transmission and restrict access to any data transmission, storage and retrieval system.
- (iv.) The MRO may request from the laboratory, and the laboratory shall provide, quantification of test results. The MRO shall evaluate the drug test result(s), which is reported out by the laboratory, to verify by checking the chain of custody form that the specimen was collected, transported, and analyzed under the proper procedures, and to determine if any alternative medical explanations caused a positive test result. The MRO shall review all medical records made available by the tested individual.
- (v.) Upon verifying a negative test result, the MRO is required to retain the chain of custody forms confidentially for five years.
- (vi.) Within three days of the receipt of a positive test result from the laboratory, the MRO is required to notify the employee or applicant and to inquire as to whether prescriptive or over-the-counter medications could have caused the positive result. The individual has five days after notification to submit documentation of any prescriptions relevant to the positive test result and to discuss the test result with the MRO.

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- (A.) (i). If the MRO is unable to contact a positively tested donor within three days of the receipt of the test results from the laboratory, the MRO must contact the employer and request the employer to direct the donor to contact the MRO as soon as possible. If the donor does not contact the MRO within two days following the request, the MRO will verify the test result as positive.
- (B.) (ii). The MRO may change the verification upon a showing of good cause by the donor as to why contact could not be made within two days only if the donor also presents information concerning a legitimate explanation for the positive test results.
- (vii.) Upon verifying a positive test result, the MRO must notify the employer in writing and retain the chain of custody forms confidentially for five years.
- (viii.) If the MRO determines that there is a legitimate medical explanation for the positive test result, the MRO must report a negative test result to the employer. However, in circumstances where the MRO believes that the legal use of a drug(s) would endanger the individual or others, or if the individual is in a safety sensitive or special risk position, the MRO must report the result as negative due to a validated prescription and must request that the individual be placed in a position which would not threaten the safety of the individual or others.
- (ix.) The MRO may order a re-analysis of the original sample at any licensed laboratory licensed under state specific requirements (i.e.: Chapter 10E-18, Florida Administrative Code.)
- (x.) Unless otherwise instructed by the employer in writing, all records pertaining to a given specimen shall be retained by the drug testing laboratory for a minimum of two years.

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(j) Miller Electric Company Actions

- (1.) First Offense:** If the substance analyses confirm (positive) the presence of drugs or alcohol in the specimen of an employee, that individual will be terminated and not eligible for rehire until after a period of 30 days.
- (i) Exception-** *Miller Electric Employees working in the state of Georgia, the rehire eligibility period is **6 months** from the time of termination.*
- (2.) Second Offense** (Except as noted in **(4)(iii)**): If within one year, the substance analyses confirm (positive) the presence of drugs or alcohol in the specimen of an employee, that individual will be terminated and not eligible for rehire until after a period of 6 months.
- (3.) Third Offense:** If the substance analyses confirm (positive) the presence of drugs or alcohol in the specimen of an employee, that individual will be terminated and not eligible for rehire.
- (4.)** Employees wishing to return to work after a positive test result shall report to a drug testing facility chosen by Miller Electric Company and proceed with a new prescribed test of controlled substances.
- (i)** The cost of this analysis will be borne by the employer
- (ii)** This test shall be equivalent to the type of test that was given originally (i.e. 10- Panel, 5- Panel, or Instant/Dip). Personnel displaying results from non-equivalent test shall be rejected until equivalent test result is returned.
- (iii)** Personnel failing two subsequent tests shall not be eligible for re-hire for a period not less than 1 year.

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- (5.) If the substance analyses are negative, the employee shall resume the duties of their employment and no further action is necessary.

(k) Employee Challenges

- (1.) Within five **(5)** working days after receipt of a positive confirmed test result from the medical review officer, the company shall inform an employee or job applicant in writing of such positive test result, the consequences of such results, and the options available to the employee or job applicant.
- (2.) The company shall provide to the employee or job applicant, upon request, a copy of the test result.
- (3.) Within five **(5)** working days after receiving notice of a positive confirmed test result, the employee or job applicant may submit information to the medical review officer explaining or contesting the test results, and why the results do not constitute a violation of company policy.
- (4.) If an employee's or job applicant's explanation or challenge of the positive test results is unsatisfactory to the medical review officer, the medical review officer shall report a positive test result back to the employer. The employee or job applicant may submit information to the employer explaining or contesting the test results and why the results do not constitute a violation of company policy. If the employee's or job applicant's explanation or challenge of the positive test result is unsatisfactory to the employer, a written explanation as to why the employee's or job applicant's explanation is unsatisfactory, along with the report of positive results, shall be provided by the company to the employee or job applicant within 15 days of the receipt of the explanation or challenge. All such documentation shall be kept confidential by the company and shall be retained by the company for at least one (1) year. A person may contest the drug test result pursuant to rules adopted by the Dept. of Labor and Employment Security.

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- (5.) In the event of a workplace injury and the company's decision to deny workers compensation benefits due to a positive drug test, an employee or job applicant may undertake an administrative challenge by filing a claim for benefits with a Judge of Compensation Claims. If no workplace injury has occurred, the person must challenge the test result in a court of competent jurisdiction. When an employee undertakes a challenge to the results of a test, it shall be the employee's responsibility to notify the laboratory and the sample shall be retained by the laboratory until the case is settled.
- (6.) Within seven (7) days after testing based on reasonable suspicion, the company shall detail in writing the circumstances which formed the basis of the determination that reasonable suspicion existed to warrant the testing. A copy of this documentation shall be given to the employee upon request and the original documentation shall be kept confidentially by the company and retained for at least one (1) year.
- (7.) During the 180 day period after written notification of a positive test result, the employee who has provided the specimen shall be permitted by the company to have a portion of the specimen retested, **at the employee's expense**. Such retesting shall be done at another laboratory, licensed or approved by the Agency for Health Care Administration, chosen by the employee or job applicant. The second laboratory must test at equal or greater sensitivity for the drug in question as the first laboratory. The first laboratory that performed the test for the company is responsible for the transfer of the portion of the specimen to be retested, and for the integrity of the chain of custody during such transfer.
- (8.) Employees and applicants have the right to consult the Medical Review Officer regarding prescription or non-prescription medication.
- (9.) The company shall pay the cost of all drug tests, initial and confirmation, which it requires of employees. An employee or job applicant shall pay the costs of any additional drug test not required by the company.
- (10.) All employees and job applicants are responsible for notifying the laboratory of any administrative or civil action brought pursuant to the drug-free workplace regulations.

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(I) CONFIDENTIALITY STATEMENT

- (1.) Except as otherwise provided in this subsection, all information, interviews, reports, statements, memoranda, and drug test results, written or otherwise, received by the employer through a drug testing program are confidential communications and will not be used or received in evidence, obtained in discovery or disclosed in any public or private proceedings, accept in accordance with this rule or in determining compensability under Workers Compensation Statutes.
- (2.) Miller Electric Company, laboratories, employee assistance programs, drug and alcohol rehabilitation programs, and their agents who receive or have access to information regarding drug test results shall keep all information confidential. Release of such information under any other circumstances shall be solely pursuant to a written consent form signed voluntarily by the person tested, unless such release is compelled by a hearing officer or a court of competent jurisdiction pursuant to any appeal taken under this section or unless deemed appropriate by a professional or occupational licensing board in a related disciplinary proceeding. The consent form must contain at a minimum:
- (i.) The name of the person who is authorized to obtain the information.
 - (ii.) The purpose of the disclosure.
 - (iii.) The precise information to be disclosed.
 - (iv.) The duration of the consent.
 - (v.) The signature of the person authorizing release of the information.

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(3.) Information on drug test results shall not be released or used in any criminal proceeding against the employee or job applicant. Information release contrary to this section shall be inadmissible as evidence in any such criminal proceeding.

(4.) Nothing herein shall be construed to prohibit Miller Electric Company, agent of Miller Electric Company, or laboratory conducting a drug test from having access to employee drug test information when consulting with legal counsel in connection with actions brought under or related to its defense in a civil or administrative manner.

(5.) EMPLOYEE ASSISTANCE PROGRAM

(i.) Any employee, who feels that he or she has developed an addiction to, dependence upon or problem with alcohol or drugs, legal or illegal, is encouraged to seek assistance. Assistance may be sought by writing in confidence to, or asking for a personal appointment with, the company Director of Human Resources.

(ii.) Employees may only enter the Employee Assistance Program of their own accord. Upon notification of a prescribed test of controlled substance, the employee shall no longer be eligible for such assistance.

(iii.) Each request for assistance will be treated as confidential by the company Director of Human Resources and only those persons "needing to know" will be made aware of such request.

(iv.) Rehabilitation itself is the responsibility of the employee. Any employee seeking medical attention for alcoholism or drug abuse will be entitled to benefits only if and to the extent specified either under the company's group medical insurance plan or collective bargaining. For employees enrolled in a formal in-patient treatment program, the company will grant a rehabilitation leave.

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- (v.) To be eligible for continuation of employment during an in-patient rehabilitation, the employee must maintain at least weekly contact with the Supervisor/Manager to whom the employee reports; and must provide certification that he or she is continuously enrolled in a treatment program and actively participating in that program.
- (vi.) Upon successful completion of treatment, the employee will be returned to active status without reduction of pay or seniority, absent a reduction in force or other business occurrence which would have resulted in the employee's layoff or termination in any event. The employee will be required to attend the mandatory after-care program at the direction of the out-patient (after-care) counselor.
- (vii.) If the employee in the course of employment enters an Employee Assistant Program for drug-related problems, or an alcohol and drug rehabilitation program, the company will require the employee to submit to a drug test as a follow-up to such program, unless the employee entered the program voluntarily. In those cases, the employer has the option not to require follow up testing. If follow up testing is required, it must be conducted at least once a year for a 2-year period after completion of the program. Advance notice of a follow up testing date must not be given to the employee to be tested. Employees treated for drug/alcohol abuse must sign a rehabilitation agreement as a condition of continued employment.
- (viii.) Any employee suffering from an alcohol or drug problem who rejects treatment or who leaves a treatment program prior to being properly discharged will be immediately terminated. No employee will be eligible for protection under this section more than one time for drug or alcohol treatment. The recurrence of an alcohol or drug problem will be cause for termination.

(m) SEVERABILITY

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- (1.) If any section, provision, or part of this policy shall be adjudged invalid or unconstitutional, such adjudication shall not affect the validity of the policy as a whole or any section, provision, or part thereof not adjudged invalid or unconstitutional.

(n) RESERVATION OF RIGHTS

- (1.) The company retains the sole right to interpret, change or discontinue this policy as may be necessary from time-to-time.
- (2.) Nothing in this policy should be construed as creating a contract of employment. Your employment at will relationship cannot be changed except in writing by the President of the Company.

SAFETY TOOLBOX TALKS WORKPLACE VIOLENCE POLICY



EC-11

MILLER ELECTRIC COMPANY

"Quality Service Since 1928"

WORKPLACE VIOLENCE POLICY

M.51

PURPOSE

In order to fulfill the mission of Miller Electric Company, it is essential that our employees are able to work in an environment that is safe and free from acts of intimidation, threats of violence or actual violence.

(A) SCOPE

Adherence to this policy is required by all Miller Electric employees.

(B) ZERO TOLERANCE

Any intentional act of intimidation, threat of violence or act of violence committed against any person or property while in the course of employment of Miller Electric Company is prohibited.

Act(s) of intimidation: (Implied threat) Any willful act/behavior directed toward another person, the result of which causes the other to reasonably fear for his/her safety or the safety of others.

Threat(s) of violence: (Actual threat) Any willful behavior directed toward another person which threatens the other person or which threatens damage to property, under such circumstances that would cause the other person to reasonably fear for his/her safety, the safety of others or damage to said property.

Act(s) of violence: Any willful act/behavior committed against another person or the property of another, the result of which causes bodily injury, however slight, to the other person or damage the property.

No person shall possess or have control of any firearm, deadly weapon, prohibited knife (under state laws) or explosive device while in the course of employment of Miller Electric Company except as required to perform the necessary tasks of the job.

Any Miller Electric Company employee (non-supervisor, non-manager) who is the subject of, or a witness to a suspected violation of this policy should report the violation to their immediate supervisor who is not a party to the violation. Any emergency, perceived emergency, or suspected criminal behavior shall be immediately reported to the local Police Department.

Any Miller Electric Company supervisor, manager, or person in authority who is subject of, or witness to, or who receives a report of a suspected violation of this policy shall document, investigate and report the suspected violation to the Safety Department.

Any Miller Electric Company employee found to be in violation of this policy shall be subject to disciplinary action, up to and including termination with non-eligibility for rehire.

(C) EMPLOYEE RESPONSIBILITIES

All Miller Electric Company employees who are neither supervisors nor managers are encouraged to report all suspected violations of this policy to their immediate supervisor who is not a party to

the violation. **No employee shall be subject to criticism, reprisal, retaliation or disciplinary action for reporting acts pursuant to this policy.**

It is the responsibility of every Miller Electric Company employee to assist and cooperate in making the workplace as safe as possible. In order to accomplish this task, all employees need to fully understand the zero tolerance section of this policy. As is necessary and safe, employees shall assist management in their efforts to accurately assess, minimize and investigate workplace violence situations.

Any “conduct or joke(s)” which involve acts of intimidation and/or threats are considered inappropriate for the workplace and shall be taken seriously and investigated.

(D) SUPERVISOR RESPONSIBILITIES

It is the responsibility of all supervisors to report any suspected violation of this policy to their respective supervisor. Supervisors shall document all suspected violations of this policy which have been brought to their attention. Supervisors shall assist as necessary and safe in the assessment, investigation and management of workplace violence situations.

Supervisors play a critical role in the creation of a safe work environment by reducing the potential for workplace violence through fair, impartial, and consistent application of recognized supervisory practices. Actual case histories of workplace violence situations strongly suggest that violence can be greatly reduced when supervisors:

- Treat employees with respect
- Treat employees fairly
- Treat employees with consistency
- Reward employees for good performance/behavior
- Hold employees accountable for poor performance/behavior

Supervisors who treat their employees in the above manner are better positioned to take the necessary steps toward corrective action and/or remedial training. Adherence to Miller Electric Company policies, workplace rules and guidelines, along with accurate documentation of employee performance will greatly assist in the prevention of workplace violence through early detection and intervention.

(E) MANAGEMENT RESPONSIBILITIES

It is the responsibility of all project managers to encourage their employees to report any suspected violation of this policy. Moreover, project managers who have knowledge of a suspected violation of this policy shall cause the situation to be documented and fully investigated. Managers shall report the incident to the Safety Department for processing and investigation assistance.

(F) THREAT MANAGEMENT

Regardless of the source, all threats or indications of potential violence should be taken seriously. Violations of the Zero Tolerance Policy should be reported as indicated in this policy. If deemed necessary, the Safety Director and/or Human Resources Manager should be notified as soon as possible.

SAFETY TOOLBOX TALKS





A CLOSE LOOK AT CLOSE CALLS

We've all become familiar—perhaps too familiar—with the violent episodes on the TV or movie screen, complete with buckets of gore and dreadful screams of pain. They may raise our pulse rate momentarily, but by the time the next program or feature begins, we've forgotten all about it. After all, it wasn't "real."

By contrast, anyone unfortunate to have experienced or witnessed a serious accident, on the road or at their workplace, won't forget the real blood, screams, and tears for a long time, if ever.

There is a serious real-life danger, though, in accidents that don't result in damage to persons or property, because we may tend to think of them like the movie massacre: scary for a few minutes there, but no real harm done.

This is a dangerous attitude because if we don't notice and correct whatever condition or behavior caused that close call, it's likely to be a closer call the next time, then closer yet, and so on. Eventually, we get the real thing with all the pain and suffering that goes with it—for the victim and for co-workers and family.

A close call or "near miss" accident, therefore, should be regarded as a red warning flag or a high fever—a sign that something is very wrong and requires attention. The list of possible near misses in a workplace may be virtually endless, but here are just a few examples:

- A heavy object falls off a ledge or shelf and thuds to the floor a foot or so away from workers. (The next falling object may find a human target.)
- A worker slips on a slick surface and almost—but not quite—falls. (The next person along may fall and end up in the hospital.)
- A worker jumps back just in time to avoid being hit by an opening door. (That door will hit somebody one of these days.)

Can you think of other typical close calls—or of actual ones that have happened here?

[Note: As you get additional examples from the group, question what the potential danger is "next time," and what should be done to prevent it.]

Obviously every close call is a call for action. Sometimes it's something you can fix right away yourself; other times it requires specialized attention. In either case, the close call should never be ignored and should always be reported. That way the next "real" accident may not happen after all.



SAFETY TOOLBOX TALKS ACCIDENT PREVENTION



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ACCIDENT INVESTIGATION FINDS OUT WHY

If a company conducts a proper accident investigation, it may be used as a basis for collecting data to find causes and prevent recurrences. This goal can only be achieved if the entire procedure is a fact-finding mission rather than a method for placing blame on someone.

Avoiding blame is especially important when interviewing witnesses who have a tendency to protect themselves. Get signed and dated statements from people who have firsthand knowledge of the accident. Be objective in collecting the data.

In ferreting out the causes, pay attention to both physical conditions and personal behavior. Many incidents are the result of insufficient job training. Corrective procedures should therefore include training and supervision.

Accidents are usually the result of many causes, some of which may be interrelated. Avoid using "carelessness" as a cause. It is too general and can't be corrected.

Investigate all accidents, even small ones that may be a precursor to more serious incidents. Here are some tips on how to conduct a thorough and meaningful investigation:

- Start the investigation immediately after the accident has occurred and the area has been safeguarded.
- Interview all possible witnesses. Use a tape recorder.
- Write down all significant information. Edit and review later.
- Provide definite recommendations and a schedule of corrective actions.
- Follow up to ensure that actions have been taken.
- Prepare a final report and hold meetings with all departments that could benefit from the information in the report.
- Coordinate with insurance companies and prepare forms for reporting accidents.

If you are as objective as possible in your investigation, your company will reap the benefits of preventive actions taken in response to lessons learned.



SAFETY TOOLBOX TALKS ACCIDENT PREVENTION



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ACCIDENTS DON'T 'JUST HAPPEN'

Whenever there's an accident, whether the result is a fatality or a broken plate or anything in between, someone is sure to ask: "How did it happen?"

The answer should always be the same: "It didn't happen; it was caused." And it's almost always possible to trace it back to somebody—or several somebodies—who fell down on their job somewhere along the line. Either they did something they shouldn't have done, or they failed to do something they should have done.

Let's suppose, just to illustrate what I'm talking about, that you fall on the stairs at home and break a leg. That accident didn't "just happen"; there was no evil spirit putting the hex on you or lurking in the shadows to trip you. No, there was at least one quite tangible cause.

The odds are that the fall was your own fault—that some act of yours (or failure to act) was to blame. Maybe you were in a hurry and took the stairs faster than usual—faster than was safe. Maybe you were carrying an awkward load that put you off balance and kept you from grabbing the railing to steady yourself. Maybe you forgot to turn on the light over the staircase. Maybe your eyesight has been playing tricks on you, but you've put off seeing an eye doctor and getting proper glasses. There are probably dozens of other "maybes" that boil down to your being the cause of your own fall.

On the other hand, maybe there was someone else involved: one of the children left a toy on the step, or whoever discovered the stair light burnt out failed to replace the bulb. There could even be a combination of causes: You were in a hurry and didn't turn on the light, so you didn't see the toy that someone else left there, against the rules.

Accidents on the job don't "just happen," either. They are caused by the actions or inactions of one or more people.

[Note: This is a good spot to get some participation from the group, by asking them to think of other actions, or failures to act, that might cause a fall down the stairs—say a stairway in your facility. Or mention an actual accident that occurred at your site at some time in the past (without reference to individuals, of course), and ask for possible causes.]

Now for the good news. Just as people cause accidents to happen, they can prevent them from happening. That's the reason for the safe work practices we have established and the posted list of safety rules. It's why we have regular training sessions to inform and remind you of ways to keep yourselves and your co-workers safe. It's the reason we provide personal protective equipment that can help keep a potential hazard from causing actual harm.

But no work practices, rules, training, or equipment can prevent an accident from happening. You do that. You follow the lockout-tagout procedure; you leave machine guards in place; you tag and report a damaged tool or wire; you wear your safety glasses or bump cap.

Some of us have special responsibilities that have an effect on everyone's safety. A maintenance supervisor, for example, has to do his or her job correctly or mechanical failures could be followed by accidents. The safety committee chairperson must be sure to post any change in evacuation procedure. And so on. But for the most part, your own safe behavior is your own greatest safeguard. Remember that when you're tempted to take a shortcut or break the safety rule "just this once" or "just for a minute." That one minute could be exactly when the accident doesn't "happen" but is caused.



SAFETY TOOLBOX TALKS ACCIDENT PREVENTION



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ALMOST AN ACCIDENT—BE WARNED

How many times have you come close to having an accident, shrugged it off as a near miss, and gone on your merry way without giving it another thought? I want all of you to give it thought. Many times, the difference between a near miss and an accident is just a fraction of a second in timing or a fraction of an inch in distance. Next time, the difference may not be there.

Near misses are warnings of accidents in the making. If we accept the warnings and look for the causes, we may be able to prevent similar situations from developing.

Let's say you're going up a gangplank onto a bridge footer. Your foot slips, but you're young, agile, fast, and empty-handed. So you regain your balance with no harm done. The reactions of the next person to come along are a little slower than Then comes the third worker—just as fast as the first two but unable to maneuver because he's carrying a heavy load. He slips and falls off the plank with the load on top of him. How seriously he's injured is a matter of luck—perhaps only scratches, but maybe a broken ankle or rib or neck!

Now the loose cleat, sand, mud, or ice is discovered, and the condition is corrected. But it's like locking the garage after the motorcycle is stolen. Two people saw the thief but didn't recognize what was happening, so didn't report anything.

There are a few accidents that occur without some advance warning—and that is what a near miss is. If we heed that warning and check into the hazard, most accidents can be eliminated. So, I want all of you to keep your eyes open for those advance warnings. Don't shrug off the near misses as only close calls; find out why they happened and who can take corrective action.

Don't take unnecessary chances or ignore warnings, and don't think "it can't happen to me." It can happen to you if you don't take precautions to protect yourself.



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'BUT WHAT CAN I DO?'

The other day I heard one of our company's employees ask "What can I do about accident prevention, since I only work here?" Well, we all work here, and presumably we all want our work-site to be as safe and healthful as possible. That won't happen, though, if we pass the buck.

In reality there's a great deal that every one of us can do about accident prevention. It has to do with being continuously alert to possible hazards and following safe work practices and procedures—just the sort of thing we discuss in these talks.

Here are just 10 guidelines to "what I can do" and what each of us can do:

- 1. Know your job.** Follow all instructions, and if you are not sure of exactly how to carry out an assigned operation, ask your foreman before you begin.
- 2. Use tools properly.** Select the right ones—the ones designed for the job. Be sure they're in good condition. Put them away when you finish.
- 3. Practice good housekeeping.** Keep your work area clean and orderly, with nothing in the aisles to create a tripping hazard. Clean up spills promptly. Dispose of scrap properly.
- 4. Develop good lifting habits.** Remember the training you've had in this, especially: lifting with your legs, not your back, and getting help for loads you can't easily handle alone. Likewise be ready to team-lift with a co-worker.
- 5. Avoid falls.** Watch where you're going. If using a ladder, set it up properly, face it when climbing up or down, using both hands, and don't overreach. Don't overload scaffolds and keep them clear of excess materials.
- 6. Dress safely for work.** Leave your jewelry at home or keep it in a pocket. Wear sturdy, low-heeled shoes. Wear short sleeves or keep long sleeves buttoned at the wrist. Don't wear gloves or a long hair style around machines.
- 7. Use required personal protective equipment.** Wear a hard hat, gloves, safety shoes and glasses, or whatever specialized equipment the job calls for. That way you avoid both injury and disciplinary action.
- 8. Be alert around machinery.** Stand clear of moving equipment and overhead loads. Never get on or off moving equipment. Never bypass machine guards. Follow lockout procedures as needed and observe all warning signs and tags.
- 9. Report all accidents and near-miss incidents.** Determining the causes can help prevent further incidents that could have more serious results. Get prompt first aid for cuts and scratches—minor injuries can become a major problem if infection sets in.
- 10. Avoid horseplay and practical joking.** They can easily get out of control and cause serious harm. Discourage others from engaging in such activities.



SAFETY TOOLBOX TALKS ACCIDENT PREVENTION



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CHANCES YOU CAN'T AFFORD TO TAKE

What is safety? Every one of you could give an answer of some sort, but let's rely on an authoritative source and consult Mr. Webster. His dictionary indicates that being "safe" means being "secure from the threat of danger, harm, or loss."

So why should following or enforcing safety ever be a problem? Isn't everyone interested in being free from danger, harm, or loss? Why on earth would anyone, through negligence or disinterest, expose himself or herself—and others—to those threats?

Perhaps it's partially because it can be difficult to recognize certain situations as potential accident producers. Danger is obvious in many situations, but not all of them. For example, suppose you have occasion to use a stepladder. You see that one leg is completely broken off, but the ladder can still stand. An accident is obviously a potential, though not inevitable, outcome if the ladder is used.

Suppose the leg is not broken, but only cracked. The danger is not obvious, but an alert person, recognizing that there is a possibility of an accident anytime a ladder is used, will inspect the ladder, discover the crack, and tag it for repair. There is no accident.

But maybe there would not have been an accident anyway. How can you tell when you have prevented an accident that would otherwise surely have happened? You can't.

Visualize another situation. Dwayne is eating lunch on the stair steps and leaves his soda can there. A little later, Teresa comes along and sees the cup. If she picks it up, does this mean she is preventing an accident? Maybe it wouldn't cause a slip or trip anyway, but there's no way of knowing.

There's one thing we can be sure of knowing, though. The odds are a lot more favorable for safety when the cracked or broken ladder is avoided and the drink can is removed from the stairs. Using flawed equipment may or may not cause an accident. Avoiding it will not.

Carry this over to other situations in which workers may tempt fate by taking chances. That's what's happening every time you turn on a power tool without checking to see that it and its wiring are in good condition. That's exactly what's happening when anyone removes or sidesteps a machine guard—even for "just these few operations."

These are chances you can't afford to take, if your goal is your own safety and that of your co-workers.





CONQUER HAZARDS WITH SAFE HABITS

A habit is a tendency or disposition to act in a certain way. It is acquired by the repetition of acts. Our ability to acquire habits—whether good or bad—is tied directly to our need for comfort and security. Habits enable us to perform tasks by rote, so that we know they'll be done properly without our having to plan every step in advance.

Safe work habits can save a lot of pain and misery. The importance of developing these on the job is that we are protected even if we are not thinking about the hazard in particular.

If we could always be alert, never let our attention wander, and remember to use all the safe practices and equipment required, then habits would not be necessary. However, these conditions do not always exist. We are sometimes "off our feed," tired, depressed, preoccupied, thinking about something else. It's at these times that safe work habits really pay off, because hazards are always present.

Here are some potential hazards and the safety habits that may protect you from being injured:

HAZARD: The possibility of getting into the path of a moving object as it closes in on a stationary object.

SAFETY HABITS: See that the opening on machine parts is guarded. Look for cross-overs or cross-unders and use them when they are needed. Pay attention to warning devices such as starting signals or backup alarms, and see that they are there and used.

HAZARD: Catch points. These are created by objects, either stationary or in motion, that have sharp corners, splines, teeth, or other rough shapes and surfaces capable of catching the operator or his clothing.

EXAMPLES: Rotating drills, reamers and tapers, spline shafts, milling cutters, broaches, keys and keyways, nails on the inside of kegs and packing crates.

SAFETY HABITS: Wear proper clothing. Make sure guards are in place, and always use them. Remove nails and staples from kegs and packing crates. Report any unsafe condition.

HAZARD: Shear points. Nip or cut hazards are created by two objects, one or both being in motion as they pass one another.

EXAMPLES: Shears, dies, paper cutters, reciprocating mechanisms.

SAFETY HABITS: Same as for catch points.

HAZARD: Squeeze points. These are also created when the distance between two objects, one or both of which may be moving, reduces to the extent that a crushing injury will result should an employee be caught in this shrinking area.

EXAMPLES: Machine tables at extreme traverse position forming squeeze points with other machines, walls, and building columns. Large transfer-type machines and materials being moved on power conveyors create squeeze points with fixed objects along the conveyor.

SAFETY HABITS: Maintain minimum clearance of 18 inches between moving and fixed objects. Relocate objects if necessary. Maintain sweep bars in the squeeze area equipped with shutoff switches wired into the control circuit of the equipment creating the squeeze point. The presence of an employee against the sweep bar would shut off the equipment. Maintain and use proper guarding.

HAZARD: Run-in points. Mash and crush hazards are created by two objects in contact with and rotating toward one another.

EXAMPLES: Belts and sheaves, chains and sprockets, gears in mesh, roll, conveyor chains and traction wheels, ropes and pulleys, cables and drums, gears and racks.

SAFETY HABITS: Maintain and use proper guarding. Know your equipment. Never operate or work close to unfamiliar equipment.

Building safe habits is like turning on an autopilot in your body. It lets you function with less mental stress and fosters an increase in thinking capacity.

Habits are acquired slowly—do, repeat, redo, repeat, the same way every time. When you've managed to acquire the safety habits we just discussed, you'll recognize and avoid these hazards of being caught in, on, or between.

SAFETY TOOLBOX TALKS ACCIDENT PREVENTION



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DO SAFETY GIMMICKS WORK?

We often hear reports of companies proudly proclaiming that their lost-time injury rates are below the industry average, or that a certain department has gone X number of days without a lost-time injury. Prizes are awarded to the departments or individuals with the best records. However, insurance experts warn that brewing under the surface of this fanfare are under-reported accidents and hidden hazards.

When companies are encouraged to depress their accident rates, there is an incentive for covering-up accidents, particularly small incidents and problems that may lead to larger losses. Instead, companies should focus on developing a framework to identify and reduce hazards on a continuing basis. Workers and managers should jointly perform regular surveys of hazards and abate them or report them before accidents occur.

This formal surveillance process can be developed with the expertise of the safety professional, and with assistance from management and experienced workers. The procedure should include monitoring employees' actions as well as workplace conditions, with the help of safety checklists designed by employees and supervisors. Also, employers must analyze data from accident reports and first aid logs to learn from past experience. Near misses should be reported and analyzed as well.

OSHA and the insurance carriers do focus on lost-time injuries—but it is important for companies not to succumb to the pressure of only using this gauge as a means of evaluating safety performance. Other, more imaginative measures can be used.

One insurance expert recommends tallying hazard rates by dividing the number of hazards found by some measure of exposure, like sales volume or number of hours worked. Develop charts that show how the hazard rate has changed over time. Take photographs of hazards that have been or will be removed.

Incentives or "gimmicks" do work—but only if they are used to enforce positive behavior rather than cover-ups. Establish targets for your company using hazard rates and reward workers for good performance. Use a safety contest as a theme for your next safety meeting.

Frequent and widespread rewards work best. One company ran a contest among its workers for "Neatest Workstation of the Week." The contest was designed to minimize hazards, not reduce accident rates.

A consistent safety process that focuses on identifying hazardous conditions or unsafe acts, rather than short-term rewards for reducing lost-time injury rates will, over time, provide a sound basis for preventing workplace accidents.



SAFETY TOOLBOX TALKS ACCIDENT PREVENTION



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DON'T GET BURNED

Lois, a worker hurrying to her next task, slips, tripping against a vat of solution that is boiling hot. She breaks her fall on the vat, but her arm and hands are burned.

Ed, a mechanic, is working on a ladder, repairing a machine. He receives an electrical shock from the equipment and is burned. Ed falls to the floor where a chemical mixture inflicts additional burns.

A third worker, Jim, trying to relight a pilot light on a stove, turns the gas on before getting the match. He turns the gas off for a minute before igniting the flame, but not long enough for the gas to disperse. There is an explosion and Jim is burned.

Lois could have gone home that evening without a burn on her—if only she hadn't been in such a rush—and had walked on the designated path, covered with nonslip grating, and far from the vats.

Ed could have avoided his shock and burns by locking out the equipment before he tried to do any repairs. He also could have worn the proper personal protective gear. And, if a fellow worker had cleaned up the chemical spill before Ed fell, further injuries would have been prevented.

Jim didn't have to be burned either. He should have either waited for the gas to disperse or ventilated the vicinity. He'd forgotten his training—or just didn't listen during the safety meeting that covered that topic.

As many as one-quarter of all burns reported during a year occur on the job. Contact with hot vapor, hot surfaces, or hot liquids is the most common cause of what are called thermal burns—burns caused by heat itself.

Another type of thermal burn risk comes from exposure to thick and sticky materials that retain heat. Contact with melted plastics, tar, asphalt, and similar substances may result in deep burns. If you are handling any of these, or a similar substance, realize that even though the outer surface may have cooled, the melted material inside may still be hot enough to cause you serious harm.

Anyone who has frequent exposure to hot objects should be aware of another special risk. You may become so used to the hot temperature that you don't notice it as much as an outsider would. But just because you are not feeling the pain from a hot surface doesn't mean you won't suffer a burn. Don't let being able to "take it" stop you from being smart. You can get hurt.

Electricity causes burns of two types. One type of burn from electricity occurs if clothing ignites or if the electricity arcs—an electrical arc can be as hot as 3,000 degrees. A "real" electrical burn, however, occurs when the charge passes through the body. This leaves entry and exit burn wounds. Internal organs also may be damaged by the transmitted heat.

Flash burns to the eye are common, too. These are suffered by welders and by employees working near a welder who wear no eye protection at all. Flash burns cause pain, watering eyes, and intolerance to light. If there is constant exposure to an intense light source of this type, there may even be permanent damage to the eyes.

Ultraviolet energy, certain types of microwave energy, lasers, and some chemicals can also produce burns and should be treated with caution.

Burns can be prevented. If you work around heat, electricity, or chemicals that burn, you must be especially cautious in those areas where there is danger. Stay as far away from heat or other burn sources as possible and walk on the appropriate pathway.

Don't ignore your personal protective equipment, either. If you know that you should wear the equipment, put it on.

Burns are real, they are serious, and they can happen to all of us. But if we are careful and if we take our training to heart and follow the rules of the workplace, we can stay safe. Lois, Ed, Jim, the three workers in the very real stories above, wish that they had done just that.



SAFETY TOOLBOX TALKS ACCIDENT PREVENTION



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DON'T KICK THE HABIT

The easy way to do something right is to make it a habit, since good habits make hard jobs simple. Yes, good habits may take time to develop, but they'll work for you forever.

Do you remember brushing your teeth and washing your face when you got up this morning? Probably not. You know you did it, but it's so much a matter of habit that you didn't even notice: You did it automatically, without thinking.

Good habits work for us even when we're not at our best. Unlike conscious actions, they don't depend on how we feel or how busy we are. And habits are always more reliable than memory.

The mechanic who has made a habit of checking his or her tools for burrs, cracked handles, and so forth will make sure that they are in good shape before using them. This mechanic will not only do better work, but will also work more safely.

Once a habit has been firmly established, you cannot forget it or ignore it, even if you want to. It becomes almost second nature.

Now, how do we go about forming good habits? The same way we form bad ones—by repeating the same action in the same situation over and over again, without fail.

If a secretary always write the message down immediately, this immediacy will become automatic. If an office manager never pays bills or checks statements without double-checking the figures for accuracy, double-checking will soon become second nature.

Every time you repeat an act, you reinforce and strengthen the habit. The important thing to remember is to make no exceptions. Exceptions weaken the habit. That's why safety rules should be followed at all times; they should be followed without any exceptions. Unbroken safety rules become firmly fixed and habitual. With constant repetition, they become a part of you.

Let your good habits work for you. Make safety a force of habit.



SAFETY TOOLBOX TALKS ACCIDENT PREVENTION



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DON'T TAKE ANYTHING FOR GRANTED

The heading over an article in the newspaper said: "Man Seriously Burned at Work." The story went on to say that the worker was burned when his clothes caught fire during an explosion.

But there was more to the story than that. What actually happened was that an oxygen line was mistakenly connected to a water tank on the rear of a jet drill. When the operator opened the valve, an explosion occurred and his clothing was ignited.

Behind the headlines of another story, a worker who was priming the carburetor on a truck poured some gasoline, then stepped back, carrying the open fuel can. When a co-worker approached from behind with a lit cigarette, the can touched the cigarette—and the explosion burned both workers.

In another incident, which you might think could never happen, an employee had climbed inside a machine to perform some repairs—without turning off the power. Another worker activated the machine, and the one inside was caught between the male and female dies.

There was one thing that the three accidents had in common. In each case, someone made a false assumption. This violated a very basic safety rule: "Don't take anything for granted."

The man in the first story assumed that the right line was hooked up, so he didn't check it out. The second victim assumed no one else was around and backed into trouble. The third assumed that no one else would start the machine. All three assumptions were incorrect and resulted in serious accidents.

Taking things for granted actually involves many factors that produce safety violations, among them: poor communications, not being alert, and taking chances.

Check and double-check when necessary. Check tools for flaws before you use them. They may have been okay yesterday, but today's another day. Look before you blindly put your hands anywhere. Boxes are usually clean, but this time there might be protruding nails. Look before you step out into an aisle. Power trucks may not normally travel that route, but this time a new driver may have wandered off course.

On the way to and from work, you've seen the wreckage at intersections where a driver had assumed everyone would stop on the signal and had charged into the intersection only to discover that the assumption was tragically wrong.

In a recent study of characteristics of accident-prone employees, one of the personality factors associated with the tendency to have repeated injuries was self-assurance. The accident repeater is convinced of his or her superiority—and the ability to cope with all problems. Such overconfidence leads to taking unnecessary chances, which are followed by frequent accidents and injuries.

Another accident factor was found to be the desire for dominance. The accident repeater has decided opinions but comparatively little regard for the opinions of others. The repeater's attitude is "There are two ways to do anything—my way and the wrong way."

Such people take it for granted that they will always make out okay, even though the fact that they're accident repeaters proves how wrong they are. To avoid being like them, never take safety for granted. If there's the least doubt or question about how to perform a task in the safest way, don't assume and don't guess. Check with your supervisor—you'll be doing both of you a favor.



SAFETY TOOLBOX TALKS ACCIDENT PREVENTION



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FORGET ABOUT LUCK

Safety is not a matter of luck; it has to be taken seriously. To begin with, you should understand that accidents do happen, and they happen to perfectly nice people like you and me. Yes, sometimes we are lucky enough not to get hurt, even when we do things that we shouldn't do—like standing on the top rung of the ladder or trying to adjust a machine that hasn't been de-energized, let alone locked out.

But we can't and shouldn't count on luck. We are too valuable to ourselves, our families, and our friends to trust our lives and limbs to plain dumb chance. Here are a few thoughts to keep in mind that will help us take safety seriously and make the effort to stay safe.

OBSERVE AND OBEY WARNING SIGNS

Every day we see safety signs in and out of the workplace that tell us that something may not be okay to do. The next time you see a sign that you may have passed many times without paying attention to, try reading the words. Think about the caution that the words convey. Then ask yourself if there might not be a very good reason that the warning sign has been posted. There probably is, so why not take the warning?

Many of us retain the somewhat childish habit of rejecting advice given to us by someone in authority. We know better, of course, because we aren't children anymore, but that can be a hard habit to break. Break it we must, though, if we take safety seriously, since we are not only valuable human beings, but, like all human beings, we are vulnerable. A warning is worth paying attention to.

BE WILLING TO ASK FOR HELP

Another thing we don't really like to do, like listening to others, is relying on others for help. But sometimes, in order to stay safe, we have to accept the fact that we can't do a particular job all alone. We have to say to a co-worker, "Will you give me a hand?" Are you too proud to say those words? Too shy? Reluctant to bother someone in the middle of that person's own work?

Those are easy reasons to understand—but they aren't worth getting hurt for. You don't have to be too proud, because everyone needs help once in a while. You don't need to feel shy, because your co-worker has the same problems that you do. And you don't have to get hurt just to avoid interrupting someone else—after all, wouldn't you be glad to give someone else a minute or two of your time in order to prevent an injury?

APPRECIATE TEAMWORK

It takes everyone working together cooperatively in the workplace for everyone to be really safe. You can do a lot to maintain your own safety, but you can't be totally safe all by yourself. Why not? Because there's always the possibility that someone else may cause the accident that will do harm to others—including you.

That's why we all have to watch out for everybody, making safety a team effort. Teamwork means taking the time to show someone else the safe way to do the job, to point out a condition you think may represent a danger, to ask someone if they know the right way for you to do something new. Cooperation of this sort is necessary because we are all in this together—not just in the workplace but in life itself. And life, like work, is not only safer and more productive, but even more fun when we cooperate.

The essence of safety is the realization that we are too valuable to leave our well-being to chance. That makes us want to take care of ourselves—to take our jobs, and our safe performance of them, seriously—and also to protect those working at our side



SAFETY TOOLBOX TALKS ACCIDENT PREVENTION



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HITS CAN HURT— AVOID THEM!

In baseball or on Broadway a hit is something to strive for and be happy about. But in the work-place it's something to avoid whenever possible—and protect yourself from, just in case.

Unfortunately, the odds are in favor of being hit on the job! The number of people being injured by moving or flying objects is right up there with those resulting from improper lifting. Some examples:

- A machinist who had left a wrench on a machine bed was struck in the face when the machine was started, sending the wrench flying.
- While a truck driver was cleaning his loaded truck, a brick fell off the load and struck him on the head.
- A supermarket employee had glass fly into her face and eye when a soda bottle exploded.
- An increasing number of workers are being struck—and seriously injured—by powered industrial trucks.

A survey of compensable injuries conducted by a state department of labor a few years ago showed that "struck by" injuries ranked as the number one cause in foundries and logging, number two in the woodworking and plastics industries, and number three in metalworking. So you can see that this type of hazard is widespread.

How are we to defend ourselves and each other from this threat to our safety on the job? One important safeguard is personal protective equipment: hard hats, safety shoes, and safety glasses. These can keep a minor accident from causing a major injury—but only, of course, when they're on your body and not in your locker or duffel bag.

Many of the other means of protecting yourselves from struck-by injury also depend on your own good safety sense and behavior. For instance:

- Stay out from under cranes and suspended loads or any overhead work.
- Don't use aisles and routes that are not designated for pedestrians.
- Be on the alert for warning bells or horns from nearby equipment and move out the way promptly.
- Keep your work area clear of objects that might fall and strike you.
- Keep tools and other articles away from machinery that is moving or might be set in motion, because they could be thrown and fall on or fly at you or a co-worker.

As a final reminder, don't think this talk offered alternative ways to avoid struck-by injury. You must follow safe work practices and wear your protective equipment.





HOW TO CONDUCT A THOROUGH ACCIDENT INVESTIGATION

Does your company have an accident investigation program? Do they require that you, as the supervisor, investigate all accidents? Have you been trained on how to conduct an accident investigation?

Many supervisors who are not trained to conduct a proper accident investigation often blame employee carelessness for causing an accident. The supervisor's response will be to warn the employee to "be more careful." The supervisor may feel satisfied with this result, but it seldom corrects the conditions that are actually responsible for the accident.

An accident serves as a clue to something that is wrong with the operational process. You are in the best position to detect and correct conditions that lead to operational problems in your department. These problems fall into three categories: equipment, material, and people. The equipment category would include selection, arrangement, use, and maintenance. The subject of material would involve selection, placement, handling, and processing. The category of personnel would consider selection, placement, training, and supervision.

Take the case of an employee whose fingers were crushed in a power press.

First look at equipment:

- What press was involved?
- What guards were on the press?
- How were they adjusted?
- How was the press activated?

Next look at the material involved:

- Does the material easily get caught in the machine?
- Is the material difficult to work with?
- Is the material too small or too large for the machine?

Finally, question the personnel:

- Who was the employee?
- How was he or she trained?
- Did the supervisor ever check to see that he or she was following safe procedures?
- Why did the employee reach under the guard?
- What additional training is needed?

In this case, it would have been easy to say that the employee was at fault. But, if you look deeper at the specific causes of the accident, you may find that perhaps additional training is needed or that the guard on the machine was broken or not adjusted properly. Once you find the solution, make sure to follow through with the necessary corrections.

CHECKLIST FOR ACCIDENT INVESTIGATIONS

- Are you, as the supervisor, responsible for accident investigations in your department?
- Do you avoid giving easy answers as corrective solutions, such as “told employee to be careful”?
- Do you look for more detailed, complex causes for accidents?
- Do you look at the three important categories: equipment, material, and people?
- Do you investigate thoroughly by talking to the victim and witnesses and studying the accident site?
- Do you take measurements at the accident site?
- Do you ask questions without assigning blame?
- Do you investigate near misses as well as accidents?
- Do you follow up on your corrective actions?
- Do you always make sure the employees involved are retrained?
- Do you communicate your findings to the rest of the company?



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HURRY-UP CAN HURT

Sports cars that hurry over a designated driving course in competition with other cars are usually marked with racing stripes. Merthiolate and bandages are the racing stripes people often wear when they've hurried on the job.

Even people who have never been known to do most things speedily will sometimes hurry through certain activities. Frequently used sayings concerning this kind of behavior include "haste makes waste" and "the hurrier I go, the behinder I get." Even more closely associated with safety is "hurry-up can hurt."

In most instances, hurrying on the job has little to do with increased production. It usually is connected with attempting to do something the easy way, getting a tough job over and done with quickly, or getting off the job as soon as possible. All of these reasons for hurrying lead to unsafe acts and injuries.

The rally driver may "lose it" on a curve when going too fast or knock down pylons by cutting it too short on the turns. We have similar results with unwarranted hurrying and shortcuts on our jobs. For instance:

- Not wearing safety glasses because the job will take only a second
- Charging through a door without regard for fellow employees right behind or ahead of you
- Not taking time to properly lock out and tag machinery before beginning maintenance or repair activities
- Carrying a heavy object without first planning a safe, unobstructed route—or trying to carry too much at once in order to avoid making a second trip.

Sometime, think back to an incident when you either got hurt or came very close. When you review the circumstances of the accident or near-miss, there's a good chance that hurrying was part of your difficulty. If you took a shortcut, you probably realize, as most of us do sooner or later, the shortcut really didn't save any time and wasn't worth the risk involved.

However, it should be pointed out that faster ways of doing things may be beneficial. If you think that there is a way of getting a certain job done more quickly, by all means bring it to the attention of your supervisor. But don't proceed to use the new method or make any changes without first getting them approved.

Some speeding up of operations is a natural outcome of experience, as we become more familiar with our jobs and therefore more efficient. But there comes a point at which increased speed through experience becomes negligible, while the danger of not remaining alert on the job grows.

As mentioned earlier, a lot of us get into trouble hurrying to get off the job. Hurry-up can hurt in the parking lot and on the road, too.

Wherever they happen, and for whatever reason, accidents cost money. So, using common sense to pace our actions at a rate that is both safe and productive works to everybody's benefit.



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IT CAN'T HAPPEN TO YOU?

Have you ever heard someone say "It can't happen to me"? Maybe you've even said it yourself.

If we haven't said it out loud, most of us have at least thought it at some time or another. We think it just before we do something that is a little unsafe—or maybe quite a bit unsafe. We know better. We know the safe way to do it. But we take that chance. We are, in fact, saying "I know this could result in an accident, but it can't happen to me."

Why can't it happen to you? What makes you so special? Why take that chance? Sooner or later, the person who keeps saying "It can't happen to me" will wind up saying "If only I had..."

- "If only I had worn my safety glasses, I wouldn't have lost my eye."
- "If only I had walked instead of run, I wouldn't have tripped and broken my leg."
- "If only I had taken my ring off, I wouldn't have lost my finger on the machine."

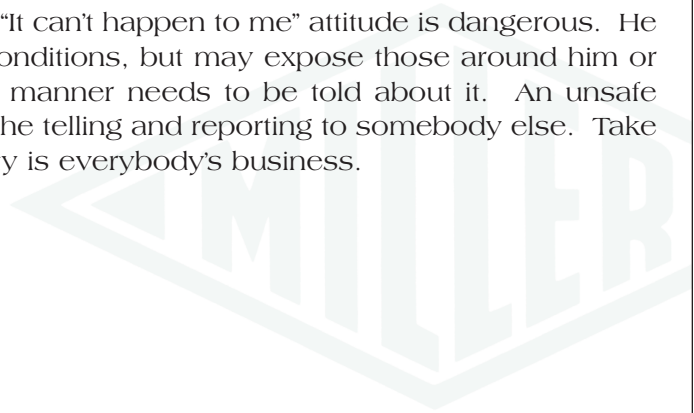
The next time you find yourself saying "It can't happen to me," remember that anything can happen to anybody, anytime, if they act in an unsafe manner or are exposed to an unsafe condition.

I'd like to tell you about a few actual work accidents that resulted in injuries and lost time. The people involved are people like you and me—but the difference is that their own personal "It can't happen to me" happened.

- A bartender cut her finger on a broken beer bottle when she reached into the beer cooler.
- An employee was frightened by the noise of a ruptured air line, so she started to run. She tripped and fell, spraining her neck and bruising her head and ankle.
- A police officer, while chasing two suspects, jumped over a low wall on a building under construction. He caught his foot on the wall, fell into a pile of bricks and construction materials, and sprained his leg.
- A janitor strained his back trying to get a power lawn mower he was operating out of some mud it had become stuck in.
- Highly flammable glue was mistakenly applied by an employee to a work surface. When he started his drill, the electrical sparks ignited the glue fumes and burned his hands and face.
- An employee in a restaurant suffered a head injury and knee lacerations when he slipped on a piece of lettuce.
- A cook broke a toe when he opened a freezer door and 10 pounds of frozen ground beef slid out and fell on his foot.

- A bookkeeper received burns to her left arm and side when a coffee urn she was disconnecting tipped over and spilled hot coffee on her.
- A truck driver injured his neck and back when he drove over a bump in the road and hit the top of the truck with his head.
- A truck driver jumped off a loading dock, landed on a soda can, and sprained her ankle.
- An employee was injured during horseplay in a bakery when someone threw a dough ball and hit him in the eye.
- A stock clerk in a grocery store suffered a fractured rib when cans of soup he was stacking fell over on him.
- An employee injured his leg when he fell while running to the first-aid room to get help for another employee.
- A welder suffered a first-degree burn in her ear canal when she was welding and a hot spark flew into her left ear.
- An employee in an automobile dealership was hit by the car he was working on when he left it running in gear without fully setting the emergency brake. The car ran into him and fractured his leg.

All of us should remember that a person with an “It can’t happen to me” attitude is dangerous. He or she may escape injury from unsafe acts or conditions, but may expose those around him or her to injury. So someone acting in an unsafe manner needs to be told about it. An unsafe condition needs to be reported. But don’t leave the telling and reporting to somebody else. Take those necessary actions yourself. After all, safety is everybody’s business.



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LITTLE THINGS THAT COUNT

A riddle that made the rounds when I was in school asked "what are the little things that count?" to which the supposedly hilarious answer was "the first grade arithmetic class."

But in the real world, the little things that count have many different meanings, and ignoring them can have results that are far from funny. This is particularly true when it comes to safety. We've all been trained to be on the lookout for, and to recognize, the big hazards that could harm us, but the little ones can sometimes be just as threatening to our well-being.

One company recently became very concerned when its incidence of injury and illness showed a big increase over a three-month period. Management began an in-depth check of systems, equipment, and material that could be considered high-hazard: heavy machinery, ventilation, toxic substances, and the like.

To their surprise but maybe not to yours—none of these things were causing the problem. Chemicals were properly labeled and stored; machines were in good repair and properly guarded; the exhaust fans, sprinkler systems, respirators, etc., were all in good working order. Instead, as you've probably guessed, it was various "little things" that were at the bottom of the trouble. For example, serious falls had been caused by:

A patch of oil on the garage floor that no one had poured absorbent on because it was too small to worry about. It wasn't too small to trap a passing mechanic who was looking forward, not down.

A toolbox that had been left on the floor in front of a bench, instead of underneath. It had been sidestepped dozens of times before someone finally tripped over it.



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LOOK OUT FOR THOSE "NEAR MISSES"

A "near miss" or "minor incident" is a close call that has the potential for property loss or injury and prevents a task from being completed as planned. It has been reported that 75 percent of on-the-job injuries were preceded by minor incidents or near misses.

How do you handle those incidents in your workplace? What's your attitude toward a near miss? Do you feel momentarily relieved that what happened wasn't any worse and just return to your routine? Do you simply tell yourself that you should be more careful next time? Do you have a plan for preventing a repeat performance?

It's advantageous to develop a preventive, not reactive, safety program. The warning signs of near misses should never be neglected. Understanding what happened and why will help you to reduce or control any future hazards. Answering the following questions can help you analyze the cause of an incident:

- Was the worker using unsafe practices?
- Was the worker careless because the tasks were too repetitious?
- Was the worker violating any safety practices?
- Were conditions unsafe?
- Did the worker have proper lighting?
- Was the worker taking short-cuts?
- Is the worker accident-prone?
- Was the near-victim authorized to be in that work area?

We have phrased these questions as if another worker was involved in the near-miss incident. It is equally important to look at your own actions if you were the one who had a close call.

SAFE PRACTICES

Do you take the necessary time to set up proper safety procedures to prevent injuries? Spend that time. Injuries are no fun for anyone! Make sure that other workers who might experience a similar situation know what you have learned about the causes of the near miss. They need to hear about problem areas or about mistakes to avoid in the future. What was a near miss or one-time minor accident could cause serious injury or damage on another occasion. All workers need to be aware of the importance of eliminating potentially dangerous practices.

Don't wait for a serious injury or accident in order to analyze what changes need to be made in working conditions or safety procedures. Consider a near miss an opportunity to find and eliminate causes of future problems.



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LOOKING BACK, THINKING AHEAD

Looking back can be either safe or dangerous, depending on the particular circumstances. If you take too long a look back while driving, you could run into something ahead of you. But looking back while backing out of a parking place is using safe driving procedure.

There is one way in which looking back can have a very helpful impact on promoting safety on the job. Can anyone tell what that way is?

Taking a look back at a close call or a near-miss accident can really qualify as thinking ahead, because what you're doing is trying to figure out what went wrong yesterday so that you can keep it—or something worse—from happening tomorrow.

Many job injuries occur because repeated near misses beforehand were not heeded. Sparks fly whenever a certain power tool is turned on, but there hasn't been a fire Ö so far. Boxes fall from the top of a storage rack whenever it's bumped into—but no one has been hurt Ö yet. These examples are typical of the kind of near-miss that keeps being repeated until one of two things happens: someone corrects the hazardous situation, or someone is hurt—perhaps seriously.

In a number of fields, success regularly involves looking back at earlier events. One example is the game films a coach studies on Monday morning, or the film director's screening of the previous day's rushes. Reviewing the data on how well a product has been selling is essential before making a decision to step up or tone down the promotion efforts. I'm sure you can think of other examples.

This certainly isn't intended as a recommendation for "living in the past," like people who are always mourning "the good old days." But I will insist that it's appropriate, and smart, to talk to your supervisor about a past incident you think points to a need for change in order to assure the safety of people and property.

An occasional review of job procedures is also a worthwhile investment of your time and attention. It's helpful to find out whether you are continuing to do your job or run your machine in the safest way. If you've gotten a little lazy or a little lax, on the other hand, it's good to know that too, so that you can get back on the right track.



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MAKE A MENTAL MAP

When you're on an extended automobile trip, it's a good idea to keep a road map handy, especially if you're in strange territory.

Rarely do you see anyone walking around at work with a map. That's because each person has a mental map of where to go to perform his or her job. But a mental map shouldn't stop at simple directions.

For safety's sake, the mental map you make should carry several other important items such as location of the first-aid station, fire extinguishers, and other emergency equipment. But, above all, it should carry a well-defined picture of your job and the equipment you use.

Here's an example of why a mental map and constant mental alertness on the job are so important. The branch office of a bank was robbed and a sizable amount of money was taken. The manager, in an exhibition of foolhardiness, pursued the thief out the door of the bank. In the chase that followed, the manager fell down and fractured her knee. Actually, she was lucky not to have been shot.

No doubt the manager had been instructed as to how to react in a holdup situation—and maybe had even instructed other employees on the same subject. But when the emergency arose, she reacted contrary to good judgment and was injured in the action that followed.

Apparently the manager didn't have a mental map—or else got it confused with something seen on television. After the thief had gone, the manager should have called for help on the nearest phone or activated the alarm system. Pursuit of the holdup man added an unsafe act to an already unsafe situation.

In another incident, a foreman was explaining the function of a die to a die setter. While pointing, the foreman placed his finger on the die, and the press accidentally cycled, amputating his finger.

In this instance, a mental lapse resulted in an accident. Needless to say, the mishap proved to be a very realistic explanation of the function of the die.

These incidents illustrate the point that alertness is what makes a mental map readable.

Safety experts say that when you construct a mental map, in addition to your work area and equipment, include the closest first-aid station, fire extinguisher, and fire alarm, as well as procedures for contacting the police and an ambulance.

You will also add to your job efficiency and personal comfort if you include where to turn in tool for repair, where tools other than those kept at your own workstation are kept, the nearest water fountain, and the nearest rest room.

Other safety additions for your mental map are areas where you're most likely to encounter either hand or motorized trucks, areas where there may be danger from high workplaces or suspended loads, the nearest exit, and the spot where you can generally find your supervisor.

You probably have other things in mind that could be added to the list. For instance, if you work with chemicals you will certainly include the whereabouts of the material safety data sheets, and the closest eyewash fountain and emergency shower.

The important thing to know is where to go and how to get there in the quickest and safest way.

People in pain or under stress may act unwisely. They may dither and scurry around, aggravating their problems and accomplishing nothing. This is when the good mental map comes in. It can help you to perform your job safely and effectively, and is particularly valuable when it comes to reacting to emergency situations in the safest way.



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MAKING ZERO ACCIDENTS OUR GOAL

Imagine a workplace that never had an accident again a workplace where employees never suffered another injury. An impossible dream? Maybe not.

At one company I know, the safety director told the workers that only a zero accident frequency was going to be tolerated. Rather than considering themselves successful if there are only a few accidents, every accident is going to be considered a failure. "It's a matter of attitude," the safety head told them. And, this is what the workers had to say.

An office clerk: "The secret to an ongoing zero accident record is personal commitment and communication. It's ultimately everybody's responsibility because safety is personal. Other people can affect your safety as well though. And you can affect someone else's. So we have to look out for one another, too."

A machinist: "The crew members have been here a long time and we know each other. We know that we can take the time to do the job the safe way. Before I came here, I had my eyes injured a number of times using metal machinery. You won't catch me running a machine like that anymore without my safety glasses on. I just won't do it. And I yell at the others to put theirs on."

A welder: "Anybody who does something wrong in the shop gets jumped on by the rest of us. But it's never done maliciously or to downgrade that person. We police one another, not out of spite, but because we care for one another. Everyone needs to be involved in safety. If you exclude someone, they'll get hurt. We also don't hesitate to tell management what to do safetywise. Some people say, with our record, we're due for an accident. We're not due for one. We're never due for one."

A service technician: "Cooperation between management and employees is key. Safety has to be a partnership. We have to have employees who are safety-conscious and that means having employers who are committed. There is no one recipe for success. Safety must be the consciousness of everyone in the company. It helps if everyone gets along and the 'mood' is positive."

A mechanic: "The secret to a good safety record is being aware. You have to think about it every day. And you can't get too confident about what you're doing, because then safety can be side-stepped. I used to think that safety was the responsibility of the company. I've learned that safety is a two-way street the worker has to be involved in safety because it's the worker who ultimately might get hurt. But the worker needs the go-ahead from the top to do the job safely."

These are the actual words of the workers at a company that is aiming for a no-accident goal. The safety director there says, "Everyone has to buy into the idea that our goal is a zero accident frequency before it will have meaning."

We can have a zero-accident goal here, too, if we all put our minds to it and make it a commitment. Why not make a no-accident record your own personal aim? You know your job and you know how to be safe. You know as much as the workers whose words you just heard. Stay safe today, tomorrow, next week, and a week from now. Accidents don't "just happen." They don't have to happen at all.



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RIGHT HABIT, SAFE HABIT

Everybody needs a hand from time to time, whether it's help with a tough job, special advice on tackling a new or unfamiliar job, or the expert's word on handling potentially dangerous equipment and materials.

Even more critical is the helping hand for new employees on the job. Because that's when they form habits that carry them through their whole work career. That's why the beginner, from the first day on the job, must learn his or her job the right way and the safe way.

Smart foremen, supervisors, and workers know that they are all creatures of habit, and they know how to make habits work for their own benefit:

- Right habits eliminate mistakes that endanger lives.
- Right habits carry workers safely through their shifts without indecision or unsure acts that can cause accidents.
- Right habits can build a reserve of attention and energy that allows workers to be alert to dangers.
- Right habits are efficient, eliminating waste of time and making any job easier.

The right habit is constructive, making many chores routine and even automatic. With right habits, there may even be time left over to think about how to do a better job—safer, more productive, more satisfying.

And best of all, doing things right—the first time and every time—not only makes the work itself safer and more successful and satisfying, it also contributes to a spirit of friendly teamwork with fellow employees.

And doing your part to promote cooperation and teamwork is another habit worth developing—and another way to set a good example.



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SETTING A GOOD EXAMPLE

We sometimes seem to be living in a copycat world. If one automaker's leasing offer attracts consumer interest, every other car company will soon be riding the same bandwagon. No sooner does the latest buzz-word appear on one food or detergent label than the shelves are filled with products proclaiming "lo-fat," "no enzymes," or "organic and biodegradable." It's clear, though, that what they're really trying to copy is success and profit.

Why mention this in a talk about safety? Because although we may occasionally be tempted to take an unsafe shortcut just because we've seen someone else do it and get away with it, we're more likely to do things safely because we've seen others doing them that way. That's one of the fringe benefits of doing things the safe way. We all profit from each other's good examples.

New employees certainly benefit by seeing operations conducted the safe way. As you all know from experience, people who are new on the job take a while to adjust and to discover how they fit into the overall operation.

New employees who have never held a job before—or who were employed by a firm that had a weak safety program—will probably need considerable safety instruction. The company will provide instruction and training, of course, but important knowledge will also come from observing and talking to fellow workers. These newcomers' early impressions of you will be at least partially formed through these contacts and observations. Likewise, newcomers whose former employers did emphasize safety will probably think more of you personally if you measure up to the caliber of people they are accustomed to working with.

"Don't do as I do; do as I say" is a pretty tired expression. It became tired because we all have repeated it many times—not just verbally but in our actions, which we all know speak louder than words.

When we leave our safety glasses resting on our foreheads rather than in place over our eyes, or when we kick an empty milk carton under a bench rather than pick it up, we're not selling safety effectively. Our actions are saying: "I believe in wearing eye protection but not in protecting my eyes. And I know that trash can cause a tripping accident, but it isn't important enough to make me pick it up."

There's another angle to good examples. Too often people dress to impress others with their good taste rather than their knowledge of safety. Wearing rings, bracelets, and other ornaments is dangerous around machinery and on jobs in which it's possible for jewelry to catch on objects and cause injury to the wearer. Long sleeves, floppy pant legs, and long hair can be hazardous on some jobs, too.

So we should always dress for the job. Our image as a fashion expert may suffer, but it'll give way to the more important and more beneficial image of safety.

Some of us probably feel we have already set good examples for safety, and perhaps we have. But consider just for a moment how, when we think about an accident, it's usually in regard to someone else. Accidents are a reality. Make your personal safety just as real, and you'll have a good chance of not becoming that "other person" to whom accidents are always happening.

We might also remember that our children someday will be entering the workforce. They, like the newcomers on the job, can benefit by our actions that exemplify safety-consciousness.

Most of us try to do make a point of showing to our kids the safe way to cross streets or how to light matches when they're an appropriate age. If, through the years, they also learn from you how to use a ladder correctly, or that it's a good practice to keep tools in their proper places, or that there's a right way to lift things, your good example has given them an additional opportunity for a better, safer life in the future.



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STAY ON GUARD

Why do we have these brief safety talks? Why do we have to always think about safety?

One of the major reasons is that in order to be safe, you have to be alert. You must be on guard at all times. By talking about safety you develop and strengthen safe work habits.

One of the worst things that you can do is let your guard down by becoming preoccupied with other things. We all have personal problems that plague us to one degree or another—health, bills, the future—and perhaps our worry about these problems led to illness or fatigue.

Such preoccupation is a major factor in many on-the-job mishaps that are sometimes mistakenly labeled "freak accidents." When you become lost in thought, you are off guard. You've left your defenses down and are wide open for an accident. A blind or deaf person learns to compensate for the handicap by fine-tuning the other senses. When you are preoccupied, you are blind and deaf but don't know it. You are unguarded.

But how do you guard against preoccupation? How, indeed, can you detect that preoccupation has reached the point, either in yourself or others, that you're easy prey to hazards or hazardous conditions?

If we knew the answer to this, it would mean a major breakthrough in the field of safety. It would be nice to be able to take a reading of someone's brain waves to see if they were lost in thought and open to an accident, but we don't have that ability. So we must do the best we can.

We do this by trying to make safety something that comes naturally to all of us, even when we are not consciously thinking about it. These safe work habits will then be so strong, that even if you become preoccupied at times, your safe habits will prevent you from having an accident.

Reducing the possibility of accidents that are caused by a preoccupied mind is a matter of preventive safety, and that's one of the reasons we have talks like this one.



SAFETY TOOLBOX TALKS ACCIDENT PREVENTION



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SUPERVISORS: SETTING A SAFE EXAMPLE

In the eyes of most of the people who work for you, you are the company-or at least their closest link to the company. Have you ever stopped to think of what sort of an image you project to your crew? Have you ever tried to see yourself as others see you?

For instance, have you or any other member of management ever walked through an area where eye protection is mandatory without wearing safety glasses? Doing so can destroy an effective eye protection program. Workers resent safety rules being interpreted one way for management and another way for them.

The rules of mathematics do not apply to the effect of right and wrong examples. One right example does not equal one wrong example. That one wrong example, unfortunately, has far greater impact. It is noticed faster, talked about more, and remembered longer.

Supervisors work in a fish bowl. One glaring wrong can cancel the good safety attitude developed after months or even years of correct examples. This is particularly true if that wrong example indicates a double standard, or if disciplinary action resulted from a worker's violation of the same rule.

Check your performance against the following list of examples you should be setting every day:

Be sure you follow all safety rules and regulations – no exceptions, no shortcuts.

Wear all safety equipment and personal protective devices that are required. This will help sell the idea that wearing protective equipment is important.

Take all of the precautions that you expect others to take. You are no less vulnerable to an accident than those you supervise. Such compliance proves your real regard for doing every job the safe way.

Never order anyone to work unsafely. Don't bypass any rule or standard operating procedure to get the job done faster or cheaper. Your example will be a sign of how you really feel.

Be genuinely enthusiastic about the safety program. Prompt and proper attention to items of safety reflects your positive attitude. Anything less can and will be noticed and viewed as an indication of insensitivity on your part.

Do not belittle the safety program. If you question the correctness of a rule, the value of some of your safety responsibilities, or any part of the safety program, discuss your questions with the proper people-your supervisors or the safety department. These people can help you to better understand the program and your role in its implementation.

CHECKLIST FOR SUPERVISOR'S ROLE IN SAFETY

- Do you consistently wear the proper protective equipment around your employees?
- Do you stop your workers from continuing to do their jobs in an unsafe manner?
- Do you insist that they follow proper safety procedures?
- Do you avoid rushing them or encouraging them to take shortcuts?
- Do you quickly fix hazardous items or conditions?
- Do you take your employees' safety concerns seriously?
- Do you encourage your workers to come to you with safety concerns or solutions?
- Do you follow the same safety procedures that you expect your employees to follow?
- Do you always speak enthusiastically about the safety program?
- Do you seek out advice from safety professionals?
- Do you review your safety procedures regularly to make sure they are updated and correct?
- Do you provide regular safety training and safety talks to your employees?



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TEAMWORK

Although most of you have your own jobs and work more or less independently, during the next five minutes I want to talk about teamwork.

At first, asking those of you who work alone to work with the rest of us may sound strange—but it isn't really. All I'm asking is that you consider the rest of us as you work.

We all know working together means lending a hand when asked—or even when you're not asked, if you can see that someone needs one. Most everyone does these things already.

So I'd like to talk about other ways we can work together—ways that may not come to mind as readily. For instance, consider maintenance. When you draw special equipment or borrow a tool from a neighbor, you return it (especially if you have signed for it). But, if something is wrong with the equipment or tool, do you turn it in for repair? If the head of a hammer comes loose while you are using it, do you return it to the tool crib for a replacement?

Next, let's think about housekeeping. In the lunchroom, you toss your sandwich wrapper and apple core in the garbage can before leaving. In the washroom, you put towels in the waste bin without a second thought.

But how about your work area? Do you keep it cleaned up so others can step in and start where you leave off without having to spend precious time trying to find things?

Look at it this way: If you are in a jam and need a quick assist, will the person you ask be able to hand you a hammer in a hurry, or will it take five minutes to find one? You know how this sort of thing can go. You ask for help; the person you ask can't find what you want. You get angry; your friend gets angry. Then you have to start all over.

There are other points to this housekeeping business, too. It should go without saying that if you make a mess, you clean it up. But suppose someone else goes by and accidentally leaves a grease smear next to where you're working. You don't notice until the worker is out of earshot.

Who's to clean it up? You can't leave your station to get the worker who dropped the grease to come back. If the grease isn't cleaned up, someone (maybe even you) might slip on it. So take 30 seconds, and wipe it up.

There are lots of other ways we can work together—anything from a friendly "Hey, your shoe is untied" to offering an extra pair of hands when a heavy load needs moving.

But often, the help you give other people is indirect and sometimes not noticed. For instance, a "wet paint" sign is taken for granted as long as you can see it. But if it's not posted, or is removed before the paint is dry... You get the idea.

Here are a few points to remember:

- You know how to do your job correctly and safely. Other workers count on you to do so. Don't let them down.
- If you see something is wrong, and it is something you can safely correct, do so. If you can't, report it to your supervisor. If it can't be fixed immediately, be sure other workers are aware of the problem.
- Don't be afraid to offer help when you see it's needed.
- If you have an idea that might help others, share it with your supervisor.

In summary, working together covers a lot of things: good manners, a good rapport among us, and the sort of decent, everyday behavior that makes this a good place to work.

I'm sure that when everyone takes that extra step to help and safeguard others, many potential injuries and accidents will be avoided. So let's work together for safety's sake.



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THE 'POINT OF NO RETURN'

Do you know where this phrase came from? It describes the point at which an aircraft crossing ocean or wilderness no longer has sufficient fuel to return to the starting point and so must go on, no matter what hazards may lie ahead. It now refers to the stage of any action at which, come what may, it's too late to turn back.

It can be applied to many situations affecting health and safety. A simple example is leaning back too far in a chair: pass the point of no return, and a tip and fall result. Staying out in the sun too long is another instance, and a painful burn can be the outcome.

Why do people go beyond this point of no return? Because they've been lucky enough to get away with it before. I confess there have been times when I've done so myself, but fortunately I wised up to that bad habit before it got me into real danger. I know that some of you, too, have gone beyond the point of safe return as you went about your daily tasks here and at home.

At least one of you has almost certainly been guilty—probably more than once—of taking each one of the following risks:

- Driving just one more trip with bald tires
- Delaying or ignoring first aid measures for a minor injury
- Forcing the wrench a little bit more
- Reaching too close to a moving belt
- Wearing your safety glasses around your neck, not over your eyes.

You all know what could happen as a result, but each time the potential bad outcome doesn't occur, you begin to think it never will—and that's a sure recipe for disaster.

Like OSHA's regulations, the company's safety rules were developed to prevent disastrous harm to product, property, and, most of all, people—meaning you. But rules don't protect people; people protect themselves and each other by observing the rules, by following safe and healthy work practices without having to be reminded constantly.

Part of my job is making sure you understand what our safety rules are and why they are necessary for your protection—in other words, what hazards they are intended to forestall. That's why we have these regular safety talks. It's also why those who repeatedly ignore the rules, endangering themselves and possibly others, are subject to disciplinary action.

Sound harsh? Consider the alternative. Let's imagine a worker who has regularly been bypassing the guard on his machine—without incident. The supervisor has delivered several verbal reminders, then issued a written reprimand. The next time that worker is seen bypassing the guard, the result is a day's suspension without pay. But passing that point of no return and

reaching the point of operation could have cost a finger or hand—certainly a far more horrendous loss than a day's wages.

So consider this a “wake-up call” or perhaps a “wise-up call.” Next time you're tempted to take a shortcut around the prescribed way of doing things, or to ignore a safety rule “just this once” or “just for a minute,” stop yourself. Consider the very real risks—what could happen even if it has never happened before. Then step back from the edge of that point of no return, and do the smart thing—the safe thing.



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THESE ACTS AND CONDITIONS CAUSE ACCIDENTS

You may have heard of the "daily dozen," the "dirty dozen," and the "ten most wanted." These terms have a counterpart known as the "unwanted ten," which are applicable to job safety and also have an important bearing on health.

These accident causes are categorized into two sections of ten each: "Unsafe acts" and "unsafe conditions." If we acquaint ourselves with these enemies, a majority of accidents can be eliminated.

UNSAFE ACTS

1. Unauthorized operation or use of equipment.
2. Failure to secure or tie down equipment against unexpected movement.
3. Operating tools or equipment at an unsafe speed.
4. Failure to warn or signal as required.
5. Removing or bypassing safety devices.
6. Using defective tools or equipment, or using them in an improper manner.
7. Standing in an unsafe place or taking an unsafe posture.
8. Riding hazardous moving equipment.
9. Indulging in horseplay, or distracting or startling other employees.
10. Failure to wear personal protection equipment. (Very important!)

UNSAFE CONDITIONS

1. Lack of adequate guards or safety devices.
2. Lack of adequate warning system.
3. Fire and explosion hazards.
4. Improper or inadequate personal protection clothing or equipment.
5. Poor housekeeping.
6. Protruding object hazards.

7. Close clearance and congestion hazards.
8. Hazardous arrangements, placement, storage.
9. Inadequate illumination, intense noise.
10. Defective tools and equipment.



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'THINK!'

If you were asked to come up with a one-word definition of safety, or a one-word key to achieving it, in one word, what would be your reply? Would you suggest alertness, meaning always being ready for the unexpected? Would your vote be for skill—being especially adept? Would you define safety as experience, suggesting that the veteran never gets hurt?

Perhaps you would settle on cooperation as the key to safety, meaning that it requires us to exercise patience and get along with our fellow worker. Or, after due deliberation, might you finally define safety by using the single word thinking?

Certainly alertness, skill, experience, and cooperation are all associated with safety, and contribute to it, but since they in turn require thought, they must be regarded as secondary characteristics.

Some years ago, a prominent business executive constantly urged his staff to "Think!" He had THINK! signs posted in numerous locations and made the word virtually a corporate slogan—which became a symbol of his company's success.

It can symbolize—and lead to—success in reducing accidents and injuries, as well. It has often been said that about 90 percent of all accidents can be attributed to unsafe acts on the part of the worker, and failure to think before acting is the cause of practically all accidents in this category. For example:

- A carpenter removes a guard from a table saw for the purpose of expediency; an injury results. The carpenter has not given thought to the original purpose of the guard and has suffered the unfortunate consequences.
- A machinist, again for the sake of saving time, fails to don safety goggles for a project that will "only take a minute." Again, injury results because of the operator's failure to think of the possible negative result.
- A truck driver, exercising legitimate right of way, is nevertheless involved in an accident. Why? Failure to realize that the other party involved might not grant that right of way, whether as the result of ignorance or impatience.

Many accidents can be averted if we will only discipline ourselves to think carefully about consequences before acting. When we THINK safety, we act safely.



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UNSAFE SHORTCUTS

We all like to get our work done without unnecessary effort, getting the most out of the time and energy we spend on each task. And sometimes this attitude helps us find a better way of getting things done.

But at other times, when it leads us to take shortcuts, it can put us on a direct route to trouble. All of us at some time or another have exposed ourselves to possible harm by shortcutting rather than taking the few extra steps required by the safe way. As kids, we hopped the fence instead of using the gate; now we cross the street between the intersections.

A successful shortcut—meaning one that results in no damage—nevertheless has a downside. It gives us the feeling that we can always substitute the quick way for the tried-and-true safe way and get out of it in one piece. Unfortunately, that feeling can be misleading.

Take the case of the worker on a ladder who is almost finished with the job except for just a little bit that can be done by reaching farther than the safety guidelines call for. It's decision time: get down, move the ladder, and climb up again, or take a chance.

What are the possible outcomes? The worker may luck out and finish the job by reaching, with no trouble. Or leaning too far to the side may cause the ladder to topple and the worker to fall, resulting in a concussion, a broken leg, or a broken neck.

What kind of choice was that? One way, the safe way, the odds are 100 to 1 in your favor. There's no way of knowing the exact odds on a given shortcut—but it's surely less than 100 to 1. So the decision to take a chance was not a wise one. Risking your neck to save a few minutes of time is a bad gamble.

Of course, when you come right down to it, most of the shortcuts people take aren't really aimed at saving time. People take shortcuts because doing things the safe way is "too much bother." To avoid all this bother, they will:

- Use the wrong tool instead of going to fetch the right one
- Climb the rebar instead of going over to the ladder
- Lift too heavy a load instead of getting extra help
- Use a sander or chipper without putting on the safety goggles.

In every one of these cases, they will have avoided the bother they had in mind, all right, but they may run into some bother they didn't expect. Like, for example, a particle in the eye that requires first aid or more extensive treatment. Or a back-muscle strain that results in several days' lost time. Or worse.

I'm willing to bet that every one of you has sometime in the last couple of months cut a corner or two off the safe way. You really knew better, but you did it anyway. I don't want to hear about it; this is not "true confession" time. What I do want you to do is think very hard about what could

have happened as a result of that shortcut. And remember that the same possible result is lying in wait every time you try the same thing again. The odds may have shifted, though, so think hard again. Is it really worth the gamble?

The safe work practices that have been established here are designed to protect you. If they sometimes involve a little “bother,” that should be regarded as a small price to pay for safety.



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USE HORSE SENSE: NO HORSEPLAY

Imagine yourself a passenger in an airplane thousands of feet in the air. The last thing you want is for the pilot to engage in some sort of horseplay or stunting. Or suppose you're on a two-lane highway with oncoming cars approaching at 50 or more miles per hour. I bet you'd get pretty tense if it looked as though there were some horseplay going on in a car or cars in either lane.

Well, horseplay on the job is just as dangerous, and the person doing the horsing around is not the only one endangered. The workplace is designed for activities that are planned and controlled. Horseplay is uncontrolled, unplanned, and usually full of surprises. There is no place for it on the job.

A machine shop manager recently listed a number of examples of horseplay that had occurred in his plant, but were fortunately not repeated after the start of a major safety campaign. Here's his list:

- Scaring people with loud noises
- Greasing handles, switches, and locks
- Wiring or otherwise securing doors so they can't be opened
- Blowing clothes with compressed air
- Hiding other people's tools, or tinkering with their equipment

I'm sure you can imagine what some of the dire results of such activities might be.

Fooling around with compressed air, for example can put out an eye, rupture an eardrum, or cause painful hemorrhage.

In addition to the injury toll, horseplay costs thousands of dollars a year in damage to equipment and materials—which has a bearing on profits and jobs. In addition, the reactions of fellow workers to a "joke" could range from a laugh to a punch in the nose, and could trigger hard feelings or a fight that could itself cause an injury and/or dismissal from the job.

Some of the listed stunts were obviously pulled by rather immature, and certainly thoughtless, people, while others seem like the kind of kidding any of us might engage in if we didn't know better. After all, most of us have a good sense of humor and enjoy a good laugh.

But a sense of humor and horseplay are not really as closely related as they might seem. Horseplay often carries many of the characteristics of cruelty as well as immaturity and irresponsibility.

Employees who are truly concerned with their own safety and the safety of co-workers will therefore use their horse sense and resist any temptation to engage in horseplay.



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WATCH YOUR OTHER HAND

Next to your eyes, your hands are probably the most important part of your body when it comes to doing your work. Your hands are your wage-earners. They're precious.

National Safety Council accident statistics show that the fingers and hands are among the most frequently injured parts of the body. This is not surprising, because our hands are involved in almost everything we do.

Humans are superior to other animals because they have developed their brains and have far greater dexterity in the use of their hands. When you think about it, it's amazing what we can do with four fingers and a thumb.

By contrast, it's always tragic to learn how much someone's life is affected by the loss of fingers or a hand.

Many of the things we do with our hands are done without any deliberate thought. Have you ever noticed that we all tend to keep both hands busy in some way? Often, if only one hand is needed to perform a job, we unconsciously do something with the other hand. It may idly grasp something or be placed in an unsafe position. Punch presses are designed with two-button controls to keep that other hand out of trouble.

To avoid electrical shock when it is necessary to work near a live electrical contact, some electricians put their idle hand in a pocket. This keeps them from accidentally placing the idle hand on another live contact or a ground. Either action could result in current passing through the body's vital organs if the working hand inadvertently touches a live contact.

Here are two examples of what can happen when a worker forgets to keep an idle hand out of the danger zone:

- An employee was walking past a conveyor that was driven by a sprocket and chain. The chain was guarded on the outside, the top, and the bottom—but not on the inside toward the frame of the machine. The employee stopped next to the conveyor to talk with a co-worker. While talking, he placed his gloved hand on top of the guard, curling his fingers around the metal. The glove protruded under the guard and was caught by the chain. His hand was pulled between the chain and the sprocket.
- In another incident, an assembler was working on a machine with a rotating mechanism. Her job was to place piece parts in the fixture immediately in front of her.

When the parts were in place, she pressed a start button with her right hand so the machine would rotate, taking the parts into position for automatic welding and bringing the next fixture in front of her for loading.

One day, she pressed the button as usual but placed that idle left hand in such a position that her fingers were caught in the rotating mechanism.

These two examples are vivid reminders that we must always watch the idle hand. Sooner or later it can be caught in trouble.



SAFETY TOOLBOX TALKS



SAFETY TOOLBOX TALKS

BACK



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BACK INJURIES

If you've ever suffered from a pulled muscle, sprain, charley horse, or backache, chances are you could have prevented it. More than 250,000 workers a year incur some kind of muscle injury. These are most often the result of using improper lifting methods, although climbing in and out of trucks, pushing heavy objects, or an awkward reach or bend can do the damage.

Your back is one part of the body that can never quite return to its former delicate structure after an injury, because repairs are rarely 100 percent effective. That's why it's so important to take precautions that can prevent the injury in the first place.

Let me repeat what I said at the start: The most common source of muscle ache and pain is poor lifting methods. One work injury out of four results from incorrect handling procedures or from using the wrong materials. When you straighten up after bending over, the muscles, vertebrae, ligaments, and discs in your back bear more than a quarter of a ton of strain. If you lift with your back at the same time, the weight of the object is multiplied 15 times.

Translated into lost time from work, such aches and pains cost millions of dollars a year, most of which is spent on pain killers in a futile search for relief. Because we bring most muscle aches and pains on ourselves, the best medicine is a dose of prevention.

Falls can also result in serious back injuries, so it's important to be cautious in the use of ladders and stairs, prompt in the cleanup of spilled material, and meticulous in keeping tripping hazards off walkways. The most important protection against back injuries, however, is knowing and following the techniques of safe lifting. Here they are:

- Make sure the path you'll be taking is free of obstructions or slipping hazards.
- Know your lifting ability and get help with heavy or awkward loads.
- Face the load you are trying to lift.
- Bend at the knees with your feet about 20 inches apart (approximately shoulders' width), one foot slightly ahead of the other.
- Grasp the load and gain control before you attempt the lift.
- Watch out for nails or other protrusions that could cause cuts or other types of injuries.
- Keep the load close to your body.
- Lift gradually with your legs, not your back; don't jerk the load.
- When you set the load down, watch for pinch points.
- To put the load down, just reverse the steps, lowering with your legs, placing your feet in the proper position, and keeping the load close to your body.

These reminders may help you on the job:

- Gear your activity to your age and physical condition. Physical exertion is an excellent body builder, but it should not be carried to excess. Stop and rest when you feel tired.
- When entering or leaving a truck cab, use the handgrips and make sure the step-ups are dry and clear.
- If you have a job that allows little movement, it is important to watch your posture and change your working position as often as you can. Don't become tense—rest the muscles that are constantly in use.

Take time each day to remind yourself of what you are doing. In short, use your head to save your back.



SAFETY TOOLBOX TALKS BACK



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MY BACK IS KILLING ME!

Back pains are among mankind's earliest and most enduring afflictions. It has been estimated that two-thirds of industrial workers, and more than half of all office workers, have suffered at least one back injury by age 65.

About 85 percent of the patients one occupational health doctor sees for back problems have strained muscles in their "lumbar" region—the lower back. Lower back pain, he says, is usually set off by a specific movement at a specific moment in time. Lifting, falling, or trying to catch or break the fall of an object are the most common actions that cause such an injury. At that instant, the person may feel a snap, a popping sensation, nothing at all, or immediate agony.

Being in a hurry is a major element in back injury cases, this occupational health expert has found. If a person would just take the time to get a forklift instead of trying to pick up the too-heavy object, or get the ladder instead of just reaching for something too high, a possible injury could probably be avoided.

Understanding your spine can also help. Constructed of 24 connected segments of bone and cartilage called vertebrae, it provides structural stability for the body. Spongy discs between the vertebrae cushion the bones while also bonding them together and providing the mobility that allows twisting, bending, and flexing movements. Also holding the vertebrae together are muscles and ligaments. Within the bones and protected by them is the spinal cord, the control center of the nervous system.

If the springy disc material between the bones of the spine loses some of its bounce—which can happen simply as part of the aging process—then the stress of some particular movement may cause the disc to bulge or even break, with spongy tissue spilling out. This "herniated" disc can press on an adjacent nerve, causing pain, numbness, tingling, or painful muscle spasm.

Here are some precautions that can help protect your back from injury:

- Follow the safe lifting practices we've stressed so often.
- Sit and stand upright without slouching.
- Minimize stress on the lower back by avoiding overweight.
- Sleep on your back, with a cushion under the knees, or on your side
- Don't maintain one position for a long time—take a break.

Conditioning exercise is also a part of good back pain prevention. Your goals are to improve flexibility of the back (swimming and walking are great for this) and to strengthen both back and stomach muscles, to provide proper back support.

Here's what doctors advise for those who do have an injury that results in acute back pain: Stop. Get into bed for the first terribly painful period. You may want to use ice to reduce swelling or heat to ease muscles. Anti-inflammatory medication or muscle relaxers given to you by your doctor will help muscle spasms, too. Add a board underneath a too-soft mattress.

In from one to five days, you should be able to move again, although in easy ways. In fact, it's important that you do begin to move at this point, to increase flexibility and strength. Allow discomfort and your good sense to tell you how far you should go.

Long-term recovery may depend on your physician's help and adhering to the preventive measures already mentioned. Doesn't this emphasize how much smarter—and more comfortable—you'll be by taking those preventive steps in the first place?

(Based on information from the American Physical Therapy Association.)



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PROTECT YOUR BACK

One out of every five workers in this country who is hurt and off the job for a day or more has a back problem. One out of every five workers who becomes disabled because of a work-related injury is the victim of a problem back. Because these numbers are so high, it's important for us to discuss how to keep your back healthy and strong.

Back maintenance begins off the job. Your back is a full-time worker, involved in all your daily activities and requiring 24-hour-a-day attention. A good diet and moderate exercise, including gentle stretching of your legs and back and toning of the stomach muscles, are important in keeping your back free of pain. But watch out if you are just starting on a regimen of stomach exercises. Don't strain your back trying to stay in shape. Keep your lower back against the floor while doing sit-ups and don't pull from your neck—pull from the stomach.

Sleep is another important off-the-job activity that has a lot to do with your back's comfort. A too-soft mattress can cause you pain when you wake up, so can sleeping on your stomach; don't do it. Lying on your side is the easiest posture for your back to take, but lying on your back is okay, too. Small pillows can help as well when placed in stress spots, such as under or between the knees.

A lot of lifting is done off the job as well as on. Don't forget, for instance, that children can be heavy. When picking up a child, bend your knees. When lifting a garage door, bend your knees. When taking groceries out of the trunk, put one foot on the bumper to get closer to the load.

When driving, sit with your back against the seat, legs bent, and with knees higher than the seat.

When you are on the job, of course, you will have to be doubly careful if you do work that may strain your back. It's important that you know and respect your limitations. Don't try to convince yourself that you are a superhero. Don't lift loads that are too heavy for you. And, consider: The weight of the load itself may not be too much for you, but the number of times you have to lift similar loads may make it too heavy. Although you may be able to lift 30 or 40 pounds easily, if you have to lift all day, the top weight should be about 14 pounds.

How much you can lift without injury also has to do with how far away from your body you have to lift. A worker who lifts parts over a workbench to put them on a conveyor two feet away may only be able to lift a five-pound load without back damage. Know your limits and give yourself a break. Allow your body to tell you when it is being stressed. If you're used to carrying 30 pounds of lead, you may not understand why carrying 30 pounds of a bulky substance can be much more difficult. But it is more difficult, so let your back decide, not your mind.

In some instances, you may need equipment to help you lift a load. Or, in other cases, you may have to ask someone else on the job to give you a hand. Go ahead and ask. Get help. If you don't get help today for five minutes, that other person may have to do your job—and his or hers—for the five days you are out with a back strain. Don't let that happen.

Of course, as you know, there is a right way to lift so you don't hurt your back. Most importantly, don't twist at the waist when lifting or carrying a load. Instead, move your feet to turn your body.

Be sure of a firm grip on the load—which you have first checked to make sure there are no sharp edges or nails. Don't lift or carry the load to one side of your body—use both hands.

Never lift from an unbalanced posture. Don't lift from one knee for instance. Watch your footing. Make sure the bundle you carry isn't blocking your view.

To stay healthy and strong, eat well, exercise, rest, and use good judgment. That way, you can keep the 400 muscles, 1,000 tendons, 31 pairs of nerves, and 33 vertebrae of your back pain-free and in working order.



SAFETY TOOLBOX TALKS BACK



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SAFE LIFTING

Despite the increased use of mechanical material handling equipment, many boxes, crates, bundles, and piles of materials still must be moved manually. This can lead to one of the most painful and costly work injuries employees can suffer—a back injury.

Whether material handling is your main job or just something that needs to be done occasionally, safety is very important. According to the National Safety Council, 400,000 workers suffer new back injuries each year. These injuries occur everywhere, not just in the stockrooms and warehouses.

Strains and sprains, fractures, and bruises are the most common injuries, and most of the time they are caused by unsafe work practices. No matter how knowledgeable or skilled we are, we all need to be reminded about ways to avoid injuries. Proper lifting is a learned skill that needs to be practiced to keep the proper lifting methods fresh in your mind.

Practice in lifting is as important as practice in first aid. You can practice even when you can't actually lift something. How? Before lifting, think your way through the procedure. Practice with-in your mind the proper steps in lifting the item.

Probably everyone has been told not to stoop over to lift. Your leg muscles, not your backbone, should do the work. Unfortunately, stooping over to lift is a habit we form during childhood. One way to break a habit is to form new ones. For example, if you stoop over to lift, retrain yourself to lift with your legs. Keep reminding yourself to do it this way until it becomes a new habit.

To lift a load to a point above your shoulders, plan ahead so you can rest the load about waist high, then change your grip and finish the lift. An even better idea is to get help.

Another common mistake is getting your fingers caught between the load and other surfaces. Lift the load a little so that one edge rests on the floor or table first, then let your hands slide up the sides so that when the full weight comes down, your fingers are not caught underneath. When walking through doorways or between machines, tuck your hands in or turn the load so that your fingers won't be trapped between the load and the other surface.

Finally, size up the job before you start the lift. If it is too big or awkward, don't be afraid to ask for help. After all, it is not just weight that makes a load a two-person job, it is also the size and shape.

To lift easily and safely, follow these six rules:

- 1. The feet** – place one foot alongside the object to be lifted and the other behind it. This gives you stability and thrust.
- 2. The back** – keep your back straight and use the sit-down position. Remember that means the back itself is straight, not necessarily vertical.
- 3. The chin** – Tuck in your chin so the neck and head continue the straight back line formed by your neck.

4. **The palms** – extend your fingers and hands around the object you are going to lift.
5. **Arms and elbows** – draw the load close to your body with your arms and elbows tucked into the sides of your body.
6. **Bodyweight** – position yourself so the weight of your body is centered over your feet. This provides a more powerful line of thrust and good balance.



SAFETY TOOLBOX TALKS BACK



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TEAM LIFTING

What is team lifting? It is two or more people moving a load together.

When do you use it? When a load is too heavy, too bulky, or too long to be moved by one person.

How do you do it?

- 1. One person gives orders to lift, turn, and set down.** Everyone must lift and move together. Each worker should understand what he is to do before you begin.
- 2. Lift and lower in the same manner:** Squat down close to the load; get a firm grip; keep back straight; lift slowly with leg power. For setting down, reverse the procedure. Take care to keep fingers and hands from being caught underneath.
- 3. Carry the load without sudden starts or stops.** Move slowly, and watch where you step.
- 4. Avoid stairs whenever possible.** Use an elevator or hoist to move loads to different floor levels.
- 5. Keep the load level and the weight evenly distributed.** Be especially careful when you are going up and down inclines.
- 6. Long loads should be carried on the same shoulder of each team member.** If the object is rigid, all should walk in step—but walking out of step will keep flexible objects from bouncing.
- 7. Avoid walking backwards.** If it's necessary, be sure the path is clear, and have someone guide you.

Do not:

- Twist your body when lifting or carrying
- Lift from one knee
- Change your grip while holding a load
- Step over objects when you are moving.

There may be only a few occasions when team lifting is necessary. But when teamwork is used, you'll find the lifting and moving much easier—and safer.



SAFETY TOOLBOX TALKS

3. BLOODBORNE
PATHOGENS



SAFETY TOOLBOX TALKS BLOODBORNE PATHOGENS



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PROTECTION FROM BLOODBORNE PATHOGENS

Sometimes your job may put your own health at risk. If you were asked whether you are protected on your job by OSHA's bloodborne pathogens (BBP) standard, would you understand the question?

When most people think about bloodborne pathogens, the human immunodeficiency virus (HIV) that causes AIDS (acquired immune deficiency syndrome) immediately comes to mind. What they don't realize is that the hepatitis B (HBV) and C viruses, causing deadly diseases of the liver, are transmitted much more easily, especially through needlesticks.

A pathogen is a specific cause of disease, such as a virus or bacteria, and "bloodborne" means it is carried by or in blood. HIV and HBV can also be contracted by exposure to body fluids such as semen, vaginal secretions, amniotic fluid, and other liquids in the body, saliva (in dental procedures), and any unfixed human tissue. There are facts involving bloodborne pathogens that are misunderstood or not widely known by the general public, such as:

- Hepatitis B is almost completely preventable through vaccination.
- Hepatitis C, another serious bloodborne liver disease, carries a much higher risk of infection than that with HIV. Unfortunately, like HIV, there is no vaccine against this disease.
- Once someone is exposed to a bloodborne pathogen, there are drug therapies that can help prevent the viruses from multiplying.

There are certain occupations that involve a much greater risk of exposure to these viruses. These include health care workers; garbage collectors; mortuary workers; law enforcement, fire, and other public safety personnel; laboratory technicians; professional emergency responders; medical equipment repair persons; and laundry workers in clinical facilities. Anyone with part-time responsibility for providing in-house first aid and CPR services is also covered by these guidelines.

The bloodborne pathogens standard, established by OSHA in 1991, and the 1999 directive provide employers with guidance on how these workers are to be trained and protected.

If your job carries the risk of exposure, there are definite steps you and your employer can take to minimize it. These controls are known as "universal precautions." For those who work in hospitals, the Centers for Disease Control and Prevention recommends following "standard precautions" that expand to reduce of risks of infection by microorganisms.

People may be infected with HIV or hepatitis B or C without knowing it, so it is important to consider all human blood or body fluids as potentially infectious. Here are the procedures that should be used at all times:

- **Use extreme caution** in everything you do at work.
- **Be vaccinated against hepatitis B.** OSHA requires that your employer provide this service for you at no cost if you are likely to be exposed to the virus.
- **Pay careful attention at the training sessions provided by your employer.**
- **Ask to see your employer's exposure control plan.** It is a written document that describes which jobs involve potential exposure to bloodborne pathogens and what plan the employer has in place to limit or eliminate that exposure. It is important for you to understand exactly what procedures should be followed at your particular worksite.
- **Always use the personal protective equipment (PPE)** provided for you when handling blood or body fluids, since any opening on your body or skin—eyes, mouth, skin rash, or cut—is a route of entry for pathogens.

PPE may include disposable, single-use gloves; masks, face shields, or goggles, or protective eyewear with side shields; and lab coats, gowns, and similar protective clothing, including caps, hoods, and protective shoe covers or boots.

Check disposable gloves for tears or punctures before using them. Bandage cuts or broken skin before putting on gloves.

- **Don't keep food or drink in work areas and don't eat, drink, smoke, apply cosmetics, or handle contact lenses in areas with exposure potential.**
- **Avoid bending, breaking, or recapping used needles.** If recapping is necessary, use a one-handed technique. Immediately dispose of used needles and other sharps in designated, puncture-resistant containers labeled with the bright orange or orange/red biohazard symbol.
- **Wipe up blood or body fluid spills immediately.** Use the disinfectant provided for this specific use.
- **Use a brush and dust pan, tongs, or forceps to pick up potentially contaminated glass or other debris.** Don't use your hands!
- **Double-bag infectious waste if the outside of the first bag has been contaminated by blood or body fluids.**
- **Remove protective clothing immediately after you leave the work area.** Place it in the proper receptacles for laundering or decontamination.
- **Discard disposable gloves and masks in designated containers,** which should be labeled "biohazard."
- **Wash your hands after removing gloves.** Use a disposable towel for turning on the faucets to avoid cross-contamination.
- **Don't suction or pipette potentially infectious materials with your mouth.**
- **If you need to perform CPR, use a one-way-valve mask.** Use disposable airway equipment and resuscitation masks.

Suppose, despite all of your efforts, you have been exposed to another person's blood or body fluids. Take immediate action by washing all exposed areas of your body with lots of soap and water. If necessary, flush your eyes, nose, and mouth with water.

Then report the incident to your supervisor immediately. Early action can begin an investigation to determine if you were actually exposed to any disease. Your employer will offer you a confidential medical evaluation and blood test. There are early medical treatments that can prevent the development of hepatitis B and slow the onset of a potential HIV infection. Your employer will also provide counseling services for you.

While chances of infection on the job are small, why take unnecessary risks with your life? Always being careful and following universal precautions are the best ways to minimize that risk.





SAFETY TOOLBOX TALKS BLOODBORNE PATHOGENS



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THE TRUTH ABOUT BBPs

REALITY CHECK

When most people think about OSHA's Bloodborne Pathogen Standard (found at 29 CFR 1910.1030), the spectre of HIV and AIDS immediately comes to mind. What they don't realize is that hepatitis B (HBV), a deadly disease of the liver, is transmitted much more easily, particularly through needlesticks. A worker has a 30 percent chance of getting hepatitis B after an exposure to infected blood through skin penetration, but only a 0.3 percent chance of developing HIV. How's that for a reality check?

This is just one of many facts involving bloodborne pathogens (BBP) that are not widely known by the public. Here are some others:

- HBV is almost completely preventable through vaccination.
- Hepatitis C (HCV), another serious bloodborne liver disease, carries a 10 percent risk of infection again, much higher than with HIV. Unfortunately, there is no vaccine against this disease.
- Once someone is exposed to BBPs, there are drug therapies that can help prevent the viruses from multiplying.
- Unless there's visible blood, BBPs are not transmitted by mucus, sweat, tears, urine, feces, nasal secretions, and vomit.

Because of the misconceptions about BBPs and their dangers, OSHA has encouraged training in its standard. If you are a health care worker or in a related field where you may come into contact with blood or bodily fluids, you'll need to be trained every year on all aspects of the Bloodborne Pathogen Rule. Other occupations that would be covered under the standard include garbage collectors, hospital laundry workers, fire and police personnel, and designated first responders.

The OSHA standard requires your company to have a written exposure control plan that explains how to reduce your exposure to BBPs. The plan should include:

- A list of jobs or job tasks in which workers are exposed to BBPs.
- A description of the "universal precautions" supervisors will use to reduce or eliminate exposure to BBPs. This means you'll treat all blood and bodily fluids as though they are contaminated.
- An explanation of work practices that will be used, including when to wash hands, how to handle sharps, and how to store or transport infectious waste.
- A list of personal protective equipment required for each job, such as gloves, masks, gowns, and eye and face shields.

- Information on how the HBV vaccination will be provided.
- Procedures for medical evaluation and treatment in case of an exposure incident—such as a needlestick wound—and how to eliminate the risk of needlestick injuries.

GET THE POINT?

Job-related exposure to BBPs most often results from contact with contaminated needles, scalpels, razor blades, and other sharps. Be extra careful when you draw blood, dispose of used needles, administer medication, or collect and empty trash. OSHA requires that you never break or shear contaminated needles, or bend, recap, or remove contaminated needles or other sharps unless required by a medical procedure. (If so, use a mechanical device or one-handed technique.) Immediately place used sharps in special easy-to-recognize containers. The containers are either red or have a fluorescent orange biohazard label and the word BIOHAZARD on them.

Sharps containers must also be:

- Puncture-resistant
- Leakproof
- Closable
- Upright at all times
- As close as possible to where sharps are found or used

Never reach into a container of contaminated sharps, or open, empty, or clean containers holding sharps by hand. When disposing of contaminated sharps, take care to prevent possible exposure when your job requires you to remove and replace the containers that hold the sharps. OSHA requires these containers to be removed and replaced often so that they don't overflow. When you're performing this task, follow these OSHA rules:

- Carefully close the container.
- If there's a risk of leaking, place it in a second closable, leakproof, labeled, or color-coded container.
- Take the container and any other contaminated waste to the assigned disposal area.
- Dispose of the container safely, following your employer's procedures.

Keep in mind that OSHA recently revised its Bloodborne Pathogen Standard to reduce sharps injuries. It encourages the use of safer needle devices and employers to seek employee input when choosing safer devices. New provisions require employers to establish a "sharps log" to track all needlesticks rather than only to record those cuts or sticks that actually lead to illness, and to maintain the privacy of employees who have suffered these injuries.

SAFETY TOOLBOX TALKS





CHEMICAL BURNS ALSO BURN

Chemical burns burn in the same way that thermal burns do. Both destroy body tissue, and both remain painful for a long time after the accident.

But unlike burns caused by hot objects or fire, chemical burns don't end with the moment of contact. Chemical burns continue to do damage until the chemical reaction is complete or until the chemical is flushed away. And some chemicals not only burn you but are toxic when absorbed through the skin.

The best remedy for chemical burns, of course, is to avoid them. Read the material safety data sheet of every chemical you work with, and read the label on a container before you use any substance. If the chemical has any hazards associated with it, including the risk of being burned, handle that substance with great respect. Burns, like many other workplace dangers, can be deadly serious.

Burns, both chemical and thermal, are classified according to how deep the damage is, as follows:

- **A first-degree burn** is not so serious—only the outer layer of the skin is involved. Still, such a burn can be quite painful and take time to heal.
- **Second-degree burns** are much more painful and form blisters; skin may loosen; infections may occur.
- **Third-degree burns** involve deeper tissue, with wounds charred or white, and nerve endings are usually affected. These burns are a major infection risk.

If you have gotten any kind of chemical on your skin or on your clothing, and

1. You know that the chemical is a corrosive that may burn you, or
2. You don't know what the chemical is that you have spilled, or
3. You feel a tingling or burning at the site where you have been exposed, your first and fastest reaction must be to **flood the area with water**. This is absolutely essential. Do not lose even a few seconds in flushing the area with large quantities of running water from a shower or tap. Soap can help too in ridding the skin of chemicals.

If a corrosive chemical has splashed on ordinary, nonprotective clothing, the contaminated clothing should be taken off or torn off at once. Then, if the skin has been exposed to the chemical, or if you even suspect or fear that the chemical has touched your skin, rinse with water immediately. If it will take any time at all to remove clothing that has been contaminated with a corrosive chemical, insert a hose under your garments and begin to rinse the exposed area while removing your clothes.

Remember, flushing with water is the **most important**—and therefore first—step that you must take in treating yourself or a fellow worker for a chemical burn.

If your clothing, shoes, or other leather items have been splashed by a chemical that burns, thoroughly decontaminate the item or items before wearing them again.

If the chemical has gotten into your eye, the best and first treatment, again, is to flood the area with clean, clear water. Since the eye is sensitive to pressure, though, the irrigation should be with a low-pressure water source such as an eyewash fountain. Don't hesitate to flood the eye completely for at least 15 minutes, keeping your eye open during the process.

Once the initial flushing with water is finished, further treatment may be needed. If you have been exposed to a chemical that is considered toxic, or if the burn is severe and likely to become infected, you must see a doctor, who will prescribe any additional care.



SAFETY TOOLBOX TALKS CHEMICALS



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HOW SHOULD YOU USE CHEMICALS? CAREFULLY!

There are close to three-quarters of a million chemical products now in use commercially. No matter what your job is, you probably come into routine contact with at least one or two of these. When you are given a chemical to work with that is new to you, you will be trained in how to use the substance safely if it is at all hazardous.

If you want to find out more about that chemical, ask your supervisor for the material safety data sheet—MSDS—which will explain any hazards associated with the chemical and what you should do to protect yourself from any risk. Since the chemical you use may be called by its trade name on the label, you may have to read further to find out the chemical name and then be able to find the MSDS.

To avoid harmful effects on users, OSHA has set Permissible Exposure Limits, or PELs, for many chemicals—several hundred are listed in a table that is part of the regulation on air contaminants. The table shows the level of exposure that the body can be expected to cope with during an average 8-hour day without harmful effects. For vapors and gases, this is expressed as so many parts (of the substance) per million (parts of air); for particulates, it's milligrams per cubic meter. Another column of the table shows whether the chemical can be harmful to the skin. The PEL will be listed on the material safety data sheet for the chemical.

In general, there are only three means by which chemicals can enter and affect your body: through breathing in particles of the chemical as you work with it; through swallowing particles of the chemicals; or through touching the chemical and absorbing it through your skin. To minimize the possibility of these, wash your hands before eating or smoking so that you don't swallow any chemical that might be on your skin. Use personal protective equipment as directed by your supervisor.

Such equipment may include a respirator to remove contaminants from the air that you breathe. The seal must be tight, and respirators must be cleaned and maintained properly. Training in proper use of the respirator is provided, but if you have further questions, be sure to ask your supervisor.

Gloves and arm coverings may be provided to protect you from skin contact with irritants or substances that can be absorbed through the skin. Aprons, coveralls, and shoe coverings may also be provided as chemical protection.

If you spill a toxic chemical on your clothing, you should change at once—immediately washing off any substance that has come into contact with your skin. And remove all contaminated work clothes, even shoes, then wash your hands before you leave the job for the day—to avoid exposing your family by bringing chemical contamination into your house.

Fewer extremely hazardous chemicals are being used in the workplace as companies try to replace them with less hazardous substances. You don't have to be fearful of the chemicals you use in your work. You just have to be aware of what you do use and take any recommended precautions.



SAFETY TOOLBOX TALKS



SAFETY TOOLBOX TALKS COMPRESSED GASES



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A SLEEPING GIANT

I am a compressed gas cylinder.

I weigh in at 175 pounds when filled. I am pressurized at 2,200 pounds per square inch. I stand 57 inches off the deck, am 9 inches in diameter, and am enclosed in a shell about one-quarter inch thick. I wear a cap when not in use. I wear valves, gauges, and hoses when at work. I wear many colors and bands to tell what tasks I perform. These also let you know how you can work safely with me.

I transform miscellaneous stacks of material into glistening ships when used properly. But I can transform glistening ships into miscellaneous stacks of material when allowed to unleash my fury. I am ruthless and deadly in the hands of the careless or uninformed.

I am too frequently left standing alone on my small base—my cap removed and lost by an unthinking worker. That means I am ready to be toppled over—where my unprotected valve can be snapped off and all my power released through an opening only slightly larger than a lead pencil.

I am proud of that power and of my capabilities. Here are a few: I have been known to jet away faster than any dragster. I smash my way through brick walls with the greatest of ease. I fly through the air and reach distances of a half mile or more. I spin, ricochet, crash, and slash through anything in my path. I scoff at the puny efforts of human flesh, bone, and muscle to alter my erratic course. I can, under certain conditions, rupture or explode. You can read of these exploits in the newspaper.

You can be master only under my terms. Full or empty, see to it that my cap is on straight and snug. Never—I repeat, never—leave me standing alone. Keep me in a secure rack or tie me so I cannot fall.

Treat me with respect. I am a sleeping giant.



SAFETY TOOLBOX TALKS

COMPRESSED GASES



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COMPRESSED GAS CYLINDERS

There are certain rules and procedures we should all follow to minimize the hazards of using and handling compressed gas cylinders.

The service status of compressed gas cylinders should be noted by use of a tag or by other suitable means. The first person to put the cylinder in service or to use any gas out of the cylinder should mark the tag, or use other means to indicate that the cylinder is, or has been, in service.

The person who determines that the cylinder is empty, or does not contain enough gas to be serviceable, should mark the tag, or otherwise mark the cylinder to indicate that it is empty. This "empty" tag should stay on the cylinder until it leaves the facility.

Any damaged cylinder or any cylinder that is not satisfactorily identified as to its contents should not be used. Never tamper with or attempt to repair defective valves or safety relief devices on cylinders. Such cylinders should be returned to the vendor immediately.

Cylinders that are defective or have leaky valves or fittings should be taken to an open area away from sources of ignition and slowly emptied. They should then be tagged, noting the defect.

A cylinder should always be in the upright position when being used. However, it should never be left in the upright position unless properly secured by means of a substantial chain, cable, or other reliable device.

Oxygen cylinders should not be stored within 20 feet of combustible gas cylinders or near any other substance where an accelerated fire could result, unless protected by a wall at least five feet high having a fire resistance rating of at least 30 minutes.

All gas cylinders should be protected against shock or high temperature extremes. When handled by cranes or hoists, they should be in suitable cradles, nests, or skip boxes, and must never be lifted by rope or chain slings or magnets.

Never drop gas cylinders; for instance, don't drop them off a truck. Never use gas cylinders as rollers, supports, or for any purpose other than their intended use.

When using individual oxygen cylinders, the pressure regulator should be located directly on the cylinder. Use no oil, grease, or pipe compound when making oxygen connections.

There are special threads on the cylinders for each type of gas. Never try to adapt the wrong regulator of a cylinder by use of an adapter. Never mix the contents of two different cylinders.

Install a check valve on the downstream side of the regulator valve whenever there is danger of material flowing back into the cylinder. Avoid placing cylinders where they might form part of an electrical circuit.

Some cylinders are designed with a protective cap that screws over the valve at the end of the cylinder. Except when the cylinder is connected to a line or hose, the cap should be kept on the cylinder at all times. Never use the protective cap for lifting or handling the cylinder. Never use a hammer or wrench to open a cylinder valve.



SAFETY TOOLBOX TALKS COMPRESSED GASES



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DON'T IGNORE THIS 'BOMB THREAT'

If you saw a bomb lying at your feet, you wouldn't bother to find out whether it was live or dead. You'd just want to get out of there pronto. And yet many of us seem to pay no attention to the haphazard use and handling of an article that is about the equivalent of a bomb. I'm talking about a gas cylinder.

These cylinders seem to be left lying around in all possible positions and in all sorts of places. For example they've been seen:

- In congested areas where there is lots of activity and movement of materials
- Under and at the sides of scaffolds
- Next to bridge abutments
- Near pile driving operations.

And I'm not talking about capped cylinders. I mean cylinders that are in use, with the regulators and hoses attached.

Perhaps it's a matter of not truly understanding the potential danger of a gas cylinder. Today's meeting hopes to remedy that lack of understanding.

SO WHAT COULD HAPPEN?

It doesn't take much of a knock to break a regulator off a cylinder. A falling wrench, a bump with a piece of pipe, the cylinder tipping over and the gauge striking another cylinder or other object—any of these will do.

When this happens to a fairly full tank, you have real trouble. The cylinder will take off like a rocket and can travel as much as a half mile. These unguided missiles have gone through walls, smashed cars, and damaged everything in their paths. Imagine what one would do to a mere human who happened to be in its way.

But it's not only when the valve is knocked off that a cylinder is dangerous. If one falls over and strikes your body, you'll be in a lot of pain. Have one roll up on your shin, and you'll probably wind up with a broken leg.

None of these are far-fetched scenarios. Gas cylinders are all too easily knocked over because of their narrow bases. Therefore, they should never be left in an upright position (the proper position when they're in use) without being secured.

These cylinders deserve a great deal of respect—both for the help they can provide when used properly and the havoc they can cause if mistreated.

Be sure you treat them with respect, because if one ever goes off, it won't be choosy about whom it takes along with it—possibly on a one-way trip!



SAFETY TOOLBOX TALKS

COMPRESSED GASES



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HANDLING COMPRESSED GASES

Compressed gas, under control, can be extremely helpful in performing many tasks. Out of control, it can cause serious injury—even death. So, before you use compressed gas cylinders, be sure you know the facts. That way you'll be in control, and you'll be doing your share in keeping yourself and your co-workers from harm.

Compressed gases can be corrosive, combustible, flammable, explosive, toxic, or all of these combined. So that everyone will know what type of gas is in a compressed gas cylinder, the cylinders must be legibly marked for identification purposes. Somewhere on the bottle, usually just below the cap, is the identification code and label stating the bottle's contents. Never rely solely on the bottle's color when trying to determine what is inside; bottles can be repainted.

If you cannot determine the contents of a particular cylinder, don't use it. Notify your supervisor who, in turn, will tag it and notify the storeroom or the supplier.

You should also be familiar with the hazards associated with whatever gas you're going to be working with. This doesn't mean that you have to know all the chemical and physical properties of every gas you encounter, but knowing whether a gas is flammable or can suffocate you is obviously important.

Always secure cylinders when in use, in storage, and in transport. If you notice that a cylinder is not secured, secure it yourself or let someone know. And when a cylinder is not in use, it should have its protective cap on. If the cylinder valve is knocked off, the cylinder will take off like a missile.

Keep the cylinder away from all forms of fire- and spark-producing operations and electric lines. A compressed gas cylinder should never be exposed to such excessive heat that its outside surface exceeds 125°F.

Don't drop or bang cylinders together violently. Move them only with approved hand trucks. When transporting cylinders by crane, use approved material skiffs; never use magnets or slings. Never use cylinders as rollers to move material.

When storing compressed gas cylinders, keep a few facts in mind:

1. Never mix cylinders. For example, don't store propane cylinders and oxygen cylinders together.
2. Compressed gas cylinders must be stored a minimum of 20 feet from combustible material such as grease, oil, paint, etc.
3. Mark cylinders when they are empty, and avoid storing them with full ones.

When using compressed gas cylinders, always use the correct regulator for each particular bottle. Open the bottle valve slowly, and don't use tools to force it open. If it is difficult to open, return the bottle for a new one. Cylinders that are damaged or difficult to open should be tagged and returned to the storeroom or supplier.

Never take a compressed gas cylinder into a confined space. Always set the cylinder outside of the space, and run the hose or tubing into the space.

When the workday is over, and you are getting ready to go home, don't use compressed gas to clean your clothing.

Remember these rules and reduce the hazard of unguided missiles.



SAFETY TOOLBOX TALKS



SAFETY TOOLBOX TALKS CONFINED SPACES



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SAFETY IN CONFINED SPACES

Many, or perhaps even most, workplaces have something on the premises that would be correctly termed a "confined space." OSHA's definition is a space that is large enough and configured in such a way that a person can enter and perform work inside, but has limited or restricted means of entry/exit, and is not designed for continuous occupancy.

Some examples are storage tanks, pits, silos, vats, degreasers, boilers, ventilation and exhaust ducts, sewers, tunnels, underground utility vaults, wells, shafts, and deep trenches.

Confined spaces can be dangerous places to work in because:

- The ventilation is likely to be poor, and dangerous levels of air contamination or oxygen deficiency can occur. Or the atmosphere may be flammable.
- Stored products may shift and be unstable.
- There may be physical barriers to movement—and it can be difficult to get into or to remove an injured worker from the space because of the size or location of entrances and exits.

Employers whose operations may require having workers enter such potentially dangerous spaces are required by OSHA to have a written program and procedure that provide proper protection including:

- Prohibiting entry without a permit approved by the supervisor and protecting and posting the openings to bar unauthorized entry
- Testing the atmosphere before entry for oxygen content and for any flammable gases and vapors or toxic air contaminants and then purging the atmosphere of hazardous elements
- Providing appropriate ventilating, lighting, and personal protective equipment for the entrant
- Having at least one attendant on standby outside the space in continuous communication with the worker inside, wearing protective equipment, and equipped with a lifeline or harness in case a rescue is needed.
 - Arranging necessary rescue equipment, personnel, and procedures
 - Training all workers that will be involved in any of these activities.

Workers themselves must share the responsibility for their safety when work in a confined space is required. Primarily, this involves never entering such a space without the proper permit and without knowledge that the necessary atmospheric testing has been performed and has indicated that air inside is safe to breathe with respiratory equipment if necessary. In addition, you should never enter a confined space if you are on medication or are feeling ill.



SAFETY TOOLBOX TALKS

CONFINED SPACES



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WORKER RESPONSIBILITIES IN CONFINED SPACES

Most of us like to work in "wide, open spaces." Even if it's indoors, we like room to move around to get our job done in relative comfort. However, there are times when a work area we're assigned to is small or tight.

As with all work areas, confined work spaces have their regulations. OSHA requires employers with potentially dangerous confined work spaces to have written programs to protect workers. However, it's not enough to require the company to provide safeguards. Workers themselves must also share the responsibility for their safety in confined spaces by following these rules:

- Never enter a confined space without a proper permit.
- Follow listed procedures.
- Find out if the necessary atmospheric testing has been done.
- Make sure the breathing air inside is safe.
- Check if respiratory equipment is required, then use it.
- Wear a chest or full-body harness, or when appropriate, wristlets.
- Do not enter a confined space if you are ill or on medication.

It's also important to understand that conditions inside a confined space can suddenly change. Keep these points in mind:

- Don't drop your guard; stay alert.
- Be ready to leave immediately if conditions worsen.
- Leave immediately if you become tired, dizzy, or nauseated.
- Stay in constant contact with the attendant to assure attention to any problems encountered.
- Don't hesitate to call for assistance—especially if you need help to exit.

Standby attendants also need to remain alert by:

- Remaining outside the space during entire operation.
- Maintaining continuous contact with a co-worker inside.
- Being ready to provide assistance.

- Keeping unauthorized workers from the permit area.
- Order entrant to evacuate if conditions change inside or outside the confined space.
- Not entering unless equipped for a rescue.

Remember, the four steps to confined space safety are:

- Prepare work space environment.
- Monitor worker behavior and other factors.
- Use and maintain the proper equipment.
- Only trained workers should be involved.



SAFETY TOOLBOX TALKS



SAFETY TOOLBOX TALKS CONSTRUCTION



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AFTERTHOUGHTS

How often have you said or done something, then in a period of inactivity, you have reviewed your action and thought: "How could I have done that?"

Here are some typical afterthoughts that, unfortunately, too many of our fellow construction workers have experienced:

- That's the way I've always done it before (this accident occurred).
- I never thought that a hard hat would have protected me against such an incident (or I wouldn't have this rotten headache).
- If I had taken that first-aid course, I probably could have helped him (and chances are, he wouldn't be off two months).
- I noticed that board with the projecting rusty nail earlier. (Gee, those tetanus shots sting!)
- Golly, I never realized that a fire could get out of control so fast. (If I'd checked that extinguisher this morning, I'd be going to work tomorrow.)
- Oh, I know that they were always preaching that we should lift with the leg muscles instead of the back muscles. (Wonder how long I'll have to remain in this traction.)
- I'll be off work for two weeks. I had to ruin that good shoe by cutting off the toe section, and this fractured toe still hurts. (For another few dollars, I could have bought those safety shoes.)
- My carelessness spoiled our safety record. So what? (I'll sure feel lousy going back and facing the guys.)
- A few years ago, it didn't bother me to jump across a 42-inch trench while I was carrying a piece of pipe. (What in the heck is an inguinal hernia?)
- We were only going to use the scaffold for one day. I never thought of a hammer slipping off the floorboard and striking someone. (I had the feeling I should have taken a minute to nail on a toe-board.)
- I had the right of way at the intersection, officer. But this other fellow must have been day dreaming. (I guess defensive driving alertness would have eliminated this.)
- The safety supervisor always insisted that the tool rest be no more than one-eighth inch from the grinding wheel. But as I told him, what difference does a quarter inch make. (I sure was lucky; when that chisel became wedged, that wheel exploded into a thousand pieces.)

Do some of these sound familiar to you?



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FALLING OBJECTS

According to legend, Sir Isaac Newton discovered gravity when he was hit on the head with an apple while sitting under a tree. Unfortunately, at worksites, very few people get hit on the head with just apples. However, a great many are struck by tools, bits of mortar, pieces of wood, metal scraps, and other material. Objects falling from above and striking people below cause some of the most serious industrial injuries and account for a number of fatalities every year.

Look around the workplace, and you'll see that many precautions have been taken to protect you from falling objects. The hard hat you are required to wear is, of course, your first line of protection. But a hard hat cannot protect your shoulders, arms, and feet from small falling objects, and if you happen to be in the way of a large falling object, chances are that you will be seriously injured or even killed.

For the most part, the people below depend on those working above for their safety. However, there are a few rules to follow that help make everyone's job safer.

If you are working above the ground:

- When the nature of an overhead job involves the danger of falling objects, have the area below cleared, and post the necessary warning signs. Rope off or barricade the area.
- If possible, verbally warn those below that you're about to begin an overhead job (and make sure they hear you).
- Don't carry tools or materials up a ladder. Use a hand winch line, containers, or buckets lifted by a line.
- Before raising tools or materials with a hand line or a winch line, make absolutely certain they are securely fastened so that they won't slip out.
- When you pile materials on scaffolds, make sure scaffolding and platforms are provided with toe boards so that objects don't fall off.
- Make sure the load being lifted by hand line or scaffold is balanced and that no one is under the load being lifted.
- Keep tools and materials in use away from the edges of platforms and ladders and off railings or windowsills.
- Practice good housekeeping on the overhead job, and keep tools and materials that are not in use stored properly.
- Don't stick tools in your pockets because when you bend over or reach, they may fall out.
- Never throw materials or tools.
- Never sweep material from above.

- Don't work, or allow others to work, under obviously unsafe conditions. Talk to your supervisor.
- Never fool around above the ground!

If you are working on the ground or below other employees:

- Wear your hard hat!
- Observe restricted areas where overhead work is being performed. Don't cross the barriers, even to take a quick shortcut.
- Pay attention to what is going on around you, particularly when cranes and other equipment are being used to hoist materials in the air, or you are working near overhead bricklaying, painting, or conveyor belts.
- Don't walk near low-slope or steep roofs after a snowstorm or ice storm.

Following safety rules and using safety equipment may not only eliminate many accidents but can make any accidents that do occur, despite all precautions, less severe. If you make safety part of your daily routine, you will protect not only yourself, but also those around you.



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MAKING DO— TEMPTING FATE?

If there is one thing a construction worker prides himself on, it is being able to make do with something else when the necessary tool or equipment isn't at hand. However, sometimes he loses a lot more than the time involved when the substituted tool or method is unsafe.

The concrete block is a favorite make-do item. On most jobs they are close at hand, and workers who are in a hurry use them for all sorts of temporary blocking, even for the support of scaffolds. You can never be sure whether these blocks are free of hidden cracks; therefore, you should never count on blocks to support everything.

On one job, a worker was having trouble setting up a tubular scaffold on a stairway. The he found that concrete blocks under two legs of the scaffold would make it fit just fine—that is, until one of the blocks crumbled, causing the man to fall off the scaffold.

A great many foot injuries have resulted from the use of concrete blocks to support heavy machinery. The blocks give way, and a worker goes to the hospital with crushed toes.

People have a knack for finding deadly substitutes for the right thing. Two men working in a shaft were being pelted by small pieces of concrete resulting from chipping being done above. They went up one flight to look for plywood to place over the shaft, but they found only insulated sheeting.

They threw a few planks across the shaft and placed the sheeting on top of the planks. They thought this makeshift "safety" contraption would be thick enough to protect them from the concrete chips. They went back to work and heard a yell and saw the legs of a man hanging through the hold he had just made in the insulation sheeting. Fortunately, the man was able to grab one of the planks and pull himself up.

Then, there was the foreman who scrounged up a discarded pail when he had to pour a little concrete on a beam. When the worker on the beam started to pull up the pail—full of concrete—the handle broke, and the pail dropped on the man below.

I could name a dozen of these substitutes, and you could too! They can be anything from a makeshift hook or reinforcing rod to a piece of discarded rope. They may save you a trip to the tool room, but they can also give you a ride to the hospital.



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STATUS QUO

Change is the law of life and growth. Yet, many people have tremendous resistance to change. Someone commented to a 90-year-old man on his birthday that he must have seen a lot of changes in his lifetime. "Yes," he said, "and I've been against them all."

There are people like this—people who get terribly upset when a new idea is proposed, who are always negative, and who can always tell you why something can't work. They like the rocking-chair kind of life. They don't want their pattern of life to change. They like the status quo.

The status quo is a deadly enemy to construction safety because if you're not going forward, management is having a struggle to keep from going backward in its safety program.

The constructive changes in construction safety have been brought about by the positive not the negative thinkers, those who have been discontented with conditions and acts that can be changed for the better.

Remember, the Occupational Safety and Health Act came to be because far too many working people were being maimed and killed as the result of accidental injuries. The Act was written for your benefit.

It has been said that accidents don't just happen; they are usually caused by people operating on a very primitive emotional level. It has also been said that man has conquered almost everything dangerous in nature except human nature.

If, for years, you have been carrying an improper safety attitude just like the old man in the rocking chair who is against all changes, then the time has come for you to re-evaluate your attitude. The law says the employer must provide each of you with a safe and healthful place to work. If this is the employer's responsibility and yours is to comply with the safety and health regulations, then change in attitudes and practice is no longer voluntary—now it is mandatory.

If it means changing old, unsafe habits, unsafe shortcuts, and unsafe attitudes, then we had all better get with it. No longer can we use the old cop-outs such as: "I've always done it this way," "They hurt my head," and "If I'm going to fall, I'll fall."

The law was written to protect us. Let's follow the law and thank God we live in a country that's concerned about our safety and health.



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SUITED FOR SAFETY

Suitable personal protective equipment should be used to prevent serious injuries on construction work. Eyes, for example, are extremely delicate. Goggles or a face shield should be worn when you are cutting concrete or using a power saw.

Suitable goggles are helpful when you are engaged in overhead drilling or when excessive dust is present. When you work around concrete vibrators, safety spectacles or a face shield will prevent most splashes from reaching your eyes. Spectacles may be broken or damaged if goggles are not worn over them. These "cover-all" goggles may be made of plastic or may be an oversize cup.

Respirators prevent nose and throat irritations when you are working in dusty conditions. There will be a lot of dust when you handle cement in bulk or load concrete mixers. When you are applying waterproof coatings, especially in small, enclosed areas, you should wear a respirator on all spray painting jobs. The kind you will wear depends on the nature of the spray you are using.

Serious falls can be prevented if those of you who work on outside wall forms use appropriate safety belts and life lines that are in good condition. A short hitch should be taken so that if a fall occurs, it will be as short as possible—only a few feet at most.

Never enter a sand or gravel bin where material may slide, unless you are wearing an approved safety harness with a rope attached. Someone should be overhead, holding the rope. Then, if assistance is needed, your partner can help you or call for help.

Hard hats are a must and should be worn by all workers who are exposed to the danger of flying, falling, and moving objects. Structural steel workers and those who work on the floors below them are in especially vulnerable positions. Hard hats may make the difference between life and death if bolts or rivets or even tools are dropped through openings in floors.

Rubber boots, preferably with hard toes and puncture-proof inner soles, protect your feet and legs from wet concrete. Kneepads should be worn by cement finishers and other workers who have to be on their knees while working.

Workers who handle timber or other heavy loads should wear metal-toe-capped safety shoes. Usually, you can find these shoes in stores that sell work shoes, and they cost about the same.

Protect yourself. Wear safe clothing, and use the necessary personal protective equipment.



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THE INDIVIDUAL'S RESPONSIBILITY

We are well aware of the fact that a very large percentage of the injuries that occur on any construction job are caused directly by the person who was injured. Only about 10 percent of the injuries are caused by defective equipment or other factors. These facts indicate that each individual must be primarily responsible for his own safety.

Management and supervision are looked upon as being responsible for safety. It is certainly a fact that without proper interest on the part of management and supervision, a safety program cannot be totally effective. However, the worker must realize that he, more than anyone else, must be responsible for his own safety and the safety of his co-workers. In other words, a worker must be his brother's keeper.

For example, a simple construction ladder can be built to the best-known safety specifications. It can be properly stored and frequently inspected for defects. However, an individual will use it. If the ladder is not properly placed, if the footing is insecure, or if the ladder has not been properly tied-off, it is entirely likely that some worker will be injured. So the worker who is using the ladder must realize that he, personally, is the most important factor in preventing accidents.

Quite often, there is a feeling on the part of workers that the safety engineer is responsible for the accidents. Though the safety engineer makes frequent inspections and counsels the workers, he cannot be in all areas at all times. He cannot always be held responsible if an accident occurs.

Let us bear in mind that we, as individuals, must constantly be alert to the hazards around us. If we personally cannot remove the hazards, the hazards should be called to the attention of those in authority.

If any of you have additional thoughts on this subject, let's have them. Remember, it takes the 100-percent cooperation of each individual to make a job safe. Your help in preventing a serious injury on the job is needed.

Let us really be our brothers' keeper!



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UNSAFE ACTS IN CONSTRUCTION

While unsafe conditions as well as unsafe acts are responsible for accidents, almost six times as many construction work injuries are the result of unsafe acts as compared to those caused by unsafe conditions.

If we review the industry's accident experience over the years, we will find that the reduction in accident rates has occurred as the result of improved physical inspection of the jobs, improved safety-minded supervision, and advances in engineering and design. Yet, in spite of those noteworthy efforts, a large number of accidents continues to happen each year.

Workers who are protected by safety devices remove them or fail to use them. People who are told about hazards seem to ignore the warnings. Well-trained, experienced workers seem to forget what they have learned. It would appear, often times, that people want to hurt themselves or to be involved in an accident. Above all, they forget that nothing is so important as safety.

Different groups of people treasure different things. Here in America, one of the things we treasure most is safety. What is your safety worth to you? Do you realize that even if you owned a real money tree, one that perpetually grew dollar bills, you couldn't buy your safety because safety is one thing that can't be bought.

However, you can spend something on safety. You can spend time learning the common sense rules of safety, and you can pay attention to safety procedures at all times. When you follow correct safety procedures, safety can be like money in the bank.

What is safety worth to you? What would it be worth to you when you go to bed tonight to be sure that you would complete all your workdays free from injury?

You can't buy this peace of mind, but you can be sure that all the time and effort you spend to keep safe, day by day, is a wise and sound investment in your family's happiness, and that is what safety should be worth to you.

Why take a chance with an unsafe act? You know when you're working in an unsafe manner. You don't have to be told.

Think of your well-being. Think of your family's well-being.



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WHO AM I?

I try at all times to practice good housekeeping habits. I believe in following the policy of "a place for everything and everything in its place."

I am careful when using hand tools, which I use only for the purpose for which they were intended. I look for defects, such as loose or split handles, loose or bent shovel blades, worn or sprung wrench jaws. If I discover a defective tool, I turn it in for replacement.

I firmly believe in wearing personal protective equipment. I am fully aware of the many times, in the past, that my use of hard hats, safety goggles, safety shoes, and gloves has enabled me to avert injury.

When assigned to a job that requires lifting, I follow correct lifting procedures, using leg muscles rather than back muscles. If it appears that the weight is beyond my limits, I make it a habit to ask for help.

When operating heavy equipment, I recognize the hazards involved and take necessary precautionary measures. Before starting a piece of equipment, I walk around it to see that neither workers nor materials will be endangered.

When I leave equipment unattended, I make certain that scoops, shovels, blades, and so on are resting on ground level. I take necessary precautions against any chance of the equipment's being started by an unauthorized person.

When driving mobile equipment on streets and highways, I obey all traffic rules and regulations. As a professional driver, I am alert to the possible inadequacies of other drivers and am prepared to make necessary allowances.

I anticipate possible dangers in any given operation and make every effort to analyze these before starting on the work involved.

With the full realization that unattended cuts and scratches can result in serious complications, I report for first-aid care at any time that I receive an injury of this kind.

I do not indulge in horseplay and do everything possible to assure the safety of my fellow workers.

I am a safety-minded construction worker. Are you?



SAFETY TOOLBOX TALKS



SAFETY TOOLBOX TALKS CRANES & SLINGS



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CRANE AND HOIST SAFETY PRACTICES

There are certain safety rules that must be followed by everyone who works with or near this type of equipment.

Nearby Workers First let's talk about the safety precautions for workers in the operating areas of cranes or hoists but not directly involved with their operation or use. These workers must:

- Stay alert and pay attention to warning signals from overhead hoisting equipment.
- Never stand or walk under a load, whether it's moving or stationary.
- Always warn others of moving and approaching overhead loads.
- Never attempt to distract or signal persons or operators of the overhead equipment while they are performing their jobs.

The Operating Team Now let's discuss the safety rules for operators, signal persons, and hookup crews. They must:

- Check to see that the equipment has been recently inspected. (This may not be necessary if the operator has been assigned to the same piece of equipment for a period of time.)
- Test the warning signal or device to make sure it is working properly.
- Never operate a crane that is unsafe.
- Check the brakes and all controls before starting work.
- Never permit an unauthorized person to operate the crane or give the signals.
- Always be sure that the operator and signal persons are in direct and clear view, or in communication by phone.
- Never carry a load over other workers.
- Always use warning signals before and during moves.
- Lower any load that appears to be slung improperly and adjust it.
- Always lock the main control in the off position when oiling, adjusting, or repairing the equipment—or have someone guard the control.

The work of riggers and hookup crews is extremely important, because much of the safe operation of overhead cranes and hoists depends upon their knowledge and skill.

All members of the crew must know their job responsibilities and the proper procedures. Correct placement of the sling or choker, or of the chain, contributes to safe lift, travel, and positioning of the load. The placement controls the balance and how the system will handle on the hook throughout the operation.

Sometimes the crew must determine whether a tag line is needed to control the motion and position of the load while it's in the air. Knowing how to place and manipulate the tag line safely requires skill and alertness.

Overall Safety Safe operation of crane and hoisting equipment requires efficient teamwork and a thorough knowledge of the skills involved.

Safety on the worksite as a whole also requires alertness and caution of other workers while a crane or hoist is in operation.



SAFETY TOOLBOX TALKS

CRANES & SLINGS



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LIFT SLING SAFETY TO NEW HEIGHTS

Watch out below!—those are three words you never want to hear when your employees are working with slings that are hauling heavy materials overhead. You want to know that the slings they are using are the correct type and strength for the job and are in top-notch shape.

How can you be sure? Follow this multi-step sling safety program recommended by OSHA:

- Plan ahead, know the load, and never overload the equipment.
 - Make sure the weight does not exceed the safe load limit assigned by the manufacturer.
 - The load limit should be posted on the equipment. Overloading causes a large percentage of crane accidents.
- Choose the right type of sling for the job.
- Thoroughly inspect the sling before and after use.
- Use correct lifting techniques and correct signals.
 - Make sure that the person hooking on the load is in complete agreement with the operator as to the signals and where the load is to go.
- Make sure there are no obstructions in the path of the sling—and no people beneath it.
- Take care that wind or weather will not affect the safe operation of your crane or hoist.
- Properly clean, inspect, and store your sling in a clean, dry, airy place off the ground when not in use.

LIFT IT SAFELY

Before making a lift, make sure the sling is secured around the load. Remove all other workers from the area and put up a temporary barricade. Next, position the hook directly over the load and seat the sling squarely within the hook bowl. Position the hook above the center of gravity of the load to prevent dangerous tilting. Check that the load is not clamped to the floor. Then, guard against shock by applying power cautiously and taking up the slack slowly. Check the tension on the sling—then stop and check for balance. Watch the load at all times and never leave it suspended in the air. Don't raise the load higher than necessary. Make sure only one person is in charge of giving signals or controlling the lift and that the person in charge is trained and fully competent.

KNOW THE DANGERS

Because of the heavy loads they handle and the heights at which they are operated, an accident involving a crane or hoist is likely to cause serious damage and injury—even death. Therefore, safe maintenance and operating procedures are the rule of the day.



SAFETY TOOLBOX TALKS

CRANES & SLINGS



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LIFTING WITH CRANES AND HOISTS

In the army of material handling devices of all sorts, cranes and hoists are the heavy battalion. Because of the heavy loads they handle, and the heights at which they are operated, an accident involving a crane or hoist is likely to cause serious damage and injury—even death. Therefore, safe maintenance and operating procedures must be followed with extreme care.

KNOWING THE LOAD

Of course, it's necessary to understand what you are lifting. This will determine the proper slings. Only experienced employees should make the sling hitches on a load.

Next it's important to make sure the weight of the load does not exceed the safe load limit assigned by the manufacturer of the particular piece of equipment. Overloading is behind a large percentage of crane accidents.

You must be sure the load is properly hooking on the crane or hoisting machine—and that the person hooking on the load is in complete agreement with the operator as to the signals and where the load is to go. This is because the operator often cannot see the material or equipment that is being handled, especially in building construction work.

KNOWING THE DANGERS

Defective machinery or parts can cause the lifting equipment to fail and drop a heavy load. That's why OSHA requires that rigorous inspection be carried out on a regular schedule. Certain inspections must be performed daily—or before each use of the equipment. If any part is found to be defective, the equipment must be taken out of service and repaired, before it can be used again.

As already mentioned, overloading is a major hazard. The rated capacity—which should be posted on the equipment—must never be exceeded.

Many injuries are caused because workers are standing or working under swinging loads. Unsafe rigging, hooks, or slings can cause a load to fall; therefore, employees should not be permitted to work beneath the area where materials are being loaded or unloaded. If it is necessary to swing a load over other workers at the site, make sure they are warned. Every precaution should be taken to protect workers by means of barricades or a flagger.

Even the weather can affect the safe operation of a crane or hoist. If wind or rain is so severe as to play "tricks" with the load or reduce the visibility of the workers or the operator, extra precautions must be taken.

To sum up: For your safety and the safety of your co-workers, these safety steps must be followed:

- Plan ahead, know the load, and never overload.
- Use the proper slings and thoroughly inspected equipment.
- Know and use the correct signals.
- Make sure there are no obstructions in the path of the swing—and no people beneath it.



SAFETY TOOLBOX TALKS



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DRIVING



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ANOTHER HIGHWAY HAZARD: 'ROAD RAGE'

Is there anyone here who hasn't read at least one horror story about an angry motorist taking "revenge"—even to the extent of a fatal shooting—against someone who cut in front of him, or sounded a horn too loud or too often?

More to the point, is there any one of us (including myself) who hasn't been severely annoyed by someone who tailgated us or who wouldn't move over to let us on the highway? And haven't we sometimes dreamed of, or even indulged in, some minor retaliation—not homicide, of course, but a loud beep or an offensive gesture? We've excused ourselves by saying that it's a way of letting off a little steam, calming us down so that we can get back to concentrating on a safe drive. Unfortunately, nowadays an angry response from us may be like waving the cape in front of the bull—asking for real trouble. So in a sense, your own anger has put you in danger.

REASONS

Why is this? Behavior experts have come up with a number of possible explanations for this rapidly increasing type of attitude and action. They've even coined a name for it: "road rage." The most common theory is that the stresses of everyday life—both on and off the job—have for many people become so intense that it leads to a coping mechanism they may not even be consciously aware of.

It supposedly goes something like this: "My boss treats me unfairly; I'm doing more work for little if any more money—and could even lose my job at any time; I'm not getting the attention and support I need from my boyfriend/girlfriend, husband/wife, or friends; prices and taxes are getting way out of hand. But by gosh, when I'm in my car, I'm in charge. Nobody's going to push me around here. So if you know what's good for you, you'll stay out of my way!" Of course, this is not verbalized; it's an attitude.

RESPONSES

What should you do when you encounter this kind of attitude on the road—either in another driver or, for that matter, in yourself? First of all, exert whatever effort it takes to refocus your mind. Ask yourself whether your true goal is to win some kind of competition with the other drivers on the road, to get where you're going a little faster, or to reach your destination in one piece by being a cool head rather than a hothead.

Let's assume you've given yourself the commonsense answer to that question. Now what? Now concentrate on not allowing the situation to escalate. Don't let either your own anger or the other driver's put your safety at risk. Patiently remind yourself that the more courteous driver—you—is the better driver—you. So yield the right-of-way even to someone who obviously isn't proceeding in the right way. Then congratulate yourself on having been wise enough to avoid a confrontation in what could very likely have been a lose-lose situation.

REWARDS

Sometimes this is easier said than done, of course. But it will be worth the effort, not only by increasing your odds of a safe trip but for peace of mind. You'll know you've used mature, sound judgment; you can feel superior to that clod who cut you off; and you'll actually have avoided an increase in your own level of stress. "Road rage" is like a contagious disease. Protect yourself from it with daily doses of common sense and safety consciousness and by steering clear of any obviously infected drivers you see on the road with you.



SAFETY TOOLBOX TALKS

DRIVING



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BACKING UP SAFELY

Some members of the animal kingdom are able to see what's going on behind them without turning their heads. The human animal can't do that.

Therefore, we face an extra challenge when we have to drive in reverse. Most backing-up accidents occur at speeds under five miles per hour. But they still result in significant damage to vehicles and other property, may even cause serious injury, and are sure to wreck the driver's safety record. Reviewing and following safe backing practices can reduce such accidents. I have a list of 12. How many do you know and practice?

[Note: This is one of the places where you may wish to call on the trainees to talk about how to ensure the driver's own safety and that of others while moving in reverse. They may miss some of these, but may think of some others. Wording needn't match exactly, but be sure the important points are made.]

1. Plan and drive your routes to avoid backing wherever possible. This may mean a few extra steps to get from the vehicle to the worksite, but walking is good for you.
2. If you pass the place you are looking for, beware of drifting back. Your slow progress when looking for the right address might be the reason that the car behind you pulled up so close. If you have a clear view of what is behind, check the mirror, turn around, then put the vehicle in reverse. If there is a remote possibility of a blind spot, get out and look before you have an accident.
3. When obliged to back up, make absolutely sure there is nothing behind, and then back up immediately. Do not look and then wait for a while before backing up, because conditions could change.
4. Use all mirrors when backing—right, left, rear, and the overhead too if there is one. You can't see any of the mirrors if you are hanging out of the driver's door to see what is behind you. Besides, you could damage the door if it strikes an object.
5. If it is necessary to back up some distance, travel slowly and stop part way, then get out and check your safe progress.
6. If you are driving a big truck, and there is help available to assist you in backing, use it. Have the guide stand to the side and give a hand/arm signal because a vocal signal may not be heard. Never let the guide get directly behind the truck. If that does happen, stop until the guide is alongside. Remember that safe backing up is still your responsibility as the driver, even if you have a guide.
7. Park where you will not have to back up to get out of a parking spot. Always pull away from a parking place in forward gear, if possible.
8. If you miss your turn at an intersection, don't back around a corner to change direction. Instead, drive on and around the block. The extra few minutes might save someone else's car from a dent.

9. If you have to park in a driveway, back in if possible, so that when leaving, you can drive forward rather than backing into the street.
10. When backing over a sidewalk and into a street, stop at the sidewalk and make sure there are no small children playing close by. Stop again at the curb to make a last check on traffic before backing into the street.
11. Remember that, when backing, a turn of the steering wheel turns the front of the vehicle in the opposite direction. While backing, the front wheels should be in line with the back wheels until objects on each side have cleared the front bumper.
12. Before backing into an unfamiliar area, get out and look for stakes, holes, and sharp objects.

These commonsense precautions came from assorted drivers with good safety records after driving many miles—both forward and backward.



SAFETY TOOLBOX TALKS

DRIVING



EC-11

MILLER ELECTRIC COMPANY

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COUNTDOWN FOR VEHICLE SAFETY

Astronauts do it! Aircraft pilots do it! Truck drivers who value their lives do it!

Call it a countdown or checkoff or safety checklist or whatever—the principle is basic to all of them. It is the principle of checking out various working parts of complex mechanical devices, such as automobiles and trucks, before the operator trusts his or her life to the machine.

A good time to make a safety check on trucks or cars is while the engine is warming up. Any order of checking will do, just so it makes sense to the operator. Just as important, the check must be done regularly, without fail, and it must be thorough. Here is a suggested basic countdown:

- Circle the vehicle and check each wheel for wear, damage, or misalignment. Check tire pressure and tread thickness; uneven wear of tread can mean misalignment. Flat or soft tires can cause kneading and flexing of sidewalls and treads, which builds up heat that weakens tires.
- Check for tires that look underinflated or flat because of overloading. This can cause heat buildup in a tire, shorten its life, and even cause tire failure or blowout.
- Step up on the front bumper and bounce up and down to test front-end shock absorbers. Shocks are weak if the vehicle's bouncing does not stop when you stop. Malfunctioning shocks cause sluggish or erratic braking.
- Check to see that all devices are working properly—such as lights for driving, turning, backing up, and braking. Also check windshield wipers and signal horns.
- Put the vehicle in gear and go forward or backward a few feet, testing the brakes. Safe braking takes hold without noticeable delay and without the sound of metal on metal.
- Check all glass and mirrors for clear visibility. Especially look for dirt, grime, cracks, or breaks.
- Check any cargo for proper stacking and tie-down. Lashing needs to be strong enough and secured in such a way as to hold the load and keep it from shifting.

This is a partial checklist. Different drivers include other checks, depending upon the kind of vehicle, weight, and bulk of loads to be hauled, as well as on driving conditions and weather. The important thing is to practice the countdown before every trip. It acts as a double check on vehicle maintenance and gives the operator a clear idea of future needs for maintenance and repair.

The countdown is no substitute for maintaining a vehicle in top shape—this includes its mechanical parts. But checking before the trip can give the operator an edge on making it a safe one.



SAFETY TOOLBOX TALKS

DRIVING



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DEBUNKING SOME SEAT BELT MYTHS

By this time everyone must be familiar with some of the statistics about motor vehicle accidents, injuries, and fatalities. For example:

- Over 12 million vehicular accidents per year, involving over 20 million vehicles, and of course even greater numbers of people.
- More than 50,000 fatalities and millions of disabling injuries yearly.
- The major cause of work-related deaths—more than one-third.

The value of "buckling up for safety," because *use of seat belts could prevent well over half of each year's vehicular fatalities*, has also been emphasized over and over again.

And yet there is a reluctance, or even refusal, by many to take advantage of this protection. And a number of excuses have been offered to justify this refusal. Here are a few myths that, for safety's sake, need to be exploded:

- "I just don't think I'll be one of those statistics; I'm a careful driver." Many of those killed in motor vehicle accidents were in no way at fault, and many were passengers—and more than half of them were not wearing their seat belts.
- It has been estimated that every one of us can expect to be in a crash every 10 years—a fifth of those will be serious crashes. Out of every 60 children born today, one will be involved in a fatal vehicle accident.
- "I'd rather be thrown from the car—that would be safer in the long run." Wrong. Passengers thrown out of a vehicle are 25 more times likely to travel to the morgue.
- "I'm afraid I'll be trapped in the car, in a fire or under water, and won't be able to get my seat belt off to escape." Only about one vehicle accident in 250 involves fire or deep water. Even in those that do, failure to wear a seat belt increases the likelihood of serious injury that would, itself, prevent escape.
- "I can brace myself if there's a crash." Very unlikely, when you realize that the force of impact at 30 miles an hour is the same as if your vehicle fell off a five-story building. (Remember, too, that a 30-mph impact means one car hitting a stationary object at that speed. A collision between two vehicles traveling at 30 mph has a 60-mph impact.)
- "I'll use mine on a long highway trip, but not when I'm just buzzing into town for groceries." Not a sound move, since two out of three car accidents take place within 25 miles of home—and half of fatal accidents occur at speeds under 40 mph.

- “I really resent seat belt laws, because they don’t treat me as an adult with the right to make decisions about my own safety.” The point here is that a driver who is not wearing a seat belt can reduce the margin of safety of others in the same car or the same traffic.

I hope none of you have been in the habit of using one of these excuses—or any other excuse—for not buckling up on the road, as either a driver or a passenger. If you have been, I hope you now realize that ignoring your seat belt is taking a serious gamble. It’s a gamble in which there are no winnings and the losses may be permanent.



SAFETY TOOLBOX TALKS

DRIVING



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DEFENSIVE DRIVING

When you're at the controls of any vehicle, it is important to remember that defensive driving is a full-time job. The most dangerous mile you have to drive is the one directly ahead of you. Anyone can drive perfectly for 10 feet or 100 feet or even one mile, but it takes a real professional to drive perfectly for 10,000 miles or more. To be a professional driver there are many things you must observe and practice.

A safe driver is not merely someone who has been lucky enough to avoid accidents, but is one who drives defensively and looks out for others. Today's driving standards demand skill, knowledge, and decision-making ability.

Drivers who are safety-conscious have developed good habits and practice them daily. Every time they get behind the wheel, their driving records are on the line. They must drive like professionals and be prepared mentally and physically.

If you are a driver who has a safe attitude about your driving, you will be able to drive with a sense of security in inclement weather, on difficult roads, and through heavy traffic.

In addition, to be a good driver you should respect all traffic laws and be courteous to others. Don't be in a big hurry—that's just asking for trouble. When bad weather affects driving conditions, you must adjust your driving time and habits. Driving on a wet or slippery road is not the same as driving on dry surfaces. The number of traffic accidents and cars running off the road during rainy weather could be reduced if drivers would anticipate the slippery road conditions and adjust their driving habits.

Stay a safe distance from the vehicle in front of you—one vehicle length for each 10 mph. Start stopping sooner. Apply your brakes the instant you see a hazard developing, but apply them gradually so you don't go into a spin or grind to a stop so quickly that you risk a rear-end collision.

Defensive driving is driving to prevent accidents, in spite of the incorrect actions of others or adverse weather conditions. Anticipate driving hazards and know how to protect yourself from them. Be alert while driving by keeping your mind free of distractions and your attention focused on driving; alertness involves watching and recognizing accident-causing factors instantly. The professional driver has foresight, the ability to size up traffic situations as far ahead as possible. The driver must anticipate traffic problems that are likely to develop and decide whether these developments could be dangerous.

Many drivers fail to understand why they were given a "preventable" for an accident when they were not legally at fault. A "preventable accident" is one in which you fail to do everything you could have done to prevent it. Even though the driver cited with a "preventable accident" did not violate any traffic laws, the professional driver should have seen or anticipated the incorrect actions of the other driver in time to take actions to prevent the accident from happening. However, you may also see the valuable lessons that near-misses offer and make the necessary adjustments in your driving habits.

As a defensive driver you must operate your vehicle in a manner to avoid contributing to an accident or being involved in a preventable accident.

Awareness of the vehicle's limitations is essential; pre-trip checklists and inspections can familiarize you with the vehicle and point out things that might need attention.



SAFETY TOOLBOX TALKS

DRIVING



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DON'T SIT ON IT— WEAR IT

There are a lot of reasons people won't wear seat belts, but there are also a lot of reasons that they should (even in vehicles equipped with air bags). This includes you if you don't already wear yours.

CHOOSE YOUR REASONS

If you need a good reason to wear your seat belt, take your pick:

- You paid for it. (In fact, most cars have at least two seat belts; some have six. You paid for all of them; it's a waste of your money if they aren't used.)
- In an emergency, it holds you in place so you can control the car.
- In a crash, it keeps you from being thrown out of the car and hitting the pavement where you may be run over by another car or be crushed under your own.
- If you're a passenger in the back seat, the belt keeps you from being thrown forward, injuring yourself and those in the front seat.
- It can lessen fatigue. Many people feel more comfortable with the added support seat belts give them. This in turn aids alertness.
- Buckling the belt is a reminder that accidents can happen even to the most careful driver.
- Wearing your belt sets a good example for the rest of your family.

If you haven't been using your seat belts, take the time to inspect them. Make sure they're clean and working properly. Make and insist on a rule that everyone in your car wears a seat belt. Unrestrained passengers not only risk their own lives but also could injure others who are belted in.

PROTECTION FOR CHILDREN

It's especially important that you safeguard children when they are in the car. They could be injured in normal driving by a sudden stop or a sharp turn. Small children need special protection. Because of a child's hip structure, a lap belt should not be used until the youngster is four years old and weighs at least 40 pounds. However, if no special restraint is available, it is far safer to use standard belts than to allow the child to ride loose. Don't strap two children into one belt. This makes proper fit impossible.

Holding a child in your arms is not safe either. In a collision, the child would fly out of your arms and be seriously injured. Not all car seats are safe, but there are crash-tested devices now on the market. So before buying a car seat or harness, check to make sure it's safe.

Whenever a child is riding with you, remember that the back seat is safer than the front, and the center of the vehicle is safer than the sides. The recommended protection for infants is to have the car seat facing the rear, for heavier toddlers, the seat faces front.

Remember, too, that seat belts aren't just for long trips. Two thirds of all accidents occur within 25 miles of home, and half of all fatal accidents occur at speeds under 40 mph.

Don't sit on your seat belt; wear it. Seat belts save lives!



SAFETY TOOLBOX TALKS

DRIVING



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DRIVING IN WINTRY CONDITIONS

Whether you drive for a living or only to and from work, winter weather conditions provide a challenge for even the most seasoned driver. That's why it's important to prepare ahead for icy or snowy weather. Even southern states experience light snow or ice on occasion. And tests have shown that warmer ice is more slippery than colder ice.

BEFORE YOU START

Make sure to have an overall tune-up. Check your battery clamps for corrosion—a frequent cause of not starting in cold weather. Brakes should be checked and adjusted as necessary. Wipers should be in good working order. If they start to skip or streak, replace them. Be sure you have plenty of wiper fluid as well. Check to see that your heater, defroster, and rear window defogger are working properly. Add winter-weight motor oil if you're not already using all-season oil. Keep your gas tank half full for unexpected emergencies. This will also prevent your gas lines from freezing.

Tires are of particular concern in snow or ice.

All-season tires perform well under most weather conditions (even rain), but consider snow tires if you will be driving in deep snow. Check the air pressure often—cold weather can cause it to drop one pound per square inch for each 10 degree drop in temperature. If mountain driving in heavy snow is contemplated, try using tire chains.

EMERGENCY SUPPLIES

To be fully prepared for emergencies, a winter driving kit should include the following:

- Ice scraper, snow brush, and snow shovel
- Booster cables, flashlight, and extra batteries
- Warning devices such as flares or triangles
- First-aid kit
- Extra warm clothing and blankets
- Bag of abrasive material such as sand, salt, or kitty litter
- Traction mats
- High-energy, nonspoilable foods such as granola bars, nuts, raisins, and water
- Good sunglasses to avoid the glare of snow and sunshine



SAFETY TOOLBOX TALKS

DRIVING



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FOUL WEATHER DRIVING

Bad weather affects all roads. Our interstate system is a marvelous example of modern engineering, but no matter how good the road is, it is dangerous when there is sleet, snow, or ice on the roadway. Speed must be reduced on slippery roads.

When road conditions are slippery, drivers must look farther ahead so they can anticipate emergencies and avoid the need for sudden maneuvers. Most skids are caused by last-second stops and turns on slippery pavements.

Extra care must be taken on hills. Brake over the top of blind hills at a speed that will permit you to bring your vehicle to a stop in case the highway isn't clear ahead. On a downgrade, both loss of traction and gravity are working against you.

Don't attempt to drive around or through a scene where other vehicles have obviously had trouble with the road conditions. The same conditions that caused their trouble may still be there when you arrive. When there is no room to get through, you must be prepared to stop.

During the winter months, snow- and ice-covered truck lots are prevalent. Good drivers will allow more clearance between their vehicles and fixed objects when maneuvering on bad surfaces. A pile of snow or an ice rut may throw vehicles off just enough to cause them to strike a stationary object if not enough clearance has been allowed.

Drivers of vehicles with air brakes must take care to protect their air supply in freezing weather. Brakeline freeze can be annoying and dangerous. Many newer trucks are equipped with synthetic air lines, so the old solution of melting the ice with a fuse or torch is no longer a quick solution. If the vehicle is not equipped with an air dryer or other means of automatically expelling water and other contaminants from air tanks, the driver must take the time to manually drain the air tanks every day.

The lighting systems of vehicles become especially important during the winter months. Nights are longer, and visibility is often reduced by bad weather. Electrical systems are winter-sensitive. Approximately 80 percent of all light bulb failure is due to environmental reasons. Drivers must inspect their lights more often during the winter and clean them when necessary so they can see and be seen by other highway users.

Foul weather driving is much more strenuous. Drivers need proper rest before every trip, and while enroute, fresh air helps keep drivers alert. An open window is an old safety practice, and it helps drivers hear what is going on around their vehicles.

After all precautions are taken and good practices are followed, there still will be occasions when conditions become too hazardous to proceed. Good drivers will pull off the road at the first safe place, notify their companies of the delay, and wait until conditions improve before continuing.



SAFETY TOOLBOX TALKS

DRIVING



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SAFE DRIVING

[Note: This is one of the longest presentations in the whole book. If your plan is to use only 10 minutes or so per talk, then this can be broken up into several sections, like parts of a serial story. That will also allow time for getting trainees themselves to help you name the items on each bulleted list.]

Every 10 minutes, someone in the United States dies as the result of a motor vehicle accident. During that same period, about 33 people are injured—about 2 million of these injuries each year are disabling. And more than one-third of job-related fatalities are the result of vehicle accidents.

To help keep yourself from becoming one of these dire statistics, let's review some of the techniques of safe driving—which includes maintaining as well as operating your vehicle in such a way as to avoid accidents in spite of adverse conditions and the incorrect actions of others.

PROPER VEHICLE MAINTENANCE

This can go a long way toward reducing unnecessary vehicle accidents. The following items need to be checked frequently:

- **Brakes:** Check fluid regularly, check wear and adjust as needed.
- **Tires:** Maintain proper air pressure, rotate at regular intervals, check balancing and tread wear. Change at the first hint of trouble.
- **Lights:** Make sure all lights—front, rear, and side—are in working order. Keep them clean to maintain their brightness and visibility.
- **Windshield wipers:** Replace when streaking starts to occur.
- **Horn:** Repair immediately if a malfunction develops.
- **Side and rearview mirrors:** Keep clean and properly adjusted.
- **Seat adjustments:** Make sure the seat is adjusted to prevent fatigue or strain.

VIEW THE ROAD—GET THE WHOLE PICTURE

Be alert while driving so you will be ready to react quickly. Know what to look for and where to look:

- When approaching entrances to shopping malls, drive-ins, restaurants, or filling stations, look for any movement that may mean a vehicle is pulling out into traffic.
- Watch for movement well back from the intersection on side roads and at cross streets, so that you can act defensively if necessary.
- On multilane roads notice the space between the tires of the vehicle in front of you and the lane marking nearest to the tire. If the gap starts to narrow, it could mean that the vehicle is drifting or about to change lanes.
- Watch for pedestrians, especially children and animals, and expect anything. Be ready to use your brakes.

- Watch in the rearview mirror for drivers behind you who might want to pass. Frequent checks will help you see someone pulling into the opposing lane. You will be aware of them even if they pull into your blind spot.
- Do not concentrate on one spot on the road. Scan back and forth, looking for any potential problems. Watch what's happening well out in front of your vehicle to detect problems sooner.
- Keep a safe distance behind the car in front of you. Add one more car length of space for each additional 10 miles per hour of speed.

DRIVING IN BAD WEATHER OR AT NIGHT

Rain, snow, ice, fog, and dark increase the chances of an accident and so require extra caution and slower speeds.

Winter driving:

- Slow down on ice or snow. Braking distances on ice can increase from 4 to 10 times normal. Avoid slamming on the brakes; use an even, quick, pumping action for rear-wheel drive and slow, steady pressure for front-wheel drive.
- In case of a skid, turn the front wheels in the direction of the skid.
- When coming to an icy spot, slow down gradually to retain more control of your vehicle.
- Keep the windshield washer reservoir completely full.
- Completely clear both front and back windows of snow. A peephole is not enough.
- Make sure you have proper snow tires or all-weather radials in good condition.
- Give yourself extra time to get where you need to go.
- On bright days, wear a good pair of sunglasses or use the sun visor.

Night driving:

- Make sure mirrors, lights, and windshield are clean.
- Never wear sunglasses at night.
- Check to see if headlights are properly aimed.
- After dark, give your eyes a chance to adjust before starting to drive.
- Turn headlights on before dusk so other drivers can see your car.
- If lights from an oncoming car make it difficult to see the road, focus on the right edge of the pavement. The human eye takes seven seconds to recover from headlight glare.
- Reduce speed; you should be able to stop in the distance provided by your headlights.

Rain and fog:

- Keep windshield wipers on. Make sure they are in good repair.
- Turn on the defroster and/or fan to cut condensation on the inside of the car windows.
- In fog, roll down the side window part way so you can hear better.
- Keep headlights on low beam.

- Slow down but keep moving. Don't stop unless you can get completely off the road.
- On wet pavement, apply brakes smoothly and evenly.

AND FINALLY

Here are two precautions that will make major contributions to your safety no matter what the hour or the weather:

- DO NOT *drink and drive*. Alcohol dims alertness, impairing driving ability by about 30 percent after as few as two drinks. Don't ride with someone you believe is under the influence, either. Adopt the "designated driver" approach.
- Use your seat belt—and insist that passengers use theirs—even in vehicles equipped with air bags.





SAFETY TOOLBOX TALKS



SAFETY TOOLBOX TALKS

ELECTRICAL



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A SHOCKING TRUE STORY

To start with, I'm going to tell you a story about Corporal Brown. It's a short story with a sudden ending.

Corporal Brown was 20 years old and home on a furlough after serving in Vietnam. He borrowed his brother's car to roam around in for a few days and then decided he should wash it—which he did, in the driveway.

After washing the car in the driveway, Corporal Brown noticed that the interior was rather dirty, so he borrowed his mother's vacuum cleaner. Unfortunately for Corporal Brown, when he turned on the vacuum cleaner while standing on the wet driveway, the instant death that he had escaped in combat suddenly struck him down.

This is a true story. Only the name, now on a tombstone, has been changed.

What caused this tragedy? Two rules for the safe use of electric tools and appliances were violated. They were violated unintentionally, of course, but that's the way most tragic accidents occur.

First, never stand on wet or damp surfaces when using electric tools. Second, never use equipment that is faulty and in need of repair—as the vacuum sweeper Brown used apparently was.

There are several precautions against accidental grounding that we all should observe when using portable electric tools. Check your tools for:

- Defective or broken insulation or plugs
- Improper or poorly made connections to terminals.
- Broken or otherwise defective plugs.
- Loose or broken switches.
- Sparking brushes.

If any of these conditions exist, have the tool repaired before using it, or report it to me. But don't use the defective tool.

A couple of other safety rules are important, too. Never attempt to repair or adjust portable electric tools while they're plugged in. Don't use them in the presence of flammable vapors or gases unless they are especially designed for such use.

Electricity has become an integral part of our lives. Like fire, it's a valuable friend, but one that must be respected and used wisely. Unfortunately, there's a lot about electricity that's misunderstood for example the belief some people have that low-voltage shocks can't harm them. Actually, such jolts can be fatal. The severity of a shock is measured by three factors: the quantity of current flowing through the body, the path of the current as it passes through the body, and the duration of the current.

Three major factors involved in accidental grounding mishaps are: lack of knowledge and safety precautions, ignoring hazards, and neglect.

Since faulty tools can be responsible for an accidental grounding, they should receive proper care, should always be returned to their proper places, and should be inspected before each use. If a tool appears to be broken, defective, or in poor condition, don't use it. Instead, report it to me.

Third-wire grounding or approved double-insulated tools are used to reduce the hazard of electric shock. Extension cords should have three-pronged plugs. These apply to home as well as on-the-job situations.

You are all valuable employees or you wouldn't be here. It's important that we keep you on the job important to you, to your families, and to the company. I urge you to stay alert on the job and not to take the kind of unnecessary chances that brought Corporal Brown's story to such an unhappy ending.



SAFETY TOOLBOX TALKS

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BE WARY OF EXTENSION CORDS

Fires, shocks, and electrocutions are potential perils that can accompany the misuse of extension cords—or the use of cords with faulty wiring and loose connections. In 1997, over 12,000 people went to hospital emergency rooms to be treated for electrical burns and shocks, and about 2,500 of them had injuries related specifically to extension cords.

Increasingly, we are using extension cords, power strips, and surge protectors for electrical devices such as computers. Make sure that these products carry a certification label from an independent testing lab such as Underwriters Laboratories (UL). The tag should be permanently attached near the plug of cords and on the underside of the casing of power strips and surge protectors.

To be safe, follow these precautions:

- Do not use extension cords as a replacement for fixed wiring. Extension cords are intended for temporary use with equipment not routinely used at a specific location.
- Equipment being plugged into the extension cord should be grounded where applicable.
- Use products that have grounded three-pronged plugs or the new polarized plugs with one blade slightly wider than the other.
- Never bend prongs or force a three-pronged cord into a two-pronged outlet.
- Make sure that the plug has a good solid connection to the outlet.
- Choose heavy-duty extension cords for high-wattage machines and equipment.
- Use one long cord instead of several shorter cords. Never connect extension cords in a series. A longer cord should have a larger diameter (thicker = safer).
- Use cords appropriate to the task and rated high enough for the job.
- Use extension cords appropriate for the conditions. For example, indoor and outdoor cords are constructed differently. Various types of cords are specifically constructed to resist moisture, heat, or chemicals.
- If using a cord outdoors, plug it into ground fault circuit interrupter (GFCI).
- Don't overload cords. Multiplug devices should contain an integral circuit breaker.
- Never splice or tap an extension cord.
- Keep cords untangled when in use and in storage. Keep stored cords loosely coiled in a dry place.

- Never disconnect a plug by pulling on the wire. Instead, grip the plug itself to pull it out of the socket.
- Inspect cords frequently to be sure that they are in good condition and are not frayed, cracked, punctured, or hot to the touch.
- If a cord is defective, do not use it. Have it repaired by a professional or throw it away.



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ELECTRIC PORTABLE TOOLS

A review of the use of electrically powered tools is in order because of the many accidents caused by them on a construction project.

What follows is a typical occurrence, taken from the file of a national safety agency: A mechanic was standing on the top of a form, about six feet from floor level, preparing to drill holes with an electric drill. The mechanic had his arm around a metal pole for support. When the drill was turned on, the man received a shock and could not release his grip on the drill. Another mechanic, working nearby, immediately pulled the plug, cutting off the power. The injured mechanic sustained burns on the neck and both hands.

Assuming the man was standing on a wood form that was off the floor or surface level, his body resistance was considerably lessened. The dampness of perspiration plus his placing his arm around the pole all contributes to the electrical shock.

Grounding portable electric tools is the most efficient way of safeguarding an operator. If there is any defect or short inside the tool, the current is drained from the metal frame through the ground wire and does not pass through the operator's body.

Ground fault protection in temporary power systems used on construction sites is the modern method of protecting the operator of electrical equipment from the slightest shock. A periodic check of portable electrical equipment, using specialized measuring devices to determine any possible internal short circuits, is suggested in lieu of ground fault protectors.

Insulating platforms, rubber mats, and rubber gloves are other means to guard against electrical shock.

Generally, all tools should be inspected by their operators frequently for the following obvious malfunctions:

- Defective or broken insulation or cord.
- Improper or poorly made connections to terminals.
- Broken or otherwise defective plugs.
- Loose or broken switches.
- Brushes sparking.

Make sure that OSHA regulations for equipment grounding are followed when working with cord-and-plug-connected equipment that requires grounding, including use of ground fault circuit interrupters (GFCI) or an effective equipment grounding conductor program for all cord sets, receptacles (temporary), and equipment connected by cord and plug.



SAFETY TOOLBOX TALKS

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ELECTRICAL SHOCK

Electrical shock kills and injures hundreds of workers each year. Most of these accidents happen because people don't look, don't think, or just don't understand the shocking power of electricity.

Voltage, current, and resistance are the basic terms used when talking about electricity. Voltage is the force that causes the current to flow. Current (amperage) refers to the amount of electricity that is flowing. Resistance denotes the restrictions that try to slow down or stop the flow. Electrical shock can occur only when a part of the body completes a circuit between a conductor and another conductor or a grounding source.

Death or injury is not caused by the voltage, but rather by the amount of current that flows through the body. Of course, the higher the voltage, the greater the amount of current. Some people have survived shocks of several thousand volts, while others have been killed by voltages as low as 12.

The dry outer skin of the human body offers extremely high resistance to electrical flow. However, the resistance is reduced to almost zero when the skin is wet—especially if the skin is wet because of perspiration, which comes out of pores in the skin.

If your body is sweaty or damp, an oversensitive ground within it is created, which easily causes electrical shock. One way to keep the body's resistance high is to keep it dry, particularly the hands and feet. This can be accomplished by wearing rubber gloves, boots, and rubbers.

An important phase of electrical safety is knowing how to help a victim of electrical shock. First, stop the current flowing from the circuit through the victim's body. Often, particularly in cases of low voltage shock, victims are unable to pull away from the course of current. In this case, disconnect or de-energize the circuit, if possible. If you can't, get a non-conductive item, such as dry clothing, dry rope, or a dry stick, and remove the victim from the source of the current. Never use your bare hands.

Then call or send for help. If the victim's heart or breathing has stopped, give needed first aid until professional help arrives.

We can reduce the risk of electrical shock by keeping in mind these guidelines:

- Keep electrical equipment away from water and dampness.
- Never use water to put out an electrical fire; water can cause a fatal shock. Use a class C-rated fire extinguisher for electrical fires; shut off the source of power.
- Inspect the area you're working in for electrical hazards.
- Don't overload circuits.
- Check electrical cords for fraying and other signs of wear.
- Be sure to tag out and lock out switches when working on equipment.

Remember, electricity can be an ally or an enemy. Treat it with respect and it will provide the service you expect.



SAFETY TOOLBOX TALKS

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FUSE BOXES

The fuse is considered one of the most important safety devices in every electrical circuit. It protects workers against shock, electrical equipment against dangerous overloads, and the building against fire.

The reason that it can do this is that it is deliberately designed as a weak spot in an electrical circuit that will give way and break the flow of current if the circuit is overloaded. The fuse is also used to cut the electrical circuit out of a line when work must be done on it.

There are several different kinds of fuses, and each kind is made in a wide range of capacities. A fuse that is right for one circuit may be entirely wrong for another. When a fuse fails (in other words, does its task), it must be replaced by the same kind of fuse meaning the same general type and the same amperage. That's because replacing it with any other kind of fuse may leave the circuit unprotected, with very serious results. If you don't know the proper type, ask a supervisor for assistance before you replace the fuse.

Serious trouble will most certainly result if you attempt to keep a circuit operating by installing a fuse of heavier amperage or by inserting a metal connector between the two contacts of the fuse. Remember: the fact that a fuse of the proper amperage fails is a sign that something is wrong with the circuit, and anything that keeps it operating will produce a significant and dangerous overload. What you need to do is look for the short circuit that caused the fuse to fail.

You should always throw the operating switch to the off position before you remove a fuse to allow you to work on a line or to replace a burnt-out fuse. Then remove the fuse with a regular insulated fuse puller. If there is no switch that protects the fuse, always pull the supply end of the fuse first.

Make sure the floor is dry when working at a fuse box. If there is any dampness, don't work at the box until you secure a dry wood platform to stand on or a pair of rubber boots to insulate your feet. When you are pulling a fuse, turn your head away to avoid possible injury from any flash that might occur.

If you pull a fuse to work on a line, tag the box to warn any other employee not to replace the fuse while you are working. On lines carrying 50 volts or more, cut off the power by withdrawing circuit breakers or disconnects.

If you follow the steps outlined here and get help or advice when you aren't sure of the proper procedure you won't have any trouble doing your job of restoring service properly when the fuse does its protective circuit-breaking job either at work or in your home.



SAFETY TOOLBOX TALKS

ELECTRICAL



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GROUNDING ELECTRICITY

Many people think that "household" voltage, 110–120, which is common in almost every work-place, is not particularly dangerous. Well it is! It's not voltage alone that determines the danger; it's a combination of voltage, amperage, and resistance to the flow of the current and duration of contact.

Electricity must have an uninterrupted path, or circuit, to follow. If your body becomes part of that circuit, electricity will pass through it.

Even with "household" voltage, if your body's resistance to the flow is reduced— by wet hands or feet, for example—enough electrical energy can flow through your body to kill you. This is especially true if the electricity passes through vital organs, such as the heart or lungs.

Electricity always follows the path of least resistance. That's why it is so important to provide an easy path for the current to follow. This is called a ground.

For example, let's say you are holding a drill that has developed a short. Your hands are dry and you are standing on a dry surface. The drill has a ground wire. This means the current will follow the ground wire—not you! Dry hands and feet offer considerable resistance to household current, but the resistance drops rapidly in the presence of moisture.

Portable electric power hand tools are used for many different kinds of work. Unless you are using an acceptable double-insulated electric power tool, you must be absolutely sure that the noncurrent-carrying parts are properly grounded.

Usually a three-prong plug in a three-hole outlet provides a proper ground. However, if you are not sure that the ground is effective, have it tested.

Attaching the third wire to a pipe that does not go to the ground, or to a nonconductor, is not an effective means of grounding; you might as well not have it at all. Don't take a chance—always have it checked out. For your safety:

- Don't attempt to make electrical repairs unless you are an electrician; it's better to send a defective tool back to the manufacturer. This is especially true of double-insulated tools, which must be repaired by the manufacturer.
- If you have wet hands or are standing in water, don't use an electric tool.
- Always disconnect the tool before cleaning or adjusting it.
- Don't use water to put out an electrical fire.
- Make absolutely sure that the electrical power tool you are using has a true ground or is double-insulated.



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GROUNDS FOR CAUTION

Here's a simple, valuable piece of information you need to know to protect yourself from severe harm: Electricity can kill you.

Despite its extensive use throughout industry and in our homes, many people—perhaps most people—know very little about electricity. It's taken for granted because it does so many things for us easily and dependably. We flip a switch and the lights go on or a machine starts up. When a bulb burns out, we replace it and all's bright again.

THE BIG 'IF'

Nevertheless, electric shock is a serious threat to safety—and life itself—if we fail to learn enough about it and how to avoid its potential dangers. That's the purpose of today's talk. If you understand the basic facts about electrical hazards and follow safe work practices, you are minimizing a significant risk for yourself and for others as well.

FACE THE FACTS

Electricity-related fatalities are not limited to incidents of contact with high voltage lines. Statistics indicate that many people are killed by 115-volt circuits. At 115 volts, a 5-watt lightbulb pulls 50 milliamperes of current. But contact with as few as 15 milliamps can kill. So the amount of current used by a 5-watt lightbulb is sufficient to kill three people. Imagine, therefore, the dangerous potential lurking in drills, saws, sanders, and so forth if they or their cords and plugs are in any way defective.

It's also vital to know that the condition of the electricity user's body has a great deal to do with the severity of any shock that occurs. A wet floor, damp shoes and socks, and sweaty hands all multiply the risk, since they enable the current to pass through the body more easily.

RESPECT THE RULES

So proven safe work practices have been developed for working with electrical tools or appliances, and we expect you to follow them. Here, for example, are five basic "rules for life":

- Use only grounded or UL-approved equipment.
- Make sure the ground pin is intact before plugging it into any receptacle.
- Check cords for fraying or other damage—and if you find any, do not use them.
- Use extreme caution when working with portable electric tools in wet or damp places. This includes tanks and boilers or areas near piping and other grounded objects that you might touch, thus allowing electricity to pass through your body to the ground.
- If you get a shock, no matter how minor, from any equipment you are using, stop at once. Report the incident to your supervisor and have the equipment tagged for repair—which should be left to the experts.



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KEEPING ELECTRICITY ON YOUR SIDE

Most work in our society is accomplished with the help of electricity—a blessing that we often take for granted. But electricity also poses a safety risk. This helper is friendly so long as it is treated with great respect.

Receiving a shock is never very pleasant. Under the best of circumstances, if your hands are dry and you are standing on a surface that won't conduct the electrical current, you may not really feel an electrical shock—just the surprise at the momentary discharge of the current. But if you are sweating and if you're standing in water, you may be killed by the same current. Many are.

In fact, electrocution is the fifth leading cause of workplace death from injury. More than half of those deaths resulted from the use of defective equipment or not following safe procedures. The only way to avoid an electrical shock is to prevent contact with an electrical current.

Safe clearance is the best means of avoiding an accident when you work directly with electrical hazards. The minimum clear distances depend on the nature of the work area and the voltage rating of the equipment. Do not proceed without sure knowledge of what the safe clearance is.

Insulation is a second important protector against electrical shock. Tools may be double insulated, for example, or appliances may have plastic frames that are insulating. Rubber-soled boots provide insulation between your feet and a moist floor or ground surface.

Isolation of electrical conductors is another safety measure. In the workplace, conductors are isolated in a room called a vault. Warning signs will be posted to keep you from entering that space.

The main causes of workplace electrical accidents that result in serious injury or death are: **(1)** Contact with overhead high voltage lines and **(2)** Improper lockout procedures.

Often a worker carrying long pipes or similar equipment may contact overhead high voltage lines accidentally because, unlike electrical workers, they haven't been trained to avoid this hazard. So keep this in mind when you are lifting equipment and carefully avoid contact with overhead wires. Consider every line as high-voltage and dangerous unless you are absolutely certain that a line is dead and clearly grounded.

Mistakenly thinking equipment being is properly turned off is the second greatest cause of electrical accidents. If power is still reaching a machine that you thought was off you may reach in to make adjustments and contact electrical voltage, which can result in death. Don't try to fix equipment until you've personally verified that it is turned off and locked out.

Fuses, circuit breakers, and ground fault circuit interrupters—Guffaws—are all simple protective devices intended to promote electrical safety. GFCIs are inexpensive devices. They break a circuit within 1/40th of a second and prevent electrocution from worn or improper wiring. (You might also want to install GFCIs on outlets at home to protect your family against electrical accidents).

A final word about electrical safety: never forget that if a fellow worker receives a shock, the worst thing you can do is attempt to pull the victim away from the source of the shock with your hands. Use a broom, or a belt—and don't touch the metal. Try to disconnect the source of the shock and call for help.

The victim of a shock may have to receive resuscitation because the muscles that control breathing are usually paralyzed by the current. The heart is often affected also. Cardiopulmonary resuscitation must be applied within a few minutes following the accident.



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LOW-VOLTAGE HAZARD

Whether in the area of safety or anywhere else, not getting the facts straight causes a lot of trouble—particularly when people accept a mixed-up notion just because it is widely believed. Quite a few such fictions regarding safety persist as common beliefs, even though they lead to on-the-job injuries and deaths every year.

One of these is the widely held fiction that low-voltage electricity is not dangerous. The fact is that most injuries involving electricity are from low-voltage power sources.

In fact, the amount of current flowing at any given voltage depends upon the resistance of the materials through which it flows—including any human body that becomes part of the circuit.

Metals such as copper, iron, and aluminum offer low resistance, so they are good conductors. Materials like rubber, ceramics, and dry wood (among others) offer high resistance to the flow of current, making them poor conductors but good insulators.

The human body can act as either a poor conductor or a good one, depending on various factors:

- The health of the individual
- The duration of contact with the flow of current
- The area of contact
- The condition of the skin (wet, dry, greasy, etc.).

If you were to measure your body's resistance to the flow of current from one arm to the other on a warm day on which you were perspiring freely, the resistance could be low enough that 25 volts would produce enough current to kill you.

There are cases of deaths caused by 32-volt farm lighting systems, yet, under favorable conditions, the body's resistance may be such that a 120-volt house lighting system might cause only a slight tingling shock.

Here is a safe conclusion about electricity and the most important fact to remember: If you know little or nothing about it, leave it alone! Conditions can vary so greatly that without knowledge of all the facts—and what they mean—you are sure to make an error. In working with electricity, however, there is no margin for error: Make an unwise decision, and you may be saying "sayonara."



SAFETY TOOLBOX TALKS

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PRACTICING ELECTRICAL SAFETY

Each year many workers—far too many—suffer pain, injuries, and even death from electrical shock. The exact effect that an electrical shock will have on an individual depends on the type of circuit, its voltage, resistance, and amperage, the pathway through the body, and the duration of the contact. Some shocks will be barely felt—others will result in deep internal burns, bruises and bone fractures resulting from collisions or falls, or even immediate heart stoppage.

In a study by the federal government, electrical accidents were found to have three possible causes, usually occurring in combination: unsafe equipment, unsafe environmental conditions, and unsafe work practices. To prevent a dangerous occurrence, you must be aware of all these risks and avoid them.

Equipment you use must be properly maintained to assure your protection from electrical accidents. Monitor any equipment that you work with, keep it clean and dry, and if it needs servicing or a regular maintenance check, bring it to the attention of your supervisor. Any equipment that you do not regularly use should be visually inspected before you operate it.

Even normally safe equipment can pose hazards under certain conditions. Overhead power lines, for instance, frequently present a danger although they are installed at a usually safe distance. In one case, a maintenance crew leader struck an overhead power line when he pulled an iron measuring rod from a storage tank. Workers carrying metal ladders have had many such accidents, often fatal.

Or, equipment undergoing repair may expose normally guarded and hazardous electrical parts. This danger can be avoided by de-energizing equipment, following lockout/tagout procedures, and using personal protective equipment.

Environmental circumstances such as moisture can also pose unexpected risks for the person working on electrical lines or with electrical equipment. Your regular home vacuum cleaner, for instance, (not a wet/dry shop vacuum) surely includes warnings not to use on wet carpet. There are similar cautions on numerous pieces of yard-care equipment. As another example, a worker using an ordinary portable electric drill can ignite flammable gases or vapors that might accumulate temporarily in the vicinity. If you note flammable vapors in the area where you are working, shut down electrical equipment at once.

Safe work practices are essential any time you are working with electrical equipment. In fact OSHA has estimated that more than 3,100 injuries and 69 fatalities a year could be prevented by such practices. Among the most important: keeping your distance from exposed energized lines, remembering that water and electricity are a bad mix, locking out and tagging equipment that is de-energized for maintenance.

Another important safety practice involves the use of protective devices such as rubber gloves and rubber mats, which insulate against live parts. If you are issued rubber gloves, use them. Don't be like the electrician who had his insulating gloves on the bench beside him as he worked barehanded with a 480-volt energized cable. His wrist touched the cable and he was killed.

Reaching without looking or drilling or digging without being aware of electrical exposure can be highly risky as well. A machine operator who tried to reset his electrical relays while reaching behind a partly closed control panel did not live to regret his carelessness.

While some occupations will place you at a greater risk of electrical accidents than others, every worker is exposed to some hazards of this type and should learn how to guard against them.



SAFETY TOOLBOX TALKS



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EMERGENCIES



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PREPARE FOR NATURAL DISASTERS

Spring is a good time to review your emergency action plan and update it if necessary. Specifically, make sure your plan addresses natural disasters.

For instance, decide whether your company will evacuate or stay on the premises in a company shelter.

Also, the Federal Emergency Management Agency (FEMA) recommends that businesses purchase a National Oceanic and Atmospheric Administration (NOAA) weather radio with a warning alarm tone and battery backup.

Here are some other considerations for different types of natural disasters:

Forest fires—Train and equip a special fire team at your property. Develop a liaison with forest area authorities. Clear underbrush and maintain fire lanes. Monitor forecasts from the National Weather Service.

Hurricanes—Heed hurricane warnings from the National Weather Service and shut down operations before the weather gets too severe. Send employees home or to onsite or community shelters.

Floods—If your area is prone to flooding, make your business as flood-proof as possible. Identify records and equipment that can be moved to a higher location. Obey local flash flood warnings. Learn the community's evacuation routes.

Tornadoes—Monitor National Weather Service advisories and make sure everyone knows the meaning of tornado warning signals. Use spotters to watch for approaching storms, and send employees to appropriate shelters.

Earthquakes—Earthquakes are unpredictable, but employees should be warned to stay indoors, take cover under sturdy furniture and away from glass windows. If employees are outside, they should avoid buildings and utility wires.

Severe Winter Storms—Establish procedures for facility shutdown and early release of employees. Store food, water, blankets, battery-powered radios, and other emergency supplies for employees who may become stranded at the facility. Provide a backup source for critical operations. Arrange for snow and ice removal from parking lots, walkways, and loading docks.



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EMERGENCIES



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PREPARING FOR DISASTER

No one likes to think about disasters. We tend to think they won't happen to us. But the truth is, disasters do happen, often when we least expect them. It takes a little time to become familiar with what you should do in response to a disaster. Your response in a disaster situation could mean the difference between life and death, not just for you, but for many others as well.

Disasters are of two basic types: internal and external. Do you know the difference between the two? Can you give examples of each? Fire, radiological mishaps, and severe weather conditions are examples of internal disasters. Civil disturbances and airplane crashes are examples of external disasters; they result in a large influx of patients to hospitals in areas where they occur.

Fire, electrical power loss, severe weather conditions, and bomb threats are some of the more frequent types of disasters we must cope with. How many of you are familiar with the written procedures for these disasters?

- Familiarize yourself with the disaster plan and review it frequently. Know what actions you and others working in your immediate environment should take in response to the various types of disasters in the plan.
- Participate in emergency/disaster drills; they are a very important part of planning for disasters. In fact, the very best plans may not be helpful at all if they are not rehearsed.
- In the event that a disaster does occur, carry out your responsibilities as indicated by the disaster plan without delay; be alert for additional instructions.

We won't have time to discuss the proper responses to each type of disaster; however, we will mention briefly two types of disaster situations: tornadoes, because they occur infrequently and we tend not to think much about them, and bomb threats, because they are not announced on the public address system by means of a signal, as the other types of disasters are.

TORNADOES

Who knows the difference between a tornado watch and a tornado warning? Tornado watches are announced by weather stations when conditions in the area are right for the development of a tornado. This announcement does not mean that a tornado is on the way. If a tornado watch is announced, you should close drapes in your work area—this is to prevent flying glass and objects from hitting people if a tornado develops; be alert for further instructions.

If a tornado warning is issued, you should move to interior corridors and close doors to rooms that have windows. You should remain in the interior corridors and wait for further instructions. Should conditions require it, you may be requested to move to lower levels of the building.

BOMB THREATS

Ninety-nine percent of all bomb threats are just that—threats. But because there is no way of knowing whether an actual bomb exists, we must take precautions when any bomb threat is received. If you receive a bomb threat on the telephone, here is what you should do:

- Keep the caller on the phone as long as possible and signal to someone else to notify the operator on another line that a bomb threat is being made.
- Try to get information about the bomb from the caller, such as the type of bomb and where it is located, but don't be "pushy."
- Avoid excitement in your voice.
- Write down a detailed account of the call and deliver it to security immediately. The account should include: time of call, voice quality, an accent (if noted), and slurred speech (suggesting influence of alcohol or drugs).
- Keep the call confidential, unless you are instructed by security officers to do otherwise. Bomb threats, understandably, tend to make people panic.
- Report any suspicious-looking devices to security. Explosive devices can have a variety of appearances, depending upon whether they are military (rare), commercial, or home made. Do not touch suspicious-looking devices.

We can never predict with certainty when disasters will occur. All we can do is attempt to minimize damage to life and property. Management is responsible for formulating a well-developed plan for each type of disaster that may be encountered, and your responsibility is to be thoroughly familiar with each plan so you can carry out the plan immediately. Remember, your life and the lives of others depend on it.

SAFETY TOOLBOX TALKS

EMERGENCIES



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WEATHER EMERGENCIES

Each year thunderstorms, lightning, and tornadoes kill or injure hundreds of people. What can we do to protect ourselves and others from these natural dangers?

First of all, some plan of action is necessary—including precautions to be taken and appropriate responses when the situation actually occurs. We've already reviewed our company's, but what should you do when you're at home or outside?

Specific danger signals to watch for include:

- Severe thunderstorms with frequent lightning, heavy rain, strong winds, and power failure.
- Hail—pellets of ice from dark-clouded skies.
- A roaring noise.
- A funnel—a dark, spinning "rope" or column from sky to ground.

When skies look threatening, listen to a local radio or television station. The National Weather Service tracks weather systems with radar and can usually give adequate warning of severe weather conditions.

Remember, a tornado **watch** means that conditions are right for a tornado. Be prepared to take shelter and keep informed of the latest storm conditions. A tornado **warning** means that a tornado has been sighted and confirmed in the area. When a warning is issued, take cover immediately.

Abandon mobile homes or cars and find cover in a well-constructed building. If no suitable buildings are nearby, lie flat in the nearest ditch, ravine or culvert, with your hands shielding your head.

In shopping centers or large buildings, look for a designated shelter. The next best place to be would be the basement or a location in the middle of the building, behind an interior wall, or on the lowest floor. Stay away from large windows or other glass.

Severe storms are frequently accompanied by lightning, which can also be a killer. To avoid lightning hazards, find shelter and avoid standing in small, isolated structures in open areas. Do not use the telephone except for an emergency.

If you are outside, do not stand underneath a natural lightning rod, such as a tall isolated tree in an open area. Avoid projecting above the surrounding landscape, such as by standing on a hill-top, in an open field, or on the beach, or by fishing from a small boat.

Stay away from open water, tractors and other metal farm equipment, motorcycles, scooters, golf carts, and bicycles. Put down your golf clubs and remove metal-spiked golf shoes. Also keep away from wire fences, clotheslines, metal pipes and rails, and other metallic paths that can carry lightning to you from some distance away.

In a forest, seek shelter in a low area under a thick growth of small trees. In open areas, go to a low place, such as a ravine or valley. Be alert for flash floods. Flash flooding should be expected as a result of a thunderstorm or during periods of exceptional rainfall.

In many parts of the country, thunderstorms with flash flooding, lightning, and tornadoes are to be expected during the spring and summer months. You cannot do anything to prevent these weather hazards, but you can prevent or reduce resulting injury to yourself and your family.

How? Share the meaning of weather watches and warnings with them. Have an emergency preparedness plan and review it regularly.



SAFETY TOOLBOX TALKS



SAFETY TOOLBOX TALKS

EYE & FACE



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CARING FOR YOUR PRICELESS CAMERA

I'm sure any of you who owns an expensive movie or video camera takes really good care of it. You wouldn't drop it on the sidewalk, wipe its lens with sandpaper, splash acid on it, or toss it into a bin full of objects with sharp edges. That's just common sense. Why, then, do some workers treat their personal cameras—the irreplaceable eyes—as if they were less valuable than the man-made imitations?

Eyes must be protected because there is no substitute that can take their place once they are destroyed or severely damaged. The cornea that shields the eye is capable of out-performing the best optics ever produced, but it is paper-thin and delicate, so must be safeguarded diligently.

The first commandment of eye protection is having your vision tested, particularly if it is at all blurred or foggy. Other signs of trouble are double vision, loss of side vision, and inability to adjust to reduced light. If you need prescription lenses, make sure they are shatter resistant, get properly fitted frames of a recommended type for maximum protection, and wear the glasses faithfully. (Do not wear contact lenses while working; they won't protect your eyes from flying particles or a chemical splash.)

Be sure to have your vision rechecked periodically, since an outdated prescription can distort your vision. So can scratched lenses or, in the case of bifocals, frames that slip out of position so that you're looking through the wrong lens for the distance.

Even if you don't need glasses for reasons of vision, you should follow the second commandment of eye protection: Be sure to wear special safety glasses or eye shields whenever work hazards require them. Here are some other tips on how to save your precious sight:

- If you must remove your glasses while working, turn the machine or tool off first.
- Never wear cracked, pitted, or otherwise damaged glasses or goggles; turn them in for a new pair.
- Avoid looking directly into any source of brilliant or potentially harmful light unless your eyes are shielded.
- Wipe your face and eyes with clean hands only, to avoid transferring any particles of dirt or other material to the eyes.
- If something does get into the eye, do not rub it; get the proper first-aid or medical treatment as quickly as possible.
- If your eyes are burned by heat or chemicals, flush immediately with cool water for several minutes. Keeping the eyes open to the soothing and diluting water may be somewhat uncomfortable, but it can help save your sight.

It does not, however, take the place of medical attention; you must seek that as well.

- If you feel your eyes straining, relax for a few minutes. Try closing your eyes, or focusing on something at a distance farther away than usual. Look away from your computer screen and out the window, for example, or across the floor from your machine (after you've turned it off, of course). On break, try holding a clean cloth wet with cool water gently over your closed eyes.

Perhaps you have some other ideas to share on things we can do—or avoid doing—at work and at home, to protect those priceless, irreplaceable cameras, our eyes.



SAFETY TOOLBOX TALKS

EYE & FACE



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EYE PROTECTION

Your eyes are important in almost all your activities, and because eyes come only one pair to a customer, they deserve all the care and protection you can give them. What actions can you take to protect the eyes that are so important to your happiness and well-being?

The most important thing you can do is to wear the eye protection we require when there is a danger of flying particles, dust, or harmful liquids getting into your eyes. Those of you who wear eyeglasses may think they offer enough protection against any eye hazards you may encounter. Think again! On impact, regular lenses tend to shatter more easily. Safety lenses may shatter, but they require a much greater impact.

Various types of eye protective devices have been designed, including safety glasses, goggles, and full-face shields. Their uses differ according to the type of work. That's why OSHA requires that the specific hazards of a workplace be analyzed to determine just which types of protective equipment are appropriate.

That's how the type of eye protection we require was selected. But that's only the first step. The next step is the one you take—wearing it. You never know when an accident will occur, and sight was never saved while safety glasses were worn on the forehead or carried in the pocket.

Contact lenses should not be worn any place there is a chance of foreign matter, especially harmful liquids, entering the eyes. Liquids can get trapped under a contact lens. Frequently, before a lens is removed and the eye is flushed with water, delicate eye tissue has already been damaged. You may think you don't look good wearing goggles or safety glasses, or that you look your best only with contact lenses. You shouldn't allow these thoughts to interfere with eye safety, because you are exposing yourself to the possibility of an accident that could blind you.

Detection and correction of vision problems can also prevent eye injury by preventing accidents, because you need good eyesight to perform your job efficiently and safely. Periodic eye examinations are a must, because they are often the only way people learn that their vision is defective. That can happen because defects may develop so gradually that changes go unnoticed.

So you should be sure to have your eyes examined and your vision tested annually. If you are more than 40 years old, this examination should include a test for glaucoma, a condition of increased pressure in the eyeball, which is responsible for a large percentage of blindness in adults. If defects are found, steps can be taken to correct them. With clear vision, you will be able to spot and correct or avoid hazards in your environment.

Adequate illumination is also necessary if you are to perform your job safely. We believe that's what we have provided, but by all means report to your supervisor if you think lighting is inadequate or if light bulbs or fluorescent tubes need to be replaced.

Don't risk losing one of your most precious possessions, your eyesight. Wear the required eye protection when needed and encourage others to do the same. If an accident happens, you'll be very glad you did.



SAFETY TOOLBOX TALKS

EYE & FACE



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FOUR EYES—SAFE EYES

On some of the jobs in our department, we have to wear eye protection of some kind. For each of these jobs, a certain kind of eye or face protection is needed. When you learn your job, you learn what kind of eye protection you must wear.

But that knowledge isn't enough. For example:

- You know that ultraviolet and infrared radiation from welding can harm your eyes, and you know that there are filter lenses in welder's goggles and helmets that protect you from the radiation.

So if you're doing the welding yourself, you aren't likely to forget to wear your helmet. But it's just as important to wear eye protection if you are only helping or are close enough to the area to be exposed to the flash. If you don't wear the helmet, or if you keep the goggles on your forehead, you aren't protected.

- You know that it takes just one particle from a grinding wheel to ruin your sight. You know that one splash of a corrosive chemical can rob you of your vision permanently.
- No one wants to lose his eyesight or have it damaged. But sometimes we make excuses to ourselves for not using the required protection:
 - The glasses fog over and are hard to see through;
 - Helmets and hoods are warm and uncomfortable;
 - That wheel won't break; the chemicals won't splash.

But chemicals do splash, and wheels do break. Only one accident is all that is necessary; the damage is done.

People frequently make other excuses for not wearing their goggles or other eye protection. They say goggles are too heavy. But are they really? Goggles usually weigh only a couple of ounces more than ordinary glasses, although they are many times stronger.

People say goggles fog up, and they do. But that problem can be easily taken care of.

[Note: This is an appropriate place to inform employees what the company provides or suggests for taking care of this problem.]

Other people complain that goggles get dirty. Of course they do. But when you consider the protection they give, you'll probably agree that the few minutes a day it takes to keep them clean are minutes well-spent.

Another reason often given for not wearing goggles is that they cause headaches. This signals a probable need for prescription glasses—a definite need for an eye test.

Perhaps the worst excuse is that the job will take only a few minutes, so it is unnecessary to put goggles on. Perhaps the job does take only a minute, but so does an accident.

So wear your goggles and other eye protection as you have been instructed. Make sure they fit, and they can be fitted so that they will be comfortable.

There's one more thing you should always keep in mind when it comes to protecting your eyes; if you get something in your eye, don't try to treat it yourself.

Get first aid right away!



SAFETY TOOLBOX TALKS

EYE & FACE



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OH, SAY, CAN YOU SEE?

Those of you who have been aboard long enough to attend many of these safety talks have heard more than once about protecting your eyes when you're performing any task that puts them at risk of injury.

We all know that eyesight is precious and that life without it can be tragic. But somehow, it is difficult for people to realize that destroyed or damaged vision is not something that happens only to other people. It can happen to themselves—as quick as a wink—and so eye protection is not something to gamble on.

Thousands of men and women have lost one eye, or both, while performing some operation—either on the job or at home—that they considered safe enough without eye protection. Flying nails, broken bits of glass or tools, splashing chemicals, particles of abrasive dust—these are among the many substances that have stolen people's sight.

Years ago, it was common to see a worker wearing a black patch to cover an empty eye socket. When glass eyes were developed, they began to be seen more frequently than patches. As they became more realistic looking, they improved the person's appearance but no longer served as a warning about the vulnerability of one's eyes.

Nowadays, eye patches are a rare sight and often indicate only an infection or some minor injury, such as a scratch, that will heal without permanent damage to the eye. Glass eyes, too, are seen less often since rules were passed requiring eye protection to be provided and worn on the job when a potential hazard is present.

And make no mistake about it, the hazards have not disappeared along with the patches. They are still here and still serious threats. That's why we continue to deliver the message of this session, so that none of us will have the sad experience of those who neglected to protect their irreplaceable eyes.

Safety glasses will never do the job they were intended to do if they are raised up on a forehead, hanging around the neck, tucked into a pocket or lying in a toolbox or locker. When some damaging object or substance comes flying toward the eyes, it's too late to make a grab for safety glasses or a face shield. And when your sight is destroyed, it's gone forever. There are no spare parts to replace it. Sure, you can still get a look-alike eye—but not a see-alike eye.

Can you see why we continue to stress the importance of wearing your eye protection, and why our discipline policy will be applied to those who refuse to guard their eyesight with the protection provided?



SAFETY TOOLBOX TALKS

EYE & FACE



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SECOND SIGHT

How much do you really see? Only what your eyes look at? Or do you also see with your imagination, knowledge, and experience?

Consider that you are about to sharpen a tool on a grinding wheel. You see that the protective eye shield on the grinder has loosened and is out of place. Is that all that you see?

If you are looking with your mind's eye, you will also see:

- The possibility of a tiny chip striking your eye, or the eye of the next worker to use the wheel
- The need for wearing safety goggles as well as reporting the need for getting the shield fixed
- An image of yourself with a black patch over one eye, or with one glass eye
- The difficulty of working or driving your car when one of your eyes is sightless

When tempted to take such a risk, by failing to use personal protective equipment when it is warranted, take a second look into the twilight zone of what could happen as a result. Then let that second sight guide you to the sensible, safe decision.

Eye protection is not merely a matter of using safety glasses or goggles when specified on certain jobs. The exercise of good judgment is also important in dictating when eye protection is appropriate even if not required.

When you are engaged in work in which there is a danger of flying particles or liquids, eye protection is specified. And when the wearing of personal protective equipment of any kind is required by management, you risk not only injury but discipline by not doing so.

People often complain that wearing safety goggles is a nuisance, or is uncomfortable. But here's one of those situations in which you should take a second look. If there is any discomfort caused by the use of eye protection, remember that it is temporary. Loss of vision, on the other hand, is permanent.



SAFETY TOOLBOX TALKS

EYE & FACE



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SOS— SAVING OUR SIGHT

Few things can be more frightening than the prospect of permanent blindness. Yet, workers take risks with their eyesight every day. Half of all eye injuries occur on the job, and in 9 out of 10 cases, the workers weren't wearing any eye protection. The rest had relatively minor injuries.

Many materials in the work environment are potentially hazardous to our eyes: chemicals, radiation, metal fragments, particles, and tools. But proper eye protection can help eliminate these accidents and save our sight.

That is why those of you whose work involves any risk of encountering those hazards are required to wear the appropriate eye protection. It's also why failure to wear the required protection will bring first a reminder, then a warning, then a reprimand in your record, and ultimately more severe discipline. Those actions may be annoying or distressing—but hardly as much so as losing your eyesight would be.

You've seen that I wear my own protective glasses when I visit or walk through an area where dust or chips may be flying. So should you.

SAFETY EYEWEAR

There are several options in protective eyewear, depending on the particular job and its hazards—glasses, goggles, helmets, face shields, and so on. Safety glasses with side or cup-type shields provide better all-around protection than those with just frontal lenses. For very hazardous jobs, goggles, helmets, and face shields should be worn together with safety glasses. Face shields should never be used alone.

If you wear regular glasses, don't assume that because they are impact-resistant, they will adequately safeguard your eyes. Industrial safety eyewear must meet stricter standards. Made of optical quality glass or plastic, it can have the wearer's prescription ground right in. Lenses in worn condition are less resistant to impact, so scratched or pitted eyewear should be replaced as soon as possible.

Contact lenses offer no protection to the eye. They can often be worn along with safety glasses, with these important exceptions: jobs or work areas that involve exposure to chemicals, vapors, splashes, radiant energy, intense heat, molten metals, or an extremely dusty atmosphere.

FIRST AID

Despite our best preventive efforts, occasional accidents can occur. And our response can determine whether permanent injury results. Here are some "worst-case" scenarios and what should—or shouldn't—be done.

- A hazardous chemical splashes into your eyes. Flush them with water immediately, forcing the eyelids open. Continue flushing for at least 15 minutes. Seek emergency medical help quickly.

- A speck gets in your eye. **DON'T RUB IT!** Carefully flush out the speck by lifting the upper eyelid outward and pulling it down over the lower lashes. If it won't wash away, get medical assistance.
- You suffer a blow to the eye. Use a cold compress to keep the pain and swelling down. If pain persists and there is any discoloration or reduced vision, seek medical help.
- Something sharp cuts or punctures your eye or eyelid. **DO NOT** wash it with water, or try to remove an object stuck in the eye. Bandage lightly and see a doctor at once.

Remembering these preventions, precautions, and prescriptions can provide the answer to our “SOS” and Save Our Sight.



SAFETY TOOLBOX TALKS

13. FALL
PROTECTION



SAFETY TOOLBOX TALKS

FALL PROTECTION



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PERSONAL FALL ARREST SYSTEMS

OSHA says you need fall protection when working with unprotected areas where you can fall 6 feet or more. Guardrail systems are one common form of fall protection. Controlled access zones and safety monitors are also used to identify fall hazards and prevent falls.

Sometimes these passive types of restraints are not adequate to protect workers. Then workers must wear personal fall arrest systems, which usually consist of a harness whose straps attach near the shoulder or over the head, a lanyard, a lifeline or deceleration device to connect the harness to the anchor, and a strong, fixed anchor devoted only to that purpose.

This equipment limits a worker's free fall, goes into action before the worker can hit the ground or lower surface, and brings the wearer to a complete stop. OSHA also says that employers must assure employees asked to wear harnesses that they can rescue themselves in a fall or have aid readily available.

Harnesses must be able to stand up to the weight of the individual and have self-locking snaphooks that will not open accidentally. The personal fall arrest system must bring the wearer to a complete stop before he or she makes contact with the ground or lower surface.

The anchors must be able to support 5,000 pounds per attached employee (the stress of a falling body) and be used only for that purpose. That means you can't attach a harness to a guardrail, hoist, or anything used to support or suspend anything else. Can you think of some examples of good places for anchorages for personal fall arrest systems in your workplace?

Lifeline ropes and lanyards must be made from synthetic fabrics that won't rot or deteriorate. They should also be able to withstand any chemicals, such as acids, that are used in that work area.

Safety net systems are another form of fall protection. To catch a falling worker, OSHA says nets must be as close as possible to the walking surface, extend out 8 to 13 feet from the edge of the working area, and handle a drop of 400 pounds without touching the surface below.

SAFETY PRECAUTIONS

Since falls are so dangerous, take the time to follow these precautions with your fall arrest systems:

- Inspect harnesses before every use and nets and roping at least once a week.
- Turn in any equipment that may be damaged or defective.

- Check lifelines and lanyards for knots or for signs of wear.
- Avoid tying off to rough or sharp anchorages.
- Don't use harnesses to hoist up material.
- Wear a tool belt or apron. Don't carry tools in your hands.
- Remove fallen materials or tools from nets after every shift.



SAFETY TOOLBOX TALKS



SAFETY TOOLBOX TALKS

FIRE EXTINGUISHERS



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THE ABCDs OF FIRES AND EXTINGUISHERS

Even in a facility where the basics of fire prevention are understood and followed, an unexpected fire may nevertheless occur. When that happens, people may panic because they don't know the proper firefighting procedures and equipment. We don't want that to happen here.

Your first response, of course, must be to set off the alarm. The second is to leave the area if the fire is too big to handle. To deal with a small fire, you must know what class it belongs to, based on the kind of material that is burning. Using the wrong type of extinguisher, or using one improperly, could result in additional property damage and injury. We have already taken the first step toward avoiding such mistakes by placing the proper types of extinguisher in each area of the facility according to the materials used or stored there.

CLASS A FIRES

Fires of this type consist of ordinary combustibles, such as wood, paper, or cloth—and can be put out with water. Get as close to the fire as possible without endangering yourself, and aim the nozzle toward the base of the flames. Continue spraying until all smoldering material is wetted down. Deep-seated fires, such as in baled materials, must be thoroughly soaked and may have to be pulled apart to reach smoldering matter inside.

A multipurpose dry-chemical extinguisher can also be used on class A fires. Attack at the edge of the fire, directing the nozzle in a sweeping motion. The powdered chemical becomes sticky when heated, allowing it to form a film that clings to the heated material and smothers the fire.

CLASS B FIRES

Fires that burn flammable liquids, such as oil, gasoline, solvents, and paints as their primary fuel are Class B. Dry-chemical extinguishers are the type usually used—starting about 10 feet away from the fire and slowly moving closer, applying the substance from side to side near the fire's base. Carbon dioxide extinguishers are also effective on flammable-liquid fires. You must use this type near the edge of the fire at close range in an enclosed area where no wind or draft exists. Fires can spread with the presence of oxygen, but carbon dioxide decreases the amount of oxygen surrounding the fire until the air can no longer support the combustion.

CLASS C FIRES

These are fires in energized electrical equipment. Water can't be used, because it conducts electricity and can deliver a shock to the firefighter. If the equipment can be de-energized, extinguishers for Class A or B fires may be safely used. Otherwise, carbon dioxide and dry-chemical extinguishers are best. Carbon dioxide is nonconductive and noncorrosive and leaves no sticky film, making cleanup easy.

CLASS D FIRES

Class D fires involve combustible metals, such as magnesium, titanium, zirconium, sodium, lithium, and potassium. Special dry-compound powders, such as powdered graphite and sodium chloride, powdered talc, soda ash, and limestone, are made to extinguish these fires. In case of emergency, dry sand can be used.

EXTINGUISHER TYPES AND LABELS

Different types of extinguishers are labeled according to the class of fire they are to be used on: type A on Class A fires, and so on. Some type A and B extinguishers add a number to indicate the size of fire they can handle, with “1” representing the smallest. Types C and D do not have numbers. Some “Combination Class” extinguishers (ABC, BC) can be used on more than one class of fire.

[Tip: Ask workers to say what extinguisher type(s) their work areas should have.]



SAFETY TOOLBOX TALKS



SAFETY TOOLBOX TALKS

FIRE PREVENTION



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CAUTION—GASOLINE!

You're all familiar with the old story about the guy who couldn't see if his gasoline tank was empty, so he lit a match ... you know the rest, and you know it's not a happy ending.

When this kind of accident first took place, the victim was pitied—but also considered pretty darned stupid. Yet even today, after hundreds of tragic incidents and warnings, virtually the same accident is still relived many times a year.

For instance, the only difference between a Molotov cocktail and a harmless container of gasoline is the state of mind of the person using it. Smoking or careless use of matches often turns a can of gasoline into a ball of fire.

Maybe these things bring to mind some unsafe acts you've been involved in when using gasoline. Maybe you thoughtlessly refueled a lawnmower without letting it cool first, or you left gasoline-soaked rags on the floor or piled in a corner. Let's face it—doing any of these things is just pushing our luck.

You're probably aware that it's the gasoline vapors that burn and not the gasoline itself. The vapors, which are heavier than air, can collect in low areas. For this reason, basements, pits, and sumps should be kept well-ventilated if gasoline is being used in the area.

Gasoline should be kept in an approved safety can that should be properly identified as to its contents. Any other flammables should also be marked so as to distinguish between them. Mixing of flammable liquids should be avoided, and never put flammables in a soft drink bottle or food container.

There are many ways gasoline can be ignited accidentally. A few of these sources of ignition are: open flames and open lights, hot surfaces, sparks resulting from contact of metals, operation of electrical equipment, and discharge of static electricity. Smoking and matches, of course, are also common ignition sources.

In addition to the threat of fire, certain toxic effects may result from inhaling gasoline vapors. In large amounts, these can irritate mucous membranes and can also cause dizziness and headaches. Furthermore, gasoline contains benzene, which is a carcinogen.

Now, let's go over the basic safety rules concerning gasoline.

- First and foremost, there should be no smoking, spark sources, open flames, or open lights in areas where gasoline is used.
- Gasoline should not be used for cleaning purposes. This applies to cleaning hands, equipment, clothing, and similar substances. A nonflammable or nontoxic solvent should be used instead.
- Gasoline should be kept in approved containers and clearly identified.
- When fueling equipment, make sure that the engine has stopped and that all lights are out. If the area around the tank opening is hot, wait until it cools.

- Don't do a sloppy job of pouring. Keep the hose nozzle or can spout in constant contact with the rim of the tank opening. If you spill more than a few drops, flush it away immediately.
- It's a good idea to keep only the amount of gasoline that you need during your particular shift at your job site. Any that's left at the end of the shift should be returned to the designated storage area.
- Just as flammables should be kept in the right containers, it is important to place cloth, paper, and other gasoline-soaked wastes in approved disposal containers, which are usually metal.

Gasoline is important to our way of life. We see its importance in running our automobiles, boats, lawnmowers, and many other things. So let's keep it working for us, not against us. Treat it with caution, and follow the safety rules we've just covered.



SAFETY TOOLBOX TALKS

FIRE PREVENTION



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DIRTY SECRETS ABOUT TRASH

No one likes to think about garbage; but if not handled properly, it can contribute to a fire that can burn your whole operation down. In one case, a fire broke out in a metal dumpster on an unsprinklered loading dock. Flames spread into the building, causing over a half million dollars' worth of damage.

To eliminate a fire hazard, you don't have to eliminate trash altogether. What you must do is protect against the hazards that trash may cause. Follow these tips, provided by fire safety experts:

- Provide automatic sprinkler protection for all waste storage and handling areas.
- Segregate waste storage and handling areas from other operations by installing fire cut-offs.
- Restrict the amount of waste on the premises by frequent and regular disposal. Don't store loose trash or let it overflow its containers.

PORTABLE TRASH CONTAINERS

Special care must be taken with portable trash containers, both inside the building and outside:

Outside containers: Dumpsters usually contain a concentration of combustibles. They are easy to ignite and are susceptible to arson.

- Cover containers and locate away from buildings.
- Don't put containers against a wall, unless it is of blank masonry construction with a minimum fire resistance rating of one hour.
- All docks should be sprinklered and have automatic fire doors at dock openings.

Inside containers: These should be closed and placed in a protected cutoff area that is sprinklered.

- Avoid discarding materials that could generate toxic or corrosive fumes when they burn, such as rubber, foam plastic, aerosol containers, PVC wiring insulation, etc.
- Segregate from other areas with a fire wall with a minimum two-hour fire resistance rating.



SAFETY TOOLBOX TALKS

FIRE PREVENTION



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DON'T GET BURNED!

Almost one-quarter of all burns reported during a year happen on the job. Contact with hot surfaces, hot vapor, or hot liquids is the most common cause of thermal burns—burns caused by heat itself.

Electricity causes burns of two types. Clothing can ignite or electricity can arc resulting in one type of burn from electricity. Another type of electrical burn occurs when the electrical charge passes through the body, leaving entry and exit burn wounds and, sometimes, damaging internal organs.

Flash burns to the eye are also common. Welders and employees working near a welder can suffer flash burns when no eye protection is worn. If there is constant exposure to an intense light source of this type, there may even be permanent damage to the eyes.

Ultraviolet energy, certain types of microwave energy, lasers, and some chemicals can also produce burns and should be treated with caution.

Burns can be prevented, provided proper care is exercised. If you work around heat, electricity, or chemicals that burn, you must be especially cautious in those areas where there is danger. Stay as far away from heat or other burn sources as possible and walk on the appropriate pathway. Don't ignore your personal protective equipment, if you know that you should wear the equipment.

Burns are real, they are serious, and they can happen to all of us. If we are careful and take our training to heart and follow the rules of the workplace, we can remain safe.

If you or your clothing catch fire, STOP, DROP, AND ROLL!

If you or someone else has a burn, how should you treat it? It's a Matter of Degree

First Degree

- Reddened skin

Cut away loose clothing.

May immerse in cold water for relief of pain. Avoid rubbing the body. Do not break blisters.

Second Degree

- Reddened skin
- Blisters

After soaking, cover the burned skin with a sterile dressing. Don't use ice, lotion, or ointment on a burn.

Third Degree

- White skin
- Charring
- Tissues damaged

Get medical attention. Don't remove clothing stuck to the burn. Observe for signs of shock.

If it's a burn from a chemical splash:

- Flush with water for at least 15 minutes, providing the chemical is compatible with water.
- Carefully remove the contaminated clothing. If someone has inhaled smoke:
- Rush the person to fresh air immediately!



SAFETY TOOLBOX TALKS

FIRE PREVENTION



EC-11

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EXPLOSION PREVENTION

You see them on the evening news and the destruction they cause—industrial explosions. You must be aware of substances and conditions that could cause such explosions at your workplace and the basic precautions to follow to prevent them.

EXPLOSIVES

Because explosives like dynamite and blasting caps can go off accidentally, OSHA has detailed storage requirements for them that require separate buildings or areas to keep them away from the main worksite.

Explosives should not be exposed to heat sources or stored where heat can build up in the air or the storage containers. The storage area must be kept clean and well ventilated.

Follow the material safety data sheet (MSDS) instructions for avoiding contact of explosives with incompatible substances.

FLAMMABLES

Flammable substances can explode if they are stored or handled incorrectly. An increase in pressure or temperature can increase the explosion risk. Always check the MSDS when working with flammables to check for the explosion potential. The MSDS will tell you the flash point of the substance, which is the lowest temperature at which a flammable liquid's vapors can ignite and possibly explode.

Always use grounded containers when transferring flammables. Dispose of flammable waste properly and clean up any spills correctly.

OTHER HAZARDS

Always check the MSDS to find out if a chemical is an incompatible substance that may explode if mixed or stored with other particular substances. Materials that could explode should be used and stored only in approved containers.

Be alert to these other factors that can cause explosions:

- Use of electrical equipment that is not grounded or approved for use around explosives.
- Overheated, poorly maintained, or sparking machinery.
- Static electricity sparks from tool or machine friction.
- Confined spaces with inadequate ventilation.

- Buildup of dusts in silos or similar areas.
- Stuck boiler relief valves.
- Oil leaks soaking into flammable materials.

REACT QUICKLY TO THREATS OF EXPLOSION

Know what could explode in your work area and under what conditions. Follow all handling and storage precautions to prevent the worst from happening. Immediately report any problems you find.

If you feel an explosion is about to happen or does happen:

- Leave the area immediately and tell others to get out. Follow your assigned evacuation route.
- Call in an alarm.

Don't try to be a hero and fix it yourself. Let professionals handle the situation.



SAFETY TOOLBOX TALKS

FIRE PREVENTION



EC-11

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FIRE SAFETY

You've often heard or read about the basic rules for fire safety—both here at work and in magazine features and public service spots on TV and radio.

When messages are repeated often, like the commercials that interrupt our viewing, we tend to become indifferent to them, or possibly even annoyed. So we're likely to tune out—maybe doing a little surfing with the remote, or maybe taking a refreshment break or making a pit stop. But safety messages are repeated because they are of vital importance. Shutting them out can contribute to accidents and injuries, whether at home or on the job.

That's why you find us devoting more than one safety training session on serious workplace hazards like fires—which is our topic again today.

CAUSE AND PREVENTION

For a moment, let's review the leading causes of industrial fires. Number one on the list is electrical failure or misuse of electrical equipment. Next are friction, foreign substances, open flames, and then smoking and matches. What can we as employees do to combat these hazards?

[Tip: First give workers the chance to respond, and then fill in any gaps. All of the following should be mentioned.]

Here are a few important things each of us can do—at work or home:

- Be careful not to overload electric circuits.
- Watch out for—and do not use—frayed electrical cords, or tools that are damaged or that spark.
- Keep mechanical equipment properly lubricated to avoid excessive friction.
- Keep spark arrestors on exhausts.
- Keep combustible materials in a safe area.
- Keep flammables and any ignition sources (furnace, stove, electrical equipment, lit cigarette) far apart. (Fumes from paint, solvents, etc. can drift out a considerable distance to become ignited.)
- Dispose of flammable wastes and scrap in metal containers.
- Never dispose of flammable liquids by pouring them down the drain. Use the method we've provided.
- Comply with the company's rules about smoking.

Not every one of these reminders pertains to everyone's job. But it is part of everyone's responsibility to keep their eyes open for safety hazards. When you spot one, either correct the situation yourself or report it to whoever has the proper authority to take care of it.



SAFETY TOOLBOX TALKS

FIRE PREVENTION



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FLAMMABLE LIQUID HAZARDS

October is designated as Fire Safety Month by the National Fire Protection Association. What better time to give a safety talk on flammable liquid safety—a major factor in fire prevention.

Use the following information to tailor a safety training session to your own workplace. Bring in samples of different types of flammable liquids in their containers to the meeting. Review the appropriate material safety data sheets (MSDSs) and labels. Rehearse emergency procedures to use during a spill or explosion.

SAFETY TALK

Flammable liquids are found in almost all workplaces. Who hasn't worked with solvents, cleaning fluids, spray paint, and fuels? However, it's not the liquids that we need to worry about—it's their vapors.

Flammable liquids evaporate very quickly and form dangerous vapors that burn at relatively low temperatures. The vapors are heavier than air and lie close to the ground. They are especially dangerous because you can't see or smell them. That's why handling, storage, and disposal activities must be done carefully to prevent ignition.

Common sense will tell you never to smoke, cut, or weld near flammable liquids. But even a tiny spark from static electricity can make the vapor explode. Faulty electrical equipment, a spark from a light switch, high temperatures, or poor ventilation can also set off an explosion.

LEARN ABOUT THEM

Before you use any flammable liquid, check the labels on the container. Then look at the MSDS as it will contain helpful information on handling, storage, disposal, first-aid, and emergency procedures. Make sure you use the personal protective equipment recommended by the manufacturer.

AIR IT OUT

The best way to avoid a buildup of vapors in the air is to thoroughly ventilate the work area. Make sure there is enough fresh air to clear the vapors out. The workplace surrounding the work area should be sealed off or ventilated as well. The work area should also have special spark-proof light switches and fixtures.

The same principle of ventilation applies to empty drums that once contained flammable liquids. All it takes is a few leftover drops to form an explosive mixture with the air in the drum. Never do repair work or weld on a drum without steaming it out first.

HANDLE WITH CARE

Special procedures must be used when transferring flammable liquids from one container to another. You want to avoid static electricity during this process, so make sure the drum containing the liquid is grounded. Then connect the drum to the transfer container with a bonding wire.

Flammables should always be kept in approved safety containers that have vapor-tight caps and flame arresters. Make sure the containers are labeled and in good condition.

Always store flammable liquids in a well-ventilated, temperature-controlled area.

DISPOSAL

Read the MSDS to find out how to safely dispose of the flammable liquid. Don't just pour it into a drain, sewer, garbage can, or onto the ground. If you spill any on yourself, follow proper procedures for decontamination.

BE PREPARED

If, despite all of your precautions, a spill occurs, you should know what to do, the location of the correct fire extinguisher and how to use it, and whom to notify in an emergency.



SAFETY TOOLBOX TALKS

FIRE PREVENTION



EC-11

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HELP PREVENT WORKPLACE FIRES

Fire! The word is a scary one because fires are very frightening. In our workplace, management has done its best to eliminate fire hazards and to protect life and property if a fire should break out. But the company also relies on each one of you each day to help prevent a company fire disaster. Here are some ways in which you can do your part.

THE WORST CASE

Let's begin at the end, with the most important warning of all: if there is a fire, pull the fire alarm nearest you and exit the building. If you are on an upper floor, *do not take an elevator*, but use a stairway. Elevators will usually cease to operate during a fire, and many people who have tried to flee by elevator have died from heat, smoke, and deadly gases.

Do you know exactly where at least two exits close to your work area are? If not, locate them today, as soon as this meeting is over. Learn them so well that you could reach them in the dark, because the smoke from a fire may be so thick that no one will be able to see the route to the exit. In the event of a serious fire, remember, you will have to crawl on your hands and knees to an exit in order to find breathable air and to escape some of the heat.

PREVENTION IS THE 'CURE'

It should never come to that, however, if every one of us is careful and understands how fires start. *You can stop a fire by not causing one.* Preventing fires begins with following safe storage practices, as they are set out in company safety rules. For instance, flammable liquids must be put back in their assigned place, never in a more convenient spot to be returned for safekeeping later on. Later on may never come. Store them where they belong now.

The same rule holds true for oil- or solvent-soaked rags. Don't just drop them wherever you are when you stop working; place those rags in the proper metal container with a self-closing lid.

And whatever hazards are around—and there are bound to be some in a normal, active workplace—remember to follow the smoking rules exactly as set forth by the company. If you think "Oh, it doesn't matter as long as no one's around to see me," you are mistaken—and it may be your last mistake.

Fires are also caused by carelessness with electrical appliances. If you plug something in and it smells as though it may be starting to burn, disconnect the unit at once and report a malfunction. Every time you prepare to plug in a tool or machine, check the cord. If a cord is cracked or frayed, don't use the tool or machine—turn it in or report it for repair instead.

More fires start during winter than at any other time of year. This is because heaters are often used in an unsafe manner. Any heater used in your work area must be placed so that it cannot be tipped over and must be kept out of walkways and away from flammable materials. Never leave the heater turned on when your shift is over. Don't just turn it off, either, but pull the plug so that it won't go on automatically when no one is there. Let the next shift plug the heater in themselves, so that they realize it is on and has to be watched.

JUST IN CASE...

Always keep aisles and exits free of obstructions. If a fire does occur despite precautions, you must be able to get out quickly without falling over boxes and machinery. Also, keep doors to enclosed stairways closed because an open door can cause extra danger during a fire, by letting smoke into the stairwell and making it difficult to escape.



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FIRE PREVENTION



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LEADING CAUSES OF INDUSTRIAL FIRES

Just as you learn about fire safety and escape procedures, OSHA also requires that you learn about the potential fire hazards in your work areas.

Some common causes of industrial fires workers should be aware of are:

ELECTRICAL FIRE HAZARDS

Defective wiring is a major cause of industrial fires. Watch out for worn extension cords, exposed wiring, and broken power tools or equipment.

Avoid overloading circuits or outlets. Report all defective wiring or equipment to your supervisor and stop using it. Never try to fix it yourself!

Also, keep electric motors and machines free of dust and grease.

FLAMMABLE LIQUIDS

Solvents, paint and paint thinners, gasoline, and alcohol-containing substances all ignite easily at the slightest spark—or even by static electricity. They should be stored in OSHA-compliant and approved safety containers in well-ventilated areas not near any heat source.

Ground containers when transferring materials to safely discharge static electricity.

Spills should be cleaned up immediately. Spray painting should be confined to special fireproof booths.

COMPRESSED GASES

Compressed flammable gases have flash points below room temperature, so even small leaks of these materials can ignite. Don't expose cylinders to temperatures over 50 degrees C (122 degrees F). Don't extinguish a flame involving a flammable gas until the source has been turned off—it can easily re-ignite.

HOT WORK

Welding and cutting operations generate heat, sparks, and slag. Make sure you wear fire-resistant protective clothing when welding or cutting. Follow the precautions listed on hot work permits.

Weld only in areas with fire-resistant floors or use protective shields. Catch slag in containers of water or sand. Protect open doorways or windows with a fireproof curtain.

Relocate combustibles, such as trash cans, to at least 35 feet away from the welding. Designate a fire watch to look out for stray sparks or lingering fires. Keep fire fighting equipment nearby.

SMOKING

Many companies have banned all smoking from the premises. If you are still allowed to smoke in designated areas, make sure that there are adequate ashtrays or butt cans and that smoking rules are posted and enforced.

HOUSEKEEPING PRACTICES

Sweep up dust, lint, sawdust, and scraps. Dispose of combustible waste—such as oily rags—in covered, airtight containers.

Keep work areas clean and uncluttered by trash and cartons, especially around machinery, stoves or heaters, and other appliances.

Use nonflammable cleaners. Keep incompatible substances away from each other.

Stack materials so they don't block sprinklers or exits.

ARSON

Be aware of the possibilities of arson in your workplace. Arson has increased dramatically over the last decade, particularly at strike-bound plants or companies engaged in controversial activities.

Although arson may be directed at buildings or goods rather than people, it can still cause the deaths of workers or firefighters. The prime targets for starting set fires are shipping docks, outside areas where pallets or piles of cardboard are stored, or warehouses with costly goods.

Report anything that looks suspicious—after all, your job—and your life—may be at stake.

SAFETY TOOLBOX TALKS

FIRE PREVENTION



EC-11

MILLER ELECTRIC COMPANY

"Quality Service Since 1928"

THE SAFEKEEPING OF FLAMMABLE LIQUIDS

One of the most important methods of fire prevention is the safe and careful handling of flammable liquids of various kinds. One part of that safe handling is the use of special containers with four characteristics that make them safe. The four characteristics are leak-tight, corrosion-resistant construction, a self-closing cover, a flame arrester, and a venting device.

Construction. This is probably the most obvious requirement for safety cans. To prevent leaks, the containers should be lap-joined at seams and electrically welded into final position. Terneplate or stainless steel will provide adequate protection against corrosion.

Self-closing cover. This seals air out of the can and prevents fire from spreading if ignition should occur inside. Such covers are activated by either gravity, spring action, or a fusible link mechanism, depending on the work situation. Portable safety cans usually have spring-action covers, which are operated by hand pressure. The cover should also prevent leakage even when the can is inverted for dispensing the liquid.

The flame arrester. The purpose of this device is to contain possible places of ignition, thus keeping excessive heat from reaching the stored flammable liquid. The flame arrester absorbs and dissipates heat and reduces the amount of air (therefore oxygen) to below what would be needed for combustion to occur. One of the most effective types of flame arrester is a perforated metal cylinder placed in the spout of the container. It should be rugged enough to withstand rough handling and fit securely enough to prevent loss.

The venting device. The function of this is to protect against hazardous vapor pressure buildup that can ignite vapors, explode closed containers, or spray fire around surrounding work areas. The most frequently used device is the spring-action cover already described. It is activated when increased pressure inside the container from heat buildup forces the cover to rise just enough to release the pressure before quickly snapping shut again.

CONTAINER STORAGE

As an added precaution, portable safety containers should be stored in specially designed metal cabinets with the following safety features:

- Reinforced double-wall steel construction
- Door sills at least two inches above the cabinet bottom, creating a liquid-tight well to hold any leaks or spills
- Spark-proof metal locks and closure points
- Full-length continuous-type door hinges
- Grounding cable connections

- Adjustable shelves
- Vent openings protected by flame arresters

These cabinets can also double as in-plant refilling stations, but it is essential that all safety cans be labeled to prevent the mixing of different flammables. Never switch the contents of safety cans, because dangerous residues from previous contents could remain inside.

The safety features of both containers and cabinets should be checked regularly to ensure their continued integrity and effectiveness.



SAFETY TOOLBOX TALKS

FIRE PREVENTION



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YOUR PART IN FIRE PREVENTION AND PROTECTION

You each have a specific job—press operator, inspector, maintenance mechanic, material handler, etc. However, we each have a second job—preventing fires.

If you fail to do your part in trying to prevent fires in the facility, you may not only lose your job as a result of the fire, but you also may suffer an injury.

With this in mind, here are a few simple rules that you must observe to make our facility a more fire-safe place to work:

- Keep your work area clean.
- Discard combustible materials in trash containers provided for this purpose.
- Do not leave oil-soaked rags, gloves, or other flammable materials on floors or in lockers or cabinets.
- Report any unsafe condition that may cause a fire.
- Learn the location of fire protection equipment—water pumps, carbondioxide, dry chemical, and fire hose. Learn how to use each.
- Do not block any piece of fire protection equipment. This includes access ladders to presses and catwalks. Clear access must be maintained to these ladders at all times in the event of a fire on top of presses or at electrical panels on catwalks.
- * If any fire protection equipment is used to extinguish a fire, report it immediately.
- Return all fire protection equipment to their locations. If you observe that any equipment is missing, report this to me at once.

One final reminder of the extreme cost of fire: According to National Fire Protection Association statistics, about 150 fires occur each year causing a total of more than \$36 million in damages! There is no way of determining the value of lives lost in these fires.



SAFETY TOOLBOX TALKS



SAFETY TOOLBOX TALKS

FIRST AID



EC-11

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FIRST AID FOR FIRST-AID KITS

Are your first-aid kits at work just dust collectors, stored on a shelf and forgotten?

Like any piece of equipment, they need maintenance from time to time. Use this checklist to make sure your first-aid kits will be ready when you need them:

Here are steps your company can take to minimize off-site injuries:

- Has it been over a year since the first-aid kits were inspected?
- Do you know the shelf life of the contents?
- Is any item missing that was not replaced?
- Should you have a procedure in place to make sure that first-aid supplies are replaced?
- Are all supplies properly labeled?
- Will hot or cold weather ruin the contents of the first-aid kit?
- Are your first-aid supplies adequate for handling potential injuries from new hazards?
- Have you identified all the chemicals in your facility and what first-aid supplies are needed in case of a spill?
- Will employees know what to do in the event of eye or skin contact with any of these chemicals?
- Are your employees trained in the use of the first-aid kit?
- Do your employees know where the kits are located?
- Do you have enough kits to handle potential emergencies?
- Are your employees trained in universal precautions when handling blood and other potential pathogens?

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SAFETY TOOLBOX TALKS

FIRST AID



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TREAT THAT CUT OR SCRAPE!

Small cuts and abrasions can be the start of something big, so they shouldn't be ignored. They require immediate attention.

The shelves of drugstores and supermarkets are loaded with a variety of bandages and other first-aid items, so it's surprising how many people still get infections from untreated wounds.

Most of us know of cases in which someone has had blood poisoning that resulted from only a scratch. Despite this knowledge, the tendency is still to let small cuts go without treatment.

But when infection takes over and keeps you off the job, the act of not treating the cut seems pretty stupid. For instance:

- An employee of a concrete company skinned a knuckle, then missed two weeks of work because of blood poisoning.
- Another worker cut a finger on a grinding machine and had to miss several weeks of work because of blood poisoning.
- A car wash attendant lost five weeks of work after failing to treat the knuckles skinned on a bumper.

It's hard to visualize the number of germs, some of them deadly, that are often on our skin and on the things we work with. These germs are just waiting to find an opening in the skin to enter the body and start trouble.

Tetanus and blood poisoning are two of the most common killers that enter the body through small, harmless-looking cuts. Other serious infections may result in the amputation of a finger or hand.

If treating a small cut still seems like a lot of bother, try not getting injured in the first place. Wear work gloves to protect your hands from cut hazards when handling materials and similar non-machine jobs.

Maintaining a clean and clutter-free work area is another way to avoid injuries. But when cuts still occur, treat them right away. Don't wait until break time or until you get home. Time is really an important factor.

Here are a few tips from the American Medical Association on the care of minor cuts and abrasions:

- Never put your mouth over a wound. The mouth harbors germs that could infect the wound.

- Do not breathe on the wound.
- Do not allow fingers, used handkerchiefs, or other soiled materials to touch the cut.
- Immediately cleanse the wound and surrounding skin with soap and warm water, wiping away from the wound.
- Hold a sterile pad firmly over the wound until the bleeding stops.
- Replace the sterile pad and bandage as necessary to keep them clean and dry.

Maybe there were some surprises for you in this advice—such as not putting your mouth on the cut or breathing on it. In any case, the emphasis is on immediate cleansing of the cut or abrasion. Use of antiseptics should generally be left to the advice of a doctor or other health professional.



SAFETY TOOLBOX TALKS



SAFETY TOOLBOX TALKS

FOOT PROTECTION



EC-11

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OH, MY ACHING FEET!

Some of us have to stand on our feet for the entire day to do our jobs. Many of us have to stand for at least long stretches. Continuous standing or walking on a regular basis can cause sore feet, swelling of the legs, varicose veins, and other discomforts. Usually by the end of each day all you want to do is go home and prop your feet up!

In fact, it is your feet that often most intensely reflect your bodily comfort and level of tiredness. The foot is a complex structure, with 26 delicate bones, 19 muscles, tendons, and about 115 ligaments. Because they are so supportive of you, in both work and play, it's only fair that you do what you can for them. That will also help keep you fresher during the day and less inclined to simply collapse at night.

To begin with, your feet can feel only as good as the shoes you wear allow. Of course, you will have to wear safety shoes if that is required. Otherwise, be smart—choose footwear according to any hazards that you know exist in your workplace.

About one-tenth of all lost-time injuries in this country are foot injuries; one study showed that 77 percent of those reporting foot injuries didn't have proper foot protection. Feet were hurt by falling objects, rolled over, squeezed between moving parts, punctured when sharp objects were stepped on, or harmed by chemicals. Make sure that you wear the type of shoes that will help protect against the risks you encounter at work.

In choosing shoes, take your time shopping. Don't let the salesperson push you into any rash decisions, but walk around the store to see if the shoes feel right for your feet. Make sure that the shoes are not squeezing at any point and that they won't change the shape of your foot when you wear them. Choose shoes that:

- Provide a firm grip for the heel. (If the back of the shoe doesn't offer enough support, your feet will slip, causing instability and abrasions.)
- Offer arch support. (Lack of this support, especially for anyone who tends to have flat arches already, will cause additional flattening of the foot.)
- Allow you to move your toes. (Pain and fatigue are the sure result of shoes that are too narrow or too shallow.)

In order to avoid undue pressure on your feet—and your lower back—don't wear shoes that are completely flat or shoes with heels that are higher than two inches. Another sensible suggestion in buying a work shoe is to choose shoes that lace up, so that you can tighten the laces to give your foot added support. You may also need to add padding under the tongue of the shoe if the bones at the top of your foot suffer from pressure soreness. If you work on metal or cement floors all day, you should add a shock-absorbing cushioned insole.

The floor you stand on is rarely your own choice. But even so, you can make certain that your own work area is kept clean. Be sure that if you spill something on the floor, you wipe it off before you slip on it.

Frequent changes of body position while you are working will help to ease the strain on any one part of the foot or legs in particular. Change your stance as much as you can. Even when work can only be done standing, rest occasionally on a chair, stool, or bench when at all possible.

As a matter of fact, putting your feet up when you get home isn't a bad idea. A foot bath—in either the old-fashioned basin or a newer electronic vibrating one—can be a real picker-upper as well. So can a gentle massage, with or without a soothing lotion.

Your feet are important. They stand up for you and keep you moving in the right direction. Return the favor by treating them with care.



SAFETY TOOLBOX TALKS

FOOT PROTECTION



EC-11

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SAFETY SHOES

How much is a foot worth? Would you take \$10,000 for one of your feet? How about \$100,000? I seriously doubt it. Your feet allow you to stand, balance, dance, walk, run, and move. The money would soon be gone, and you would be left with pain, suffering, disability, loss of work, loss of income, and loss of all those leisure-time activities that you enjoy so much.

There are many potential hazards to your feet, such as falling objects, rolling objects, cuts, punctures, slips, and falls. Vast amounts of materials are moved daily, creating a potential for a heavy object to fall on someone's foot. This can result in serious injury, if that "someone" is not wearing safety shoes.

That was the case when a truck driver whose foot—unprotected by safety shoes—was broken in several places when a forklift ran over it. Can you picture what it would be like to walk without your toes? Some people just feel that it won't happen to them, it always happens to someone else. But think about it: everyone is somebody's "someone else."

Many people complain that safety shoes are hot, heavy, uncomfortable, and unattractive. Even if that were true, which it needn't be, it might be worth the discomfort to protect your feet. But properly fitted safety shoes can be worn for hours as comfortably as street shoes—and these days they can be just as attractive.

Fit is only one of the important things to remember when purchasing safety shoes. It's also necessary to make sure that the type of shoe selected is right for the hazards of the particular job. Welders, for example, need to have high-top shoes—or add spats—to prevent weld splatter from going into their shoes. Warehouse workers should have steel-toed shoes. Other jobs call for shoes that are slip-proof, puncture-proof, nonconductive, or have some combination of these features.

Whatever the type, OSHA requires that they meet specified standards established by the American National Standards Institute—a regulation that this company is careful to comply with.

It is also essential that safety shoes be properly cared for. Inspect your shoes regularly for embedded metal or other foreign objects and for cuts and cracks that would expose your feet to danger.

Clean and condition your shoes to extend their life and protective ability. Air your shoes between wearings. Avoid wearing shoes that are wet on the inside.

Badly worn or defective shoes must be repaired or replaced. Make sure that any repairs are made without lessening their protection—and never allow yourself to believe that you can mend a cracked shoe or "fix" a badly worn one with tape. I expect never to see taped shoes around here.

Just stop, think, use your safety sense, and imagine what the rest of your life would be like if you lost one or both of your feet—or even a "mere" toe or two because you weren't wearing properly fitted, well-maintained safety shoes while on the job.



SAFETY TOOLBOX TALKS

FOOT PROTECTION



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WEAR THOSE SAFETY SHOES

Foot trouble can be as painful as back trouble, and it can be just as restrictive as to the kind of work you can do, too.

People used to complain about their bunions and corns hurting, but these complaints are less common today because of the improved medical treatment and the better shoes now available. Unfortunately, in trying to conform with what is fashionable, many of us still wear shoes that aren't comfortable, and may even be bad for your feet. Often, they aren't safe, either, having heels or soles that can easily cause a bad fall.

You won't get much of an argument about how important your feet are to the kind of life you lead and to the kind of living you earn. Where arguments usually start is during a discussion of the necessity of foot protection.

As important as our feet are to us, there are still many people who insist that they don't want to wear safety shoes because they are too ugly, too heavy, too uncomfortable, too expensive, and so on. Let me respond to that in two ways.

1. These days, not one of those complaints is justified. The safety shoes available today, when properly fitted, match or surpass most other shoes for comfort. Appearance and price are also comparable in most cases. Special features adding to convenience or shoe life have become available, such as easy-on/off side zippers and linings that resist mildew and bacteria.
2. When the hazards of a job call for foot protection, the use of appropriate foot protection is required—and the fact that a worker may prefer not to use it is really beside the point. It's part of my job to see to it that you wear necessary protective equipment; it's part of your job to do so.

Actually, it can be a good idea to wear safety shoes even if they're not specified for your job. It is now recognized that safety lenses in glasses are important both on and off the job, and the same theory is gaining in popularity concerning safety shoes.

On-the-job, of course, the proper type of safety shoe must be selected, depending on the hazards of that job. There are many kinds of safety shoes, the most common being the safety-toe shoe. Then there are shoes that have flexible steel insoles to prevent punctures by nails, and there are metal instep guards, safety boots, plastic shoe covers, and many other variations and combinations. These features combat the many kinds of foot injuries that make up so large a part of workplace injury statistics nationwide.

Besides proper selection and fit, the condition of shoes is also important. For example:

- Soles that are worn thin can be easily punctured by sharp objects, or a painful bruise can result if you step on a stone.
- Rundown heels can cause you to lose your balance and fall or perhaps turn your ankle.
- Shoelaces that are too long are an obvious tripping hazard.

In this company, if you need safety shoes, you will wear them. So try to accentuate the positive and think of the possible injuries you're now far less likely to have. Realize that with your safety shoes on, the feet you may save will be your own.



SAFETY TOOLBOX TALKS



SAFETY TOOLBOX TALKS

FORKLIFTS



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FORKLIFT SAFETY

Some of OSHA's powered industrial truck regulations apply to the forklift driver, but some apply to everyone who works around forklifts. For the most part, they are basic commonsense precautions, such as:

- Stunt driving and horseplay are never permitted!
- Never drive a truck up to a person who's standing in front of a bench or other fixed object.
- Never permit a person to stand or pass under a truck's elevated portion, even if it's empty.
- Never allow an unauthorized person to ride on a forklift.
- Keep your arms, hands, and legs inside the truck.
- If you're working in an area that gets forklift traffic, always be alert for trucks and get out of the way when you hear a horn.

Here are some other key safety procedures drivers must follow when traveling in a forklift.

- Drive in designated lanes.
- Stay at least three truck lengths behind another truck.
- Slow down, stop, and sound the horn at cross aisles and other places where you can't see well.
- Keep a clear view of the path of travel; if your load blocks your forward view, travel with the load trailing.
- Yield the right of way to emergency vehicles like ambulances or fire trucks.
- Slow down on wet or slippery surfaces.
- Slow down before making a turn; avoid sharp turns that could tip the truck.
- Avoid driving over loose objects.
- Cross railroad tracks diagonally if possible.
- Drive slowly and carefully over dockboards or bridgeplates; don't exceed their rated capacity.
- If you're going up or down a grade of more than 10 percent, drive with the load upgrade and raise it only enough to clear the surface.
- Don't pass another truck at intersections, blind spots, or other dangerous locations.
- Keep a safe distance from the edge of elevated ramps or platforms.

Refueling or recharging forklift trucks is also covered in the OSHA regulations. Those tasks must be performed with the forklift engine turned off in assigned, ventilated areas away from anything that could cause a fire or explosion. Smoking is, of course, prohibited. Fire extinguishers and spill and cleanup equipment should be nearby.

OSHA also has specific procedures to follow when you leave a truck unattended or are, for any reason, 25 or more feet away from it. Then, you must fully lower the load-engaging means, neutralize the controls, shut off the power, set the brakes, and remove the key. If you're parked on an incline, block the wheels.

OSHA expects trucks to be inspected regularly and carefully maintained, so it's a good idea to check the machine daily before use. You want to be sure everything is working properly and is in good shape. Follow procedures from the manufacturer's manual and those set by the company.

Never use a truck that has a defect, or that sparks or smokes, needs a repair, or is in any way unsafe—and leave repairs to authorized personnel in proper areas. That's another OSHA requirement!



SAFETY TOOLBOX TALKS

FORKLIFTS



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LOADING AND UNLOADING FORKLIFTS

You can be following the new OSHA regulations when you are driving a forklift, but the safety procedures don't end there! You also have to be cautious in the steps you follow when you load and unload a forklift.

OSHA has specific procedures to follow. To begin, make sure you have fully lowered the load-engaging means, neutralized the controls, shut off the power, and set the brakes. If you're parked on an incline, block the wheels.

LOADING

Before loading, make sure the load is within the truck's rated capacity, is stable, and can be centered. If a load is loose or uneven, stack and/or tie the pieces.

To pick up the load, set the forks high and wide enough to go under it. Then drive into the loading position, put the load squarely on the forks, and drive under the load until it touches the carriage slightly. Next, tilt the mast back and lift the load. Before you start to travel, tilt it back a little more.

As you carry the load, keep it tilted back and low with the forks six to eight inches above the ground. Don't raise or lower the load while you're moving, and don't carry anything on the overhead guard.

UNLOADING

When you unload, turn the forklift slowly into position and go straight into trailers or railcars.

When you unload onto a stakebed, flat bed, or box trailer, be sure the truck's rear wheels are chocked, with brakes locked on. Check that the dockplate is secure, then position the load, tilt it forward, and release it.

To unload onto a rack or stack, check how high you can safely stack materials. Then raise and position the load to the correct height, move it slowly into position, and tilt the load forward and lower it onto the rack or stack. Finally, pull the forks back slowly, then back out slowly, looking over your shoulder.

Parking a forklift has its own precautions. Parking areas should be designated on flat surfaces away from traffic in space that doesn't block aisles, doors, exits, etc.



SAFETY TOOLBOX TALKS

FORKLIFTS



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ROLLING (SAFELY) IN THE AISLES

In most plants, the safe and efficient movement of personnel and materials of various kinds is a significant consideration, since it contributes to both productivity and comfortable working conditions.

As the prescribed pathways for such movement, aisles need to meet a number of criteria to accomplish that goal of safety and efficiency:

- Their size and location must be logically determined in accordance with the projected traffic patterns, and there should be a minimum of crossways and corner-turning.
- They must be clearly identified—perhaps by lines painted along either side or cross-hatching the aisle itself, perhaps by a different color of flooring, or by some combination of techniques.
- There must be appropriate precautions and warnings at possible danger points. For example: four-way stops and convex mirrors at crossings, audible alarms (such as gongs, sirens, or bells) to warn of overhead hazards like cranes and hoists.

All of these features have been engineered into the facility, but they will not provide the intended protection without the cooperation of you and every other plant worker.

Those of you who drive powered industrial trucks along the aisles must be alert to warning signs and alarms, and there are important rules and procedures that must be followed exactly. These relate to speed, the security of the load, proper actions at intersections and the accommodation of pedestrian traffic. Of course pedestrians are also responsible for observing safe traffic rules.

A very important responsibility of everyone is to keep the aisles unobstructed. Stacks of parts or products must never extend into the aisle. Nor should tools, scrap material, and various debris ever be left in the aisle—or put there in the first place, for that matter. And the aisles are not a place to linger when any necessary errands have been completed. There are a number of reasons why keeping the aisles clear is an essential safety practice, and they should be pretty obvious.

[Note: Give your people a chance to come up these first—both as a check on their safety-consciousness and because sometimes thoughts expressed in their own words have a more lasting impact than material they've only listened to.]

They are:

- To minimize the possibility of vehicle-pedestrian accidents.
- To prevent slip, trip, and fall hazards for people using the aisle.

- To avoid damage to material in the aisle or to vehicles running into or over it.
- To ensure unhindered access to fire extinguishers and emergency exits.

Of course, it is occasionally necessary to have an electrical cord or compressed gas hose cross the aisleway. In these instances, boards affixed on either side of the hose or cord will keep both trucks and pedestrians from coming in contact with it.

Floor conditions in the aisles must be checked constantly—and any that are potentially hazardous must be attended to promptly or reported to maintenance or your supervisor. Examples of such conditions include: damaged flooring, insufficient illumination because of burnt-out light bulbs, spills, or slick spots.

These aisle safety rules are not difficult to follow. All it takes is understanding their importance, alertness, and, most of all, every worker's commitment to doing his or her part to keep the workplace safe for everyone.



SAFETY TOOLBOX TALKS

FORKLIFTS



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THOSE FAITHFUL FORKLIFTS

Forklift trucks are the workhorses of industry, but they can become dangerous beasts. Forklifts are as tricky as they are useful, especially if they're not operated by people who are carefully trained and certified in the safety rules that such equipment demands.

Forklifts are specialized, multi-user vehicles that can do many tasks that require heavy lifting, moving, stacking, loading, and unloading materials of varied sizes, shapes, and weights that would be difficult to handle without them.

You can't drive a forklift like your personal car or truck, and you can't operate a powered vehicle in a plant the way you drive on the open road. A forklift, even unloaded, is heavier than many cars and not as well balanced. To drive a forklift safely, you have to understand the possible hazards—and know just what to do to avoid accidents. That's why OSHA permits only people who have had special training and specific authorization to operate forklifts.

Forklift safety training is important for operators in understanding just what this equipment can do and how much skill it takes to do it right. None of us can afford to get careless and risk accidents with forklifts.

The main hazards of forklifts could result in injury or death for drivers or pedestrians. These hazards include:

- Tipping over
- Falling off a loading dock
- Colliding with a vehicle, equipment, or person
- Dropping a load

Forklift operators have to avoid situations that could cause the truck or the load to drop. When you look at the design of a forklift truck and the various weights and shapes it carries, it is easy to see why the truck or the load could drop. To avoid this potential problem, forklift operators must consider the following:

- The vehicle's capacity
- The characteristics of the load
- The route to be covered, including floor surfaces and obstructions
- Any limitations in the areas where the load is picked up and dropped
- Other activities going on in the work area
- The condition of the forklift itself

While forklifts certainly present hazards, they are also designed with many features that protect operators. To make the most of these features, a trained operator must understand and use the manual provided by the forklift manufacturer, as well as the safety rules required by OSHA and the company.

Some safety features are part of forklift design, including:

- A label or nameplate that tells how many pounds the forklift can carry safely
- An overhead guard that protects the operator from falling objects and from being crushed if the vehicle tilts over
- A load backrest extension on certain trucks that helps keep the load from falling backward
- Mast-tilt controls so you can move the load forward and backward while you're getting it in position (although not while you're moving)
- A safety platform firmly secured to the lifting carriage and/or forks for trucks designed to lift personnel
- A parking brake
- Lights and horn to warn others you're coming

The forklift regulation also requires that areas where forklifts are operated have:

- Adequate lighting or extra lighting on the truck
- Sufficient headroom under overhead installations, lights, pipes, sprinkler systems, etc.
- Clear fire aisles and access to stairways and fire equipment
- Properly secured dockboard and bridgeplates

SAFETY TOOLBOX TALKS

FORKLIFTS



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YOU AND YOUR FORKLIFT

The forklift truck, properly maintained and operated, can be one of the most economical and efficient means of transporting goods and materials. So operating a forklift well is an important job. Part of your job as a forklift driver is to thoroughly acquaint yourself with its features and learn the operating and maintenance rules. Your skills are valuable and valued—but a responsible attitude and a safety mindset are equally important.

Training you in both the skills and the safe practices is part of the company's responsibility, and this session is part of it. First, here's an important basic reminder that operating a forklift truck is different from driving an automobile or a regular truck. Remember that a forklift:

1. Is almost always steered by the rear wheels
2. Steers more easily loaded than empty
3. Is driven in reverse almost as much as in forward gear
4. Is often steered with one hand, the other hand being used to operate the controls.

Because a forklift is generally steered by the rear wheels, the swing of the rear of the truck must be carefully watched. Lift trucks have a peculiarity known as "free turning." This means that once the turn is started, the truck tends to turn more and more sharply in a smaller and smaller circle. To stop this and slow down the sharpness of the turn, the steering wheel is turned the other way. However, when the truck is traveling in reverse, the opposite tendency holds true.

Regular maintenance and operation schedules have been set up to help you keep your truck operating safely and efficiently. It is your responsibility to see that inspection and maintenance schedules for your truck are maintained. Checklists are available to assure a complete check of your truck and the recording of conditions requiring correction. Besides these scheduled inspections, each operator should make a daily inspection of controls, wheels, and other moving parts.

Whether or not your truck is operated safely largely depends upon you. A set of safety rules for operators has been established to help you. Study them until you know them cold. Put what you know in practice. If you do not understand any of the rules or disagree with any of them, check it out.

Also, remember that:

- Forklift trucks should be equipped with overhead guards and load backrest extensions.
- Forklift trucks should not be used to transport personnel, and all riders other than the operator should be prohibited.

- Loads should be stable, and operators should travel with the load as low as possible to provide maximum visibility and proper distribution of weight.
- When parking the truck, drop the forks; don't leave them in a raised position.

Follow the fundamentals of good truck operation and you can have pride in your job as a forklift operator and yourself as a valuable employee.



SAFETY TOOLBOX TALKS



SAFETY TOOLBOX TALKS

GENERAL SAFETY



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ACCIDENTS CAN HAPPEN ANYWHERE

You work in an office. That's a safe place to work, isn't it? Not necessarily. Accidents can happen to anybody, anytime, if they act in an unsafe manner or are exposed to an unsafe condition.

Here are a few examples of actual accidents that resulted in injury and lost time to office workers—people just like you and me:

- **A clerk in an insurance company was returning to work after lunch when she slipped and fell on a stairway.** The steps were wet because snow had been tracked in.
- **A bookkeeper burned her left arm and side when she was disconnecting a coffee urn.** The urn tipped and spilled hot coffee on her.
- **A file clerk suffered a back strain when a fellow employee fell over backward,** landing on top of her as she was squatting to get cards out of a file drawer.
- **An office clerk tripped over an exposed telephone cord in her office and fell,** catching herself with both hands as she hit the floor. She broke her arm and sprained her wrist.
- **A secretary pulled a chair up to a lunch table.** She caught her little finger on one of the wires on the bottom of the chair, breaking her finger.
- **An office employee was going through a revolving door when someone else pushed the door faster.** The door caught her right heel and leg, causing a blood clot in her leg.
- **An employee dislocated his arm** when he suddenly moved it while playing cards on his coffee break.
- **An employee was trying to open an office window.** He was pushing against the glass when the window broke and his hand went through the broken glass, cutting his wrist.
- **A receptionist slipped on a newly waxed lunchroom floor and fell,** bruising her back.
- **An office employee was running through the company parking lot,** stepped on a stone, and fell. She suffered a contusion to her lower back.
- **Professional movers brought in a new desk for an employee.** She was not satisfied with the positioning of the desk so she moved it and ruptured a disc in her back.
- **A receptionist yawned while at work,** and her jaw locked.

- **A secretary got up from her desk to go to a file cabinet.** She tripped over a telephone box installed in the floor and strained her back.
- **An employee left a cup of coffee on his desk.** When he returned to finish it, he didn't notice a bee inside the cup. The bee stung the inside of his upper lip.
- **A clerk was running to catch an elevator.** As she stepped into the elevator, she fell and sprained her right ankle. The elevator had stopped about one foot below the floor level.
- **A receptionist sat down on a couch that needed repair.** She fell through the seat cushion onto the floor, injuring her back.
- **A secretary stood up to move from her desk to another,** tripped on a desk drawer that had been left open, and sprained her lower back.

Let's remember that any of these accidents could have happened to you or to me. So, if you see someone acting in an unsafe manner, tell him about it. If you see an unsafe condition, report it. Safety is everybody's business.



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CONQUER HAZARDS WITH SAFE HABITS

A habit is a tendency or disposition to act in a certain way. It is acquired by the repetition of acts. Our ability to acquire habits—whether good or bad—is tied directly to our need for comfort and security. Habits enable us to perform tasks by rote, so that we know they'll be done properly without our having to plan every step in advance.

Safe work habits can save a lot of pain and misery. The importance of developing these on the job is that we are protected even if we are not thinking about the hazard in particular.

If we could always be alert, never let our attention wander, and remember to use all the safe practices and equipment required, then habits would not be necessary. However, these conditions do not always exist. We are sometimes "off our feed," tired, depressed, preoccupied, thinking about something else. It's at these times that safe work habits really pay off, because hazards are always present.

Here are some potential hazards and the safety habits that may protect you from being injured:

HAZARD: The possibility of getting into the path of a moving object as it closes in on a stationary object.

SAFETY HABITS: See that the opening on machine parts is guarded. Look for cross-overs or cross-unders and use them when they are needed. Pay attention to warning devices such as starting signals or backup alarms, and see that they are there and used.

HAZARD: Catch points. These are created by objects, either stationary or in motion, that have sharp corners, splines, teeth, or other rough shapes and surfaces capable of catching the operator or his clothing.

EXAMPLES: Rotating drills, reamers and tapers, spline shafts, milling cutters, broaches, keys and keyways, nails on the inside of kegs and packing crates.

SAFETY HABITS: Wear proper clothing. Make sure guards are in place, and always use them. Remove nails and staples from kegs and packing crates. Report any unsafe condition.

HAZARD: Shear points. Nip or cut hazards are created by two objects, one or both being in motion as they pass one another.

EXAMPLES: Shears, dies, paper cutters, reciprocating mechanisms.

SAFETY HABITS: Same as for catch points.

HAZARD: Squeeze points. These are also created when the distance between two objects, one or both of which may be moving, reduces to the extent that a crushing injury will result should an employee be caught in this shrinking area.

EXAMPLES: Machine tables at extreme traverse position forming squeeze points with other machines, walls, and building columns. Large transfer-type machines and materials being moved on power conveyors create squeeze points with fixed objects along the conveyor.

SAFETY HABITS: Maintain minimum clearance of 18 inches between moving and fixed objects. Relocate objects if necessary. Maintain sweep bars in the squeeze area equipped with shutoff switches wired into the control circuit of the equipment creating the squeeze point. The presence of an employee against the sweep bar would shut off the equipment. Maintain and use proper guarding.

HAZARD: Run-in points. Mash and crush hazards are created by two objects in contact with and rotating toward one another.

EXAMPLES: Belts and sheaves, chains and sprockets, gears in mesh, roll, conveyor chains and traction wheels, ropes and pulleys, cables and drums, gears and racks.

SAFETY HABITS: Maintain and use proper guarding. Know your equipment. Never operate or work close to unfamiliar equipment.

Building safe habits is like turning on an autopilot in your body. It lets you function with less mental stress and fosters an increase in thinking capacity.

Habits are acquired slowly—do, repeat, redo, repeat, the same way every time. When you've managed to acquire the safety habits we just discussed, you'll recognize and avoid these hazards of being caught in, on, or between.

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CUT OUT CUTS

"Cut!" Who am I? Right, the stereotypical Hollywood director shouting for the action to stop. The action also has to stop in our industry when a cut of a different kind occurs: a gashed finger or arm.

And generally the worker's productivity also stops, because no matter how minor the cut, you have to take time to have the damage repaired. That could take only five minutes, a splash of antiseptic, and a bandage tape. Or it could require a hospital stay and surgery to repair a damaged tendon.

The hazards that can result in lacerations are many and varied. Here are some examples:

- **Cutting tools.** This is a fairly obvious category. Particularly hazardous are woodworking and metalworking goods and machinery, such as hand or circular saws, knives, scrapers, etc.
- **Sheet metal.** Sheet stock, finished forms (especially after having been pressed or sheared), and scrap almost always have sharp edges and burrs that can tear the skin.
- **Glass.** Broken glass is especially dangerous because our first impulse is to pick it up, barehanded, rather than sweeping it up with a broom.
- **Barrel edges.** This is a likely hazard if metal drums are salvaged and the top has been cut off so that the drum can be used for other purposes.
- **Protruding nails and staples.** This is an ever-present danger in shipping and receiving operations, in which employees handle wood crates and cardboard cartons. (The staples can also cause puncture wounds.)

Despite the presence of these hazards, the work needs to get done. That means finding ways to work safely. We can do so if we remain constantly alert and aware that we are working with objects that can cut.

The guarding of machines and hand tools is one way of reducing the hazard. Gloves and gauntlet arm guards are an effective preventive measure, whereas picking up broken glass or handling sharp metal objects without gloves is inviting a slashed finger or hand.

Lacerations can be a thing of the past if everyone observes the simple solutions just mentioned. Guards can help if we use them; work procedures can help if we follow them; personal protective equipment can help if we wear it. It's up to us.



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EMPLOYEE INCIDENT REPORTING

An incident is similar to an accident except that it does not necessarily result in injury or damage. No matter how trivial they are, incidents should be reported to supervision just as accidents are. Employees should be encouraged and periodically reminded about the importance of reporting incidents, or as they are frequently called, near misses. I am giving you just such a reminder right now.

WHY INCIDENTS SHOULD BE REPORTED

Nothing is learned from unreported incidents. Hazards, causes, and contributing circumstances are lost if not reported. Employees who don't take the time to report near misses they are involved in may not learn from them. The fact that many incidents come within inches of being disabling injury accidents makes failing to report them all the more serious.

When incidents are not reported, their causes usually go uncorrected. That means they may happen again, perhaps producing tomorrow's disabling injury or fatality. This can be illustrated by the case of the worker who slipped on a floor made slippery by a small leak in a hydraulic line. He did not suffer any injury. Two days later, when the line was still leaking, another employee slipped on the liquid, fell, and broke her leg. At that point the first employee told the company investigating the accident about his own previous near miss. Had he reported it promptly, chances are the defective hydraulic line would have been repaired before the accident happened.

WHY INCIDENTS OFTEN ARE NOT REPORTED

There are many reasons why a worker might choose not to report an incident in which he or she was involved. All of these are understandable, but we should recognize that none of them are acceptable when we realize why the report should have been made.

What are some of the reasons workers don't report incidents? Probably the most common is failure to understand the importance of reporting and the harm that could result by not doing so. Here are some others that we've heard about:

- Fear of the supervisor's disapproval.
- Not wanting the incident on their work records.
- Dislike for the red tape involved.
- Not wanting to lose time from the job on piecework assignments.
- Reluctance to spoil the unit's safety record.
- Not wanting to be the subject of an incident investigation.

WHAT CAN BE LEARNED FROM AN INCIDENT?

The whole purpose of reporting—and investigating—a near-miss incident is to find ways of making sure the same elements that were present on that occasion don't result in an accident at some future time. So here are some of the questions to which answers must be sought:

- What were the circumstances surrounding the near miss? Was there a hazard that the employee should have been aware of?
- Is there a safety rule covering the situation? If so, did the almost-victim know it? If there isn't such a rule, should there be one?
- Were any safety devices, clothing, or equipment used improperly or not used at all when they were called for?
- Have there been other near misses of the same type?

The answers should suggest ways to prevent a recurrence. Perhaps there need to be new rules or procedures developed. Or maybe more thorough training is required. In any case, the reporting of the incident is the vital first step.



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EXCUSES, EXCUSES

Many times a supervisor faces serious obstacles (real or imagined) to attaining a good safety record for his or her department. Here are some of the excuses supervisors commonly give along with some solutions:

I can't stand over each subordinate all the time! You don't have to. Workers often repeat the same unsafe practice many times before they are hurt. You should be able to notice violations and take immediate action before an accident occurs.

I have warned my workers repeatedly! You should probably spend less time warning subordinates and more time teaching them safe work practices. You can't bully workers into safety—you have to lead them.

I can't fire everyone who acts unsafely! You are not expected to. A good supervisor has executive and leadership qualities and gets results without firing employees.

What can I do other than re-instruct my workers? Do the same thing and do it in the same way that you would if they had violated instructions in regard to tolerances of production or if they had failed to follow specifications.

Workers complain that safety shoes and protective clothing are uncomfortable! Take their complaints seriously and investigate them. If it is true, then there is something wrong with the safety equipment. Employers often find that giving their workers a choice in selecting protective equipment solves the problem.

I don't have time to teach safety! Time and again, studies have shown that the greatest production has been turned out at the lowest cost when the job was done safely.

Why all the fuss? Our workers haven't had any serious accidents! Intelligent accident prevention consists of constant vigilance to ensure that plant equipment and safeguards are properly maintained and used. It also consists of a never-ending job of impressing upon workers the importance of observing safe practices.



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FIND A BETTER WORD THAN 'CARELESSNESS'

When reporting verbally or in writing on the results of an accident investigation, it's tempting to sum up the cause as "carelessness." This indicates that the accident probably could have been avoided if someone hadn't done—or failed to do—something. But it doesn't really help in pinpointing the real cause—let alone correcting whatever behavior was involved, in order to prevent recurrence.

If an individual's "careless" behavior was at the root of the incident, it probably means that the person did not:

- THINK
- Comply with safety regulations
- Follow instructions (written or verbal)
- Use safe work procedures
- Use sound judgment
- Know how to do the work properly
- Pay full attention to the work
- Wear proper personal protective clothing and/or equipment
- Use tools or equipment in a safe manner
- THINK!

So, if your input is ever sought as to the cause of a particular accident, find a better term than "carelessness." You'll probably find it on the foregoing list. Remember, the more exact you can be, the more likely we can avoid a repetition.



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GOLDEN RULE FOR SAFETY

Nearly everyone has heard of the Golden Rule—"Do unto others as you would have them do unto you." Many different religions and philosophies have a similar way of expressing this rule, yet very few people apply it in their daily living.

You may not agree when we say that to practice the Golden Rule, even in small measure, makes us happy and helps us in our business and in our general daily life. But it is the most practical rule in the world. In serving others, we serve ourselves. People like to deal with those who believe in and practice the Golden Rule. Try it and see!

Now, no doubt, someone is already asking what this has to do with safety. The answer is that if each of us would accept and follow a Golden Rule pertaining to safety, each of us would be less likely to come to harm, whether on the job or off. Here at work, it would mean that our safety record would improve.

One version of the Golden Rule for safety might be stated as "work as safely with others as you would have them work with you." Another might say: "I will follow the safety rules as I would have them followed."

Whenever you approach safety from this angle, you are right back to our often-discussed subject of safety attitudes. A Golden Rule for safety is another way of developing a better mental attitude.

Here are a few of the safety attitudes we need to know and live by:

- An accident can happen to me at any time, when I take a chance.
- Accidents can always be prevented.
- To work safely is a mark of good sense and skill.
- We can always take the time to work safely.
- If I practice safety, my co-workers will think well of me—and I will be at ease with myself.

Safety awareness and safe behavior don't come about by instinct; they must be deliberately learned and practiced—and it is everyone's responsibility to do so. Think how much we would all benefit if everyone shouldered that responsibility and practiced the Golden Rule of safety—at work, at home, on all the roads between, and in all the other activities of our busy lives.



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HIDDEN HAZARDS

Have you ever bumped into another person or had a cart pushed into you? Have you ever been hit by a falling or flying object? These accidents can result in more than bruises! They can cause serious injuries.

How would you like to have a big stack of boxes tumble down on top of you? Of course you wouldn't, and neither would anyone else. The best way to prevent this is to avoid stacking materials too high; stack them in such a way that they absolutely cannot fall. Even if you take time to stack items properly, you can't depend on everyone else taking the same care. You should make a habit of inspecting the environment for this type of hazard; this can prevent an accident.

A door is another moving object that often strikes people. Most people know what it feels like to approach a door, perhaps with arms full, and have the door open suddenly from the other side. Some have learned the hard way that if windowless doors open toward you, it's best to approach them with caution. Never stand in front of such a door for an extended period of time. If you must work in such an area, prop the door open and secure it, or place a sign on the opposite side of the door. It goes without saying that you shouldn't use a ladder where a door opens toward it unless you can be sure, by locking the door or propping it open, that the door will not be opened. Of course, out of consideration for those on the other side, you should not push a door open rapidly or forcefully. When approaching double doors, follow signs indicating which door to use.

People, too, can be safety hazards if they do not watch where they are going. While walking, don't get so engrossed in a conversation that you don't notice threats to your safety that are right in front of you. When approaching a corner or intersection in a hallway, walk in the center of the hallway instead of next to the wall where you cannot see or be seen by those traveling in other directions. Perhaps the employees in your work area can reduce the chance of bumping into each other by agreeing to walk only on the right sides of hallways. Think about how this type of accident can be avoided; the next person you bump into could be carrying hot coffee or sharp objects.

There is a possibility of bumping into or being bumped into by a cart of some kind. You may not be injured, but who wants to take chances? If you happen to be moving a cart, especially a large one that you cannot see over or around, don't push it, pull it. Never push a cart; it's too easy to accidentally push a cart into someone when you can't see where you're going.

People can also be struck by, and are frequently severely injured by, objects flying out of machinery, such as pieces of wood or metal. Whatever they are, they're likely to travel at a high velocity, which increases the likelihood of injuries. Proper machine guarding is one of the best protections against flying objects.

These safety suggestions must be followed by everyone to meet our goal of making the workplace as safe as possible for everyone. We should remember that our actions affect everyone in our department. Let's work together so everyone can be assured that our workplace is a safe one.



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OFF-THE-JOB SAFETY

Most of us are familiar with on-the-job safety. Your company strives to maintain a safe working environment and keeps employees informed and alert to possible hazardous situations.

But what about safety off-the-job? Even those of us who are safety-conscious at work may sometimes forget to use the same precautions when we get home. It would probably surprise you to know how many of the deaths and injuries suffered by workers occurred off the job. Recent statistics show that off-the-job accidents accounted for 25 percent more days lost by workers than accidents on the job.

Motor vehicle accidents accounted for 63 percent of all off-the-job deaths, with the rest occurring at home or in public places. This suggests that maybe our safety sense off-the-job isn't what it should be, so let's review some safety tips that could help keep you and your families safe.

Warm weather means more outdoor activities including yard and home maintenance. Tools, equipment, and flammable liquids may be hazardous if used or stored improperly. For example:

- Each year, some 150,000 people are injured—most often, seriously—using power lawn mowers. But many such accidents can be prevented by taking some extra precautions. Wear eye protection to shield against dirt and other debris. Survey the area before you mow. Rocks, sticks, and other objects can become deadly missiles when thrown by the mower blade. Children should not be allowed in the area while you're mowing.
- Yard and home maintenance often involves digging, raking, hoeing, and handling heavy or bulky materials such as bagged fertilizers, soils, or cement. Extra precautions can avoid strains or injuries.
- Flammable liquids, like gasoline and charcoal lighter fluids, are fire hazards. Keep gasoline in proper storage containers, and fuel gasoline-powered equipment only when it is cool, as a hot engine could ignite vapors. Follow directions when using charcoal lighter fluids. Many burns occur each year when fluids are sprayed onto flaming or smoldering coals, and fire flashes back to the container.
- Pesticides, weed killers and other chemicals also require special storage and handling. Keep them out of reach of children. Follow directions carefully regarding mixing, application, and personal protection for your eyes and skin. Also, wear respiratory protection if you would be breathing materials that could be harmful.

Winter presents its own at-home hazards, many of which have to do with your heating and ventilation systems: Have furnaces and chimneys cleaned regularly, and never leave an unscreened fireplace unattended while in use. If you need space heaters, choose a model that has an automatic turnoff when tipped, keep it safely away from furniture and draperies, and never leave it on when you leave the house.

Outdoors, be sure to dress warmly and wear gloves and warm socks to protect against frostbite. Covering the head helps to minimize loss of body heat. Snow and ice present slip-and-fall problems, but clear them away carefully to avoid overexertion, which could lead to back strain or even a heart attack. Remember the special precautions required for winter driving.

When driving on a vacation trip, whatever the season, make sure that your car is in top running condition first. While you're on the road, drive defensively and be sure everyone buckles up.

At work or at home, inside or outdoors, don't let safety take a vacation!



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PEDESTRIAN SAFETY

Let's say you're a machine operator and you've worked at your job for a considerable amount of time. However, when you leave your machine, you're no longer an operator, you're a pedestrian.

Off the job, when you're a pedestrian, you dodge vehicles and watch for open manholes or potholes. Just as if you were at work, you need to take certain precautions, stay alert, and keep your eyes open.

A walk through our facility should be rather uneventful, but the situation could change in a hurry if you don't stay alert. This is particularly true for an employee leaving his or her own area or department.

As a new employee, you were given instructions about your job, and these instructions included safety precautions. However, when you go to another area, it can be a new ball game. Operations may be different, equipment may be different, and safety precautions will vary, too.

So, before entering another area, familiarize yourself with any special rules or procedures necessary for your safety. This might mean you will have to wear special personal protective equipment or observe different regulations.

While traveling as a pedestrian, always use the regular routes. Walk, don't run. Be on your guard at corners and when you're near machinery. Watch for power trucks and hand trucks on the move. Although truck operators have their own safety rules to follow, including watching for pedestrians, don't take anything for granted. Be ready to move quickly.

It's a good habit to look both ways before stepping out into an aisle. Don't try to beat an oncoming truck. You might misjudge its speed or slip and fall in front of it. Always watch where you are walking. If you need to read something, stop walking until you are finished.

When using a stairway, always use the handrails. If you're carrying something, keep one hand free.

Slipping and tripping are additional pedestrian hazards. Keep an eye out for misplaced tools, pieces of metal, or other materials that clutter walkways.

At times it's necessary to restrict pedestrian admittance to certain areas. The restrictions may be temporary or permanent, but whichever it is, don't enter the area unless you've been authorized to do so. These areas will be clearly posted.

I've tried to cover a few of the most important points of pedestrian safety, but people on the move are exposed to many different kinds of conditions and hazards. Remember these basic precautions:

- Stay alert
- Always watch where you are going
- Watch out for moving equipment
- Watch for slipping and tripping hazards
- Stay out of restricted areas
- Use handrails on stairs



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SAFE HOUSEKEEPING

If you want to learn about a company's attitudes toward safety, just take a look at its housekeeping habits, because good housekeeping is really one of the most important aspects of safety. Good housekeeping is not the sole responsibility of the maintenance and custodial staff; it must be practiced by everyone.

The company could spend a large sum of money to improve the quality and safety of the work environment, but the environment would still be unsafe if you and your co-workers did not practice good housekeeping. Safety entails everyone's working as a team to prevent accidents by maintaining good housekeeping standards. Here are some examples:

- Make sure all containers are labeled; the labels should be legible, not blurred by liquids that have run down the outside of the containers.
- Do not store supplies where they may be mistaken for something else. For example, it is not a good idea to store caustic chemicals with cleaning powders and liquids.
- Be familiar with special chemicals, gases, and liquids that are used in your work area, and know the ones that can and cannot be stored together. Some substances, like oxygen and fuel gases, have the potential for disaster when stored in close proximity.
- Dispose of hazardous substances—like flammable liquids and chemical reagents—by the safe method prescribed. If you aren't sure how to dispose of a substance, check with your supervisor.
- Clean up your work area immediately after completing each task; never leave an area cluttered with tools or supplies that could present tripping hazards.
- Clean up spilled liquids right away; they can cause slips and falls.
- Respect "wet floor" signs; they are used for your protection.
- Pick up broken glass immediately with a broom and dustpan, never with your hands.
- Do not allow debris, such as cleaning rags and paper, to accumulate anywhere, because this creates a serious fire hazard.

Good housekeeping is one of the most important aspects of any fire safety plan. Accumulated debris can cause fires, and clutter slows movement of personnel and equipment during fires.

In addition to all the safety benefits it contributes, good housekeeping results in a more pleasant working environment. Almost everyone prefers cleanliness and neatness to filth and clutter.

Because good housekeeping is important to your safety as well as the safety of your co-workers, concentrate on keeping your own work area clean. Make good housekeeping a daily routine.



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SAFETY ROUND THE CLOCK

Don't let your workers leave safety at work at the end of the day. Safety is a 24-hour enterprise. Unfortunately, people tend to take chances at home that they would never consider taking under the watchful eye of their supervisor at work.

For instance, how many employees wear safety glasses using a drill at home? Yet, most wouldn't think of doing the same chore at work without eye protection. You can encourage them to use protective equipment at home by offering a discount purchase program for a second pair to be used off the job.

What about working around the house? Do your employees use a ladder at home to reach high places or do they stand on anything available? Remind them not to stand on the top step of a ladder or step stool at home. Make sure you tell your employees not to use metal ladders near any electrical power lines outside their homes.

You tell your workers to check the material safety data sheets before using chemicals at work. But, do they read the labels of common household cleaning solutions? Many of these products can be quite dangerous.

Open windows and doors when using ammonia. Never combine ammonia and chlorine bleach—mixing them can cause toxic fumes.

Store chemicals away from small children and pets. Keep the phone number of the poison control center near your phone. Also, if you have young children, make sure you have a bottle of ipecac, which can force vomiting—BUT, don't use it until you check with the poison control center or a doctor.

Fire prevention is an important part of household safety. Make sure your smoke detectors are checked and working. Have a family plan for evacuation in case of fire, including a meeting place outside of the home.

Check your house for potential fire hazards. Never overload electrical circuits or use flimsy extension cords as permanent wiring. Make sure the wiring in your house can handle the extra loads from energy-hungry gadgets, such as computers and printers, fax machines, kitchen appliances, and air conditioners..



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SAFETY DOESN'T STOP AT THE EXIT

You've finished work for the day—or night. Now you can relax and forget about the job. Good. Forget about the nagging little details of your workday, who got on your nerves, and what you didn't like about your lunch. Step away and leave all that behind. But for goodness sake—or, rather, for your sake—don't forget about safety!

Off-the-job accidents can be just as serious as those that happen at work—just as disabling or just as fatal. So it's just as important as it is at work *not to let those accidents happen!*

Probably the first thing you do when you leave work is get in your car. That means the second thing you should do is buckle your seat belt. Of course, if the weather is bad, the very first thing you'll want to do is clean the snow and ice off the car window, hood, and roof so that your vision can't be obscured while you're driving. (By the way, have you replaced the windshield wipers recently? Is the windshield in good condition—easy to see through?) Now, don't start thinking about arriving home; think about driving there—carefully, and as slowly as necessary in order to be safe.

When you do get there, try something different today. If there's a pet to be kissed, and spouse or kids to pat, go ahead. But then, take a careful look around. In other words, do a safety inspection of your own premises.

If there's a mat inside the door, is it secure, or is someone likely to trip over it? What about the rest of the rugs and flooring? Is there a danger spot where someone has already had a fall or a near accident? Make this the day you retack a carpet that's coming up, or skidproof any area rugs.

Are there any stairways in your home? Make sure the lighting there is good, the handrail secure, and any carpeting completely trip-resistant.

Trips and falls are so common in the home, in fact, that preventing them should be a number one priority in your residential safety review. Clear up any areas that are too cluttered for walking safely. Make sure no cables and electrical or telephone cords cross anyone's possible path.

In the bathroom, where many falls occur, keep the floors wiped dry and install a nonskid type of mat by the tub or shower. In addition, a rubber mat or antiskid adhesive *inside* the tub or shower may prevent a bad accident.

Falls are also a potential hazard whenever you're climbing—whether it's an extension ladder that enables you to clean the roof gutters, a stepladder for repainting a bedroom ceiling, or even the kitchen step stool.

Have you been trained in electrical safety at work? Being safe at home also means being safe with electricity. Never disable the grounding plug on a three-prong appliance. Disconnect an appliance by grasping the plug as you pull, so that you won't damage it. Replace worn cords promptly.

Water and electricity just don't mix. Never put electric appliances in a sink full of water; instead, wipe them with a damp cloth. Don't place electrical appliances next to the tub, sink, or shower. Don't enter a flooded basement if electrical appliances are present under water. Have the electric company turn off your power, first.

Fire is probably the most feared home hazard, so it's wise to prepare for emergencies before they happen. Smoke detectors are essential and do save lives. Rope ladders enable exit from upper floors. The whole family should learn and practice escape routes, including an agreed on meeting place away from the immediate area.

You probably already know many other home safety issues, and most of the rules. What's important, though, is following the rules. Let safety become second nature to you at work and after work, wherever you are.



SAFETY TOOLBOX TALKS

GENERAL SAFETY



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SPRAINS AND STRAINS

Athletes in training know their abilities and their limitations, because going beyond them leads to strained and sprained muscles and ligaments. Those injuries could put the athlete out of competition.

If your job involves considerable physical exertion, you also need to be aware of how much you can do safely, so as to avoid any injury that could put you on the bench for a while.

Sprains and strains can occur anywhere—in the workplace, during recreational and sporting events, and at home.

A sprain occurs whenever a muscle is stretched beyond its limit. Muscles can do a great deal of work, but they must be conditioned. A worker who is accustomed to manually handling a large number of pieces of material in a given workday can do so with ease. Those of us who have different duties would find it difficult to do that same amount of work without paying for it with aching muscles. If we should continue to do the work, however, we would soon be conditioned and be able to perform the job without pain.

However, even the conditioned athlete or worker cannot exceed the limitations of the muscles. When a muscle is stretched too much, the ligaments pull and sometimes even tear. Stretched ligaments and tendons are termed strains. A sprain is when tearing has occurred.

The industrial setting provides many opportunities for sprains and strains to occur; the most common is material handling. We all handle material in one way or another. Even the office worker is involved with material handling when picking up a package, box, or chair to move it.

Other movements can also cause sprains and strains—overreaching or overextending a part of the body; reaching over something to pick up a load; or trying to reach a top shelf without using a proper stool or ladder.

What can we do to minimize these injuries? Well, this meeting is a beginning. If we understand what causes sprains and strains, we are better equipped to prevent them. A few basic rules to remember are:

1. Understand your limitations. Don't charge into a job cold. Warm up to it. Take a lesson from athletes—try to keep yourself in good condition and at your proper weight.
2. Don't overextend yourself—use a stepstool or a ladder when necessary, and avoid a fall as well as a strain.
3. Lift with your legs, not with your back. Keep the load close. Don't twist your body while carrying a load.
4. Be sure there are no slipping or tripping hazards in your work area or around your home. The sudden jerk caused by a slip or trip can cause a sprain or strain.

5. Look into ways to eliminate lifting and carrying or to keep it to a minimum. Is there a better way—a way to let some equipment do most of the job? Wheelbarrows were invented for just such a purpose, and wheeled luggage is a more contemporary example.

Work smarter, not harder; it's easier and safer.



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THE SAFETY CON GAME

"Think Safety." How many times have you seen those words in a workplace? It sounds good, but what exactly does it mean?

Many supervisors unwittingly play a safety con game with their employees. They tell them that they are responsible for their own safety. They encourage the workers to "think safe," "act safe," "be safe," etc. They may, however, fail to teach employees exactly what they should do. Employees have to be supplied with the "how-to" of safety.

In fact, the supervisor's responsibility goes even further. They must demonstrate to the employees that they really mean what they say about safety's importance. One way to do this is to involve themselves in the process. Supervisors should see how they themselves stack up in terms of personal involvement by looking at the following areas of safety achievement:

Facility inspections: Do you participate in formal safety inspections on a regular basis? Do you review and comment on the record of inspections?

Safety contacts: Do you personally make contact with your employees, seeking their ideas or concerns about loss prevention? Do you share your ideas with them?

Safety newsletters: Replace that old safety policy statement curled up on your bulletin board with a current notice that describes a pertinent safety practice or recent near miss.

Accident investigation reports: Make sure investigations of all accidents are accomplished and reviewed. Do you follow up on the recommendations?

Safety rules: Have a simple set of rules that are tailored to your workplace. Make sure the employees are thoroughly familiar with them. Use booklets, talks, briefings and bulletin boards to get your message across.

Recognition: Make an effort to point out a particularly noteworthy safety achievement. Publicize safety accomplishments. Give out awards.



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THEFT PREVENTION

Want a stunning statistic? About 60 percent of all small businesses fail because of employee theft, according to the Small Business Association. And, an American Management Association study reported that U.S. businesses lose \$10 billion annually to employee theft and commercial bribery. More than \$4 billion are lost to embezzlement. Theft prevention is clearly important for the survival and prosperity of your company. Consider these tips for bringing security into the workplace.

Preemployment screening. As part of the hiring process, carefully review applications or résumés, and verify them. Interview the applicants in person. Do background checks. This process may also weed out potentially violent workers who may create a dangerous workplace for others. Application forms often have a statement allowing the hiring employer to conduct a reference or background check of the applicant. A typical statement should ensure that the applicant understands that consideration for employment depends on the results of the reference check, gives the employer permission to investigate all statements made by the applicant on the application, authorizes the employer to contact references and former employers, and allows contacted persons to respond to questions. But, employers need to be sure they avoid prohibited invasive questions.

Clear policy statement. As the first step in eliminating theft, the employer must include a clear statement of company policy in its employee handbooks. The policy should be reinforced through posting and through meetings with employees. Policies may involve some form of the following rules:

- Supplies, products, and manufactured items may not be removed from their normal locations.
- Supplies, products, and manufactured items may not be given as gifts or awards without proper authorization.
- Discarded or damaged items may not be removed from the premises by employees (to prevent deliberate damage).
- Inventory may not be moved from the workplace.

Have employees sign the handbook or waiver sheet, indicating that they have read and understand the company's procedures.

Good financial controls. Maintain an accurate accounting and cash control system that contains built-in checks and balances and balances authority and responsibility for physically handling cash receipts and disbursements. Larger theft losses usually involve complicity between an employee and outsiders, with the stolen goods often passing right across the shipping dock. To combat this problem, property control systems should be checked at unexpected times to be certain that materials tallied as incoming and outgoing are properly listed.

Here are a few signs to watch for:

- Differences between inventory records and physical counts
- An excessive number of voided documents
- Photocopies, not originals, of inventories in the files
- An unusually high percentage of refunds or credits
- Daily bank deposits that do not tally with receipts
- Excessive “no sale” rings, over-rings, voids
- Excessive bottle returns
- Overage or shortage patterns on register
- Average sales drops when a particular cashier is working
- Cash drawer open between sales

None of these means that an employee is stealing; they are simply indications to an employer to look further.

A bit more pay. Surveys indicate that employers that pay their workers 10 percent or less than local competitors average nearly twice as much employee theft as those companies that pay 15 percent or more than their competitors. Theft is highest among retailers with large part-time workforces and in retail organizations with high turnover rates for workers.

Privacy considerations. Employers have the legal right to protect their property and business premises, but employees have privacy interests that must be taken into consideration as well, especially when dealing with:

- **Surveillance.** There is no federal law limiting the right of private employers to set up hidden cameras or install other clandestine monitoring. However, these intrusions may not penetrate areas in which employees have a legitimate expectation of privacy. Lavatories, dressing rooms, coats, purses, briefcases, and the person of the individual employee should be considered off-limits unless employees have been clearly advised that these areas are subject to search or surveillance.
- **Lie detectors.** The use of lie detectors in theft investigations is strictly regulated by federal law and by the laws of numerous states.
- **“Honesty” tests.** Social scientists have devised tests to uncover an individual's predisposition to steal. There are no federal restrictions on the use of these tests, and they appear to predict dishonesty with some accuracy.
- **Interrogation.** Some private sector investigators continue to engage in strong-arm tactics, trying to get suspects (employees or outsiders) to confess to company theft or shoplifting. However, these methods often result in lawsuits for false imprisonment, emotional distress, and other issues, as well as large damage awards. If you must question an employee at length about a security breach or theft, be sure the person you delegate to perform this duty has been trained in the proper methods of interrogation. An employer's best bet is to call in the police.

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GENERAL SAFETY



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TOOL BOX SAFETY

Pride of ownership dictates a good tool box as the proper storage place for the professional tradesperson's valuable hand tools. And, according to both American and Canadian manufacturers of quality hand tools, safety is important, even with tool boxes.

First of all, a tool box is meant to hold tools, not to be stood upon or used as an anvil or sawhorse. Strong, heavy-duty tool boxes are made out of steel and can be classified into three types: hand boxes, chests, and cabinets.

Cabinets, which usually are owned only by professionals, are mounted on casters, while the smaller tool boxes are designed to be hand-carried.

The portable type of tool box may have up to five drawers, a lift-out tray, and possibly a cantilevered tray that automatically opens out when the cover is lifted. All seams should be welded and smooth, without protruding edges to catch clothing or hands.

In addition to the handle on top of the tool box cover, look for handles at each end for those tool boxes designed to hold an extra-heavy load of tools. A good tool box will have a catch or clasp at each end and should be able to be locked with either a padlock or its own built-in lock.

Tool chests are usually heavier and stronger and have a much greater capacity than tool boxes. The drawers—as many as 10 or more on the better models—can be secured with their own built-in locks. Some have a tote tray that can be removed for carrying only those tools needed for a particular job.

As with any tool, there are do's and don'ts as well as helpful hints regarding the safe and efficient use of tool boxes and chests:

- Lightly oil all moving parts such as drawers, trays, and hinges at regular intervals.
- Use graphite, not oil, on locks and padlocks.
- Touch up all rusted spots, paying particular attention to the bottom of the tool box.
- Line the bottom of drawers or trays with felt or scrap carpeting to protect the tools. This applies especially to drawers that hold tools with sharp or cutting edges.
- Check the handle. Is it firmly attached to the tool box?
- Sand or file down any sharp edges that may damage clothes or fingers. Sharp edges on corners usually are caused by dropping the tool box to the floor instead of placing it.
- Wipe away all grease and moisture from tools before storing them in the tool box or chest.

Finally, so your tool box doesn't become a Pandora's box, always replace your tools in the same tray or drawer from which they were removed. This system will save time when you are looking for a particular tool. And place the tools in the box—don't drop or toss them.



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WHO'S RESPONSIBLE FOR SAFETY

The answer to that question is that a great many agencies and individuals bear some degree of responsibility for the safety of workplaces and workers.

Both state and federal laws spell out responsibilities of employers for the safety of their employees. And agencies such as federal OSHA, or one of the state safety and health organizations, are responsible for inspecting to see that employers are complying (and penalizing those that aren't).

What many people, perhaps some of you, don't realize is that these same laws assign safety responsibilities to employees, too. They are expected to:

- Comply with all applicable OSHA standards
- Follow the employer's safety and health rules and regulations
- Wear/use the prescribed personal protective equipment
- Report hazardous conditions to their supervisor
- Report any job-related injury or illness to the employer and seek treatment promptly

It all boils down to the fact that we are all responsible for the safety of ourselves, our fellow workers, and the workplace in general. Top management is, I am, and so are you, and you, and every other one of you.

There are always some workers who seem to be very serious about their jobs and yet take safety lightly. They seem to think accidents happen only to "the other guy." so they take shortcuts, bypass machine guards, leave their safety glasses hanging around their necks, and so on. Often, this rashness catches up with them eventually. Admittedly, it doesn't always do so, but is the gamble worth it?

Responsibility is surely not new to this group. Many of you hold responsible positions in the community—with PTAs, scouting, junior athletic teams, and other civic and church projects. You're not required to take part in any of these activities, but you feel a certain sense of responsibility to do your share.

It's very much the same way here. There's no law that you have to give a new employee some helpful advice, make safety suggestions, or volunteer to serve on the safety committee. But doing these things in addition to following the rules and regulations is a way of demonstrating that your sense of responsibility is alive and well.



SAFETY TOOLBOX TALKS

20. HAND & PORTABLE
POWER TOOLS



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CHAIN SAW SAFETY

Close to a third of all accidents in the woods involve chain saws, and chain saw injuries tend to be severe, even life-threatening. With this in mind, listen carefully to these tips on handling chain saws safely. If followed carefully, they can protect you from such injuries on or off the job.

STARTING AND CARRYING

- Always start the saw on the ground, not on your knee or in the air.
- When carrying a saw any distance, carry it by the handle, with the motor stopped and the guide bar to the rear, in such a way that you can throw the saw clear in case you stumble or fall.
- When moving from tree to tree, make sure your finger is not on the saw trigger in case you fall.

REFUELING

- Shut the motor off and let it cool before refueling.
- Refuel only in a clear area with mineral soil exposed (dirt, rock, sand, etc.-not wood, leaves, pine needles, or the like).
- Take gasoline to and from the job in a safety gas can appropriately labeled. Refuel only with an approved gooseneck gas can, and wipe gasoline spills from the motor.

PROTECTIVE EQUIPMENT AND FIRST AID

When operating a chain saw, wear a safety hat, safety shoes, safety pants or chaps, and safety glasses.

Keep a first-aid kit and a fire extinguisher handy.

Before using a chain saw, make sure that all parts are in good condition.

HERE'S A CHECKLIST:

- ✓ Is the muffler in good condition?
- ✓ Does the exhaust blow away from the operator?
- ✓ Are the spark plugs and wire connections tight?
- ✓ Is the blade in good condition, not bent or warped?
- ✓ Is the chain sharp and properly adjusted?
- ✓ If equipped with an automatic oiler, is there sufficient oil in the tank?

- ✓ Is there a guard, in place and functioning properly?
- ✓ Are all bolts, nuts, and screws tight?

Perhaps the most important factors of all are the knowledge and safety orientation of the operator. A chain saw is nothing to fool around with, so you had better familiarize yourself thoroughly with the manufacturer's information on parts, safe operation, and troubleshooting.

Give serious consideration to whether working alone is worth the extra risk that can involve, or whether its worth it always to have a buddy along when using a chain saw.

Have all of the appropriate personal protective equipment, in good condition, and wear it. Never persuade yourself that "this is just a little job, so I don't need to waste time on suiting up and going through all those checks." If something goes wrong, which can happen very quickly, you could be "wasting" a lot more time in the hospital.



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CUTTING TOOLS

The importance of using the right tool in the right way applies to all tools. But how to choose and use tools varies with each type of tool. Even different cutting tools have different cautions for safe use, although they have some in common as well. For example:

- Cutting edges should be kept sharp and free of nicks.
- They should not be stored with the cutting edge exposed.
- When passed from one worker to another, they should be offered handle first.

Many of the following safety hints are common sense, while others come from experience. In either case, the reasons for adhering to them should be apparent.

Chisels: Never use a chisel with a mushroomed head. A cold chisel will buckle or spring if it is not large enough for the metal being cut. Hold the chisel lightly in the hollow of your hand with the palm up, supported by your thumb and first two fingers.

Hold the chisel at an angle when shearing. This permits one bevel of the cutting edge to ride flat against the shearing plane. Wear safety glasses when chipping or shearing with a cold chisel.

Always drive a wood chisel by hand, in an outward direction away from your body. Remove nails and metal fasteners from the material or drive them into the material before using a wood chisel. If you don't, chips may fly off the metal or the chisel.

Cutters: Use heavy-duty cutters when cutting heavy wire or reinforcing wire or bolts. Apply the force at a right angle to the cutting edge. Never use cutters near live electrical circuits. Wear approved eye protection when using cutters.

Claw hammers, crowbars, or other prying tools should not be used to snap metal bands around material; use cutters and keep a gloved hand over the end that is likely to fly. When cutting bolts or reinforcing rods, hold the portion to be cut in one hand to keep it from flying.

Tin snips: Use one hand to operate the snips and the other to hold the edges of the metal being cut. Do not lean over to cut the entire width when larger stock is being cut or when the material is likely to curl up. Never force, hammer, or step on the handle of tin snips to increase leverage—use heavier snips.

Hacksaws: Apply pressure on the downward stroke only. On the return stroke, lift the saw and lightly pull it back in the cut to protect the teeth. If you twist the blade or apply too much pressure the blade may break and result in hand and arm injuries.

Cutting too fast with a hacksaw will cause the blade to heat up, untemper it, and cause it to snap. Light machine oil or kerosene products against these mishaps.

Knives: When working with knives, wear hand guards, mesh gloves, or other types of safety equipment. Make the cutting motion away from your body. If this is not possible, keep your body clear of the stroke and wear protective clothing.

Planes: Store the planes in a rack to protect the cutting edges from damage and to prevent injuries. Always keep the cutting blades sharp. Hold material being planed in a vise or clamp.

Saws: Use slow, careful downward strokes to help the saw cut directly across the material. Do not crowd or force a saw through the cut because the saw may buckle or fly out. Keep the saw sharp, properly set, and free of cracks and broken teeth.



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DRIVING AND PULLING NAILS

For safety's sake, take precautions when driving and pulling nails. Too many accidents and injuries result from doing it incorrectly: bruised fingers, banged-up fingernails, and other injuries requiring first aid or more serious medical attention.

A badly hit or pulled nail may fly and strike someone—even put out an eye. Loose hammer heads may fly off, causing a nasty wallop when you're least expecting it. A cracked handle can spoil the swing and cause a glancing blow or even a miss, and possibly push a sliver deep into the palm of your hand.

To drive a nail, the hammer must be in good shape. The head must be set at the proper angle and be firmly secured. The handle must be smooth, straight-grained, shaped to give a good grip, and be of the right length and weight to be well balanced. The size of the hammer should be right for the size of the nail. You'll probably bang a finger if you try driving a three-eighths inch brad with a full-grown claw hammer. The hammer face should not be chipped or worn away from the shape the manufacturer gave it (just a trifle off flat from edge to center).

When driving a nail, the center of the hammer face should always meet the nail head. The direction of the blow should be exactly in line with the nail. If it isn't, the nail may fly at the first blow or bend at the second.

You should learn to "groove" your swing when hitting a nail. That is, make the hammer head follow the same path every time and always hit the nail dead center and at the right angle. To find the right angle, simply set a nail, hold the center of the hammer face on the nail head, and raise or lower the handle until the face forms a right angle with the length of the nail. That's the position the hammer should be in when the blow lands.

Developing the knack of grooving will enable you to do better work, make banging a finger less likely, result in fewer wasted nails, and save the time it would take to pull them.

Never leave nails sticking out unless you're going to hang something on them, and then be sure they're located so that they present no hazard. Deep nail wounds are extremely dangerous. So pull out projecting nails or bend them over flush with the wood so the points can't hurt anyone. Be aware that the sharp rim of the nail head can cut, too, so flatten that as well.

When pulling and driving nails, the three main safety rules are: Keep your tools in good condition, choose the right one for the job, and use good judgment.



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GOOD TOOLS ARE SAFETY DEVICES

In the matter of safety, we may put safe work practices at the top of the list, but we also stress the importance of various safety devices: machine guards, protective gear, handrails—the list goes on.

Many of us probably don't realize that one of the most valuable safety devices a worker can have is a good set of tools. These are safety devices because they do jobs our hands cannot do and keep our hands from getting hurt.

Good tools are safety devices because they enable us to do jobs without strain or struggle. Many of us have had the experience of sweating—and possibly swearing—as we try to reach and turn a hard-to-get-at fitting. We bark our knuckles and possibly damage equipment. Then someone comes along with a tool just made for the job—and how easy that is!

So when we say tools are safety devices, we mean the right tools, not makeshift ones. A makeshift tool is any one not suited to the particular task the needs doing. That could mean a light hammer for a heavy job, or a heavy hammer for a light job, or almost any kind of other tool in place of the appropriate hammer. It could be a file used as a pry or a drift pin, pliers instead of a wrench, a chisel for a pry or a screwdriver, a screwdriver for a nail set.

You can probably think of half a dozen other examples. But let's just agree that using the wrong tool for the job is harmful in two ways:

1. It causes us to use too much energy; we slip, fall, gouge ourselves, pinch our hands, or suffer other injury when we use a wrong or makeshift tool.
2. We're likely to jimmy the tool or the fitting, or both, not only damaging property but paving the way for a future accident.

It has often been said that you can tell a good mechanic by his tools. This is very true. Good mechanics value their tools, take good care of them, and use the right tool for the job. Workers who do not take good care of their tools, who let the tools get dirty and beaten up, who often can't find the proper needed tool and use a makeshift substitute—these workers are usually not good or safe mechanics.

A final point: When I talk about the importance of the proper care and use of tools, you mustn't assume that I mean only the tools you've purchased with your own money. I also mean the company's tools that you use. Misusing them or allowing them to become damaged is just as much of a threat to safety—yours and your fellow workers—as misuse of your own tools.



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HAND TOOL SAFETY

The antics of Tim Allen on his TV handyman show within a show may be amusing in a sitcom, but in real life, improper use of hand tools can be painful and debilitating.

Injuries can go way beyond a smashed thumb caused by a misplaced hammer strike. In fact, it is estimated that hand tool mishaps are responsible for about 1 out of 12 compensable workplace injuries—including cuts and bruises, punctures, fractures, and even loss of a finger, hand, or eye.

TOOL SAFETY RULES

The Hand Tools Institute, an association of hand tool manufacturers and suppliers, believes that most incidents are preventable if workers just follow basic safety rules. The five main points to remember are:

1. Always use appropriate eye protection to keep flying pieces and parts from contacting your eyes. The Hand Tools Institute suggests that employees keep their safety goggles in their tool box so that they can easily find them to use for every hand tool job. Other important pieces of protective equipment include work gloves that provide a better grip.
2. Use the right tools for the job. Each tool is designed to perform a specific function. It is dangerous to substitute or use an inappropriate tool.
3. Use tools properly, including proper positioning to avoid repetitive-stress type injuries.
4. Service your tools regularly. Follow the manufacturer's recommendations for performing proper maintenance on the tools.
5. Don't use damaged tools. Discard them immediately, fix them, or replace them.

LOOK AT THE DETAILS

Just how do these rules apply to your tools? Here are some examples:

Pliers—Too many people use pliers as wrenches for turning nuts or bolts. This is not the proper function of a plier, which should be used for gripping or cutting wire. Discard pliers when they have developed chipped or dulled cutting edges.

Hammers—A hammer blow should be struck squarely and parallel to the surface being struck. Glancing blows can cause injury. Never use a hammer with a loose or damaged head or handle. Look for dents, chips, cracks, or other signs of wear and tear. Use riveting hammers for sheet steel, carpenter or claw hammers for driving and pulling nails, and ball-peen hammers for metal work.

Screwdrivers—Never use a screwdriver as a punch, wedge, pinch bar, pry, or chisel. Choose the proper size tip for the screw. The wrong size driver can cause a chewed up screw head, damaged screwdriver, and a bloody knuckle.

Wrenches—Don't try to extend the handle of a wrench with a cheater bar to add leverage. Instead, use a wrench with the proper-sized handle. Make sure the wrench fits the nut, or it could slip or break. If possible, pull the wrench instead of pushing it. The safest wrench is a box or socket type.

Drills, augers, and bits—may be incorrectly tempered or dull and otherwise worn.

Knives, chisels, drills—and similar tools may have lost the sharpness of their cutting edges. Sharpness is important to their safe use.

Files—may have missing or broken handles and tangs that are bent, broken, or chipped.

Chisels and punches—need to be checked for mushroomed or chipped heads and bent or broken points.

SAFE HANDLING

Workers should be cautious in handling all of their tools. Correct usage and storage are important factors in preventing injuries. For example, tools should always be returned to their proper places when they aren't in use.

Tools should never be left on the floor where they can be a tripping hazard. Tools left on ledges or scaffolds may fall on someone.

Sharp tools should be stored so that their cutting edges aren't exposed.

Avoid carrying chisels, screwdrivers, and other pointy tools in your pocket. Use a carrying belt designed for this purpose with tools pointed end down or carry tools in a tool box or cart.

Tools should be handed from one worker to another, never thrown. Pass pointed tools with handles first.

If tools have to go from one level to another, a bucket or bag that will safely handle the tools should be secured to a rope for lifting or lowering.

Personal Protective Equipment

Another part of safe tool usage is using appropriate personal protective gear. This could mean safety glasses with hammers, files, and cold chisels; gloves with tin snips and other cutting instruments; safety hats and shoes when tools are used overhead or pieces of the work are likely to fall.

AVOID REPETITIVE STRESS INJURIES

Try to purchase ergonomically designed hand tools for your workers. Improve the ergonomics of the tools by training your employees to keep their wrists straight and their elbows close to their bodies. Comfort grips or properly fitted gloves can help reduce the stress on hands and wrists.

TRAINING TIPS

Make your training sessions memorable by giving a written quiz on identifying the appropriate tool for various job tasks at your worksite. Bring in various damaged tools and have your employees find the defects. Ask your employees about any problems with the design of their hand tools and brainstorm for solutions.

Choose the right tool, make sure it is in safe condition, use it properly and for the purpose it was intended, and store it safely.

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HAND TOOLS— THERE'S A SAFE WAY

Either on or off the job, tools don't cause accidents—people do. Using a damaged tool or the wrong tool for the job can result in injury. The ultimate responsibility for preventing this type of accident lies with us—the people who use the tools. It's easy to avoid a hand tool accident. Just remember to take the time to follow these rules:

- Every hand tool has a limited use and is intended for a specific job.
- To avoid eye injury, wear safety glasses or an equivalent form of eye protection.
- Plastic covered handles are for comfort, not for protection from electricity.
- Inspect tool handles before and after use. Make sure the grip is secure. A wood-grained handle should be smooth to prevent splinters.
- Never pull sharp tools toward your body.
- Never use an extension bar, such as a length of pipe, to increase leverage. This can result in equipment breakage or personal injury.
- Don't use a screwdriver to pry things. It shouldn't substitute for a chisel.
- Make sure the tip of a screwdriver fits properly into the screw groove. If it doesn't, the screwdriver might slip and cause injury or equipment damage.
- When using a hammer, match the size and weight to the particular job.
- Never use hammers to strike other tools.
- Always pull a wrench, never push it. Besides using the right tool, maintaining tools properly can have important safety consequences.
- Remove from service any tools that need repair or replacement.
- Before returning a tool to its storage place, clean it off. Dirty tools can clog pivot points or dull cutting edges.
- Return a tool to its proper storage spot. Not being able to find the right tool often results in using the wrong tool and wasted production time.
- Never leave tools overhead on scaffolds, piping, stepladders, or other

Hand power tools present added hazards. Don't operate electric or air powered tools unless you understand their safe operation and use. Before using a power tool, locate the main power switch so you can turn off the power in the event of an emergency. If you must leave your worksite, disconnect the tool from its electric or air supply source. Be sure to keep all guards in place and in proper working order. All tools should be grounded and your work should be secured with a vise or clamps.

When you see row upon row of hand tools in your hardware store, remember the reason there are so many. Each tool is designed for a specific job. If we take the time to use our tools properly, we can all help reduce unnecessary personal injury and property damage.



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HANDLING HAND TOOLS

Using hand tools shouldn't be much of a problem, right? Right, it shouldn't be, but it may well be if you don't follow the rules for hand tool safety. How many of you, for instance, have had an accident on the job because of a broken hand tool—or know someone who has. This type of accident definitely does happen. Splintered handles, loose handles, dull or broken teeth, spread wrenches, hammers with loose heads—all of these can cause an injury that will be very much regretted.

One basic way of preventing such injuries is to maintain your tools with the greatest of care. Worker who takes their work, and themselves, seriously will keep hand tools clean and dry, wiping off grease or chemicals frequently. After a tool is used, it should be put away in its proper place. If left carelessly on a work surface, it could be broken and might also injure someone who does not expect to find it there.

Before you use a tool that you have picked up, inspect it. Don't take it for granted—even if you are the one who put the tool away last night—that it is not broken. Have a look. Splintered or loose handles should be replaced and dull blades on cutting tools should be sharpened. If the tool is not your own, point out any problems to the person who owns or uses that tool.

Accidents can occur, of course, even when using a hand tool that is in perfect condition. This is why safety glasses, gloves, or other personal protective equipment is required for various operations.

An easy job that is ordinarily a safe one can turn into a risky proposition when the lighting is poor. If there is not enough illumination where you are, take the tool and the workplace into the light before doing the job. Turn on the lamp or adjust your position to shed light on the work.

Hand tool accidents can also occur when carrying tools, if they interfere with using both hands where they ought to be used—such as while climbing a ladder. Use a canvas bag or a bucket to hoist tools from the ground to the job. And when you're done, don't just drop the tools back to earth or carry them in a pocket where they might make a fall a serious incident.

Even when working on ground level, tools such as chisels, screwdrivers, and pointed tools should never be placed in a pocket while you are on the move. Carry your sharp tools in a toolbox or on a carrying belt—with points and cutting edges facing away from you.

Passing a tool to a fellow employee should be done in a courteous—and safe—manner. That means handing it over with the handle toward the receiver. Better still, when possible leave the tool in the case.

Choose the right tool for the job. Using the wrong tool, just because it happens to be handy, will increase the chance of hurting yourself. Know what tool is meant for the job and use that exact one. Don't use a screwdriver as a chisel or lever. Don't use a wrench when you should have a hammer. And be sure you use not only the right type of hammer, screwdriver, chisel, etc., but the right size as well.

Use the tool in the correct way. Never apply excessive force or pressure when using a tool; if you slip, or it does, that force can hurt you. Cut away from yourself when using a sharp-edged tool. Don't hold a workpiece in the palm of your hand when using a cutting tool or a screwdriver. Don't use a tool to play around or joke with others.

Hand tools can be handy, but only if handled with the right attitude—a serious one. Respect both the job they can do when handled well and the risk of injury they present when mishandled.



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KNIFE SAFETY

Statistics indicate that knives are more frequently the source of disabling injuries than any other hand tool. People in all occupations are injured by knives—the high school student working in the supermarket produce department, the retail store employee who attempts to open a box, the slaughterhouse worker, the salad chef. Actually, all of us are frequently exposed to knife injuries for no other reason than the fact that a knife is a very useful and therefore much-used tool.

By the time we were old enough to work, most of us had already learned the basic dangers associated with knives. Hiking, camping, or just plain whittling usually bring on enough accidental cuts to acquaint a young person with some of those realities. But we didn't always learn the safety precautions as quickly.

The principal hazard in using a knife in industry, safety experts have concluded, is that the user's hand may slip from the handle onto the blade, causing a painful and possibly serious injury. Keeping handles dry and nongreasy will help prevent this mishap. A handle guard will eliminate this hazard.

Another cause for injury is the knife's striking the free hand or the body. When using a knife, the cutting stroke should be away from the body whenever possible. Otherwise, adequate protection should be worn to protect the body. Mail gloves are available for selected industries such as meat packing, where materials must be held close to where the knife will cut. Provisions should also be made to hold materials steady.

If it's necessary to carry a knife on the job, it should be in a sheath or holder. Safety experts recommend that the sheath be worn over the right or left hip and toward the back. A knife carried in front or over the leg could cause a serious injury in a fall.

Storage of knives is an important safety factor, too. Exposed cutting edges should be covered, and knives should be kept in their proper place, not left on benches or on the floor.

First aid is very important if you are cut by a knife. Even the smallest cut should be treated to help avoid infection. Injury records are full of cases in which someone neglected a small injury and blood poisoning developed, causing several weeks of lost time from the job.

One of the more publicized cases occurred many years ago when the son of Calvin Coolidge died from a blister that was neglected. Certainly, any serious complications from a cut are even more tragic these days when there are so many first-aid treatments available.

It's often said that there's nothing more painful than getting cut with a dull knife. That may be a slight exaggeration, but it brings up a good point—keep knives sharp and in good condition. A dull knife can cause you to put too much pressure on the object you're trying to cut, and the blade could slip and slice you or someone nearby.

Never use a knife that is defective—for instance, one that has a broken handle or blade. Of course, a sure way to break a knife is to throw it or use it as a screwdriver. Use your knife only for what it was meant to do.

If you're using the right knife for the job, it should cut without difficulty. When you have to resort to sheer force to make a knife cut, you're headed for trouble: damage to the knife or to the material you're attempting to cut or, worst of all, injury to yourself or someone else.





POWDER-ACTUATED HAND TOOLS

Powder-actuated hand tools probably have as much safety built into them as practically any tools on the market. In addition, manufacturers usually provide complete instructions for safe operation of the tools.

These two factors alone should make the use of powder-actuated tools a safe operation. However, there are other precautions that have to be taken.

To start with, only trained and authorized personnel who are checked out in correct usage and safety should operate powder-actuated tools.

Only tools, shields, and fasteners that meet state safety standard requirements for hand tools should be used.

The hazards connected with using this type of tools are probably quite apparent to you. They include accidental discharge, ricocheting studs or chips, explosions from use in combustible atmospheres, flying particles, and complete penetration of the work material by the stud. Obviously, protective equipment is necessary. You must wear approved safety goggles. A face shield and safety hat are also recommended.

To protect against flying particles, powder-actuated tools should have interlocked shields that are designed to fit over the particular shape to be fastened. If a standard shield won't work, a special one may be designed but must meet required protection, including interlock.

Added operator precautions include making sure that:

- The bore is clear before loading
- The cartridge is fully seated
- The breech is closed and locked
- All safety devices are in working order.

Powder-actuated tools should be inspected for defects before each use. Do not use defective tools, and report them to your supervisor.

Before starting work, familiarize yourself with what is behind the surface you'll be working on so as not to damage electrical wires or lines.

Size up the job to be done, and select the proper stud and cartridge. In case of doubt about the surface and strength of material, a light trial shot can be taken after all regular safety precautions are accomplished.

Studs should not be driven into very hard or brittle substances. These include, but are not limited to, cast iron, glazed tile, hollow tile, face brick, glass block or surface-hardened steel. Do not drive studs through existing holes unless a guide is used to secure alignment.

Don't use powder-actuated tools on materials that are easily penetrated or on concrete under two inches thick or on steel less than one-quarter inch, unless sufficient backing such as sandbags or timber is placed behind the work.

Don't drive a fastener into materials such as masonry less than three inches from an unsupported edge or corner, or into steel surfaces less than one-half inch from an unsupported edge or corner. For low velocity tools, the distances can be lowered to two inches for masonry and one-quarter inch for steel surfaces.

Obviously, you should never point a power-actuated tool at anyone, and don't rest it against your body. Tools should be carried vertically and every effort made not to drop them.

Insert a cartridge into the tool only when it is ready to be fired. Before firing the tool, make sure others in the area are clear and wearing proper eye protection.

In case of a misfire, the tool should be held against the work surface in operating position for at least 30 seconds, then try again. If a second misfire occurs, repeat the 30-second wait, then remove the cartridge. Misfired cartridges should be disposed of safely to prevent anyone gaining access to them.

When not in use, a tool should never be left unattended. The tools, studs, and cartridges should be locked in a safe place. Loaded blank cartridges should be transported in a locked container.

It's difficult to cover all aspects of powder-actuated hand tool safety in such a few minutes, but we've touched on many important ones. Remember to follow safety rules and the manufacturer's instructions, and use necessary protective equipment. If you're not quite sure you remember all the precautions, don't guess! Check with your supervisor.

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POWER HANDSAW SAFETY

The electric power hand saw is one of the most common and most useful power tools for construction and maintenance work. The tool is so common that hazards in using it are often overlooked.

Here are some of the most common causes of power hand saw injuries:

- Cut by saw blade.
- Electric shock or electric burn.
- Hit by saw falling from above or when dropped while being used or carried.
- Falls from tripping over saw or extension cord.
- Flying particles in eye from material being cut.
- Struck by flying piece of broken saw blade.

Most power hand saw injuries are "cut by blade" injuries. These occur in many ways as the following examples show:

A carpenter was cutting rafter notches. One cutout wedge followed the blade around and wedged the guard in the open position. When he set the saw down, the spinning blade threw the saw back across his left fingers. **Moral:** Check the position of the guard before setting the saw down.

A worker was using a saw in a high overhead position. The blade struck a knotty area and bound in the cut, and the kickback cut his forearm.

A worker on a sloping roof tried to rip a "one-by" held in his hand. As he changed his footing to steady himself, the saw cut off the ends of the fingers of his left hand, which had been under the board.

A carpenter using an ungrounded saw with defective wires froze to the saw when a wire shorted to the frame. He could no longer control the saw, which slowly lowered and cut him severely in the thigh.

To prevent power hand saw injuries, make sure you are working in safe conditions, that you follow safe work practices, and that you keep saws and equipment in safe working order.

Power hand saws must have a three-conductor cord. The green wire (or continuous green color with one or more yellow stripes) is the ground wire. The ground must be a water pipe or a metal rod driven at least eight feet into the earth.

Extension cords must be rubber-covered three-conductor type “S” or something equally good for extra hard usage. Cords that are several hundred feet long should be large enough to avoid excessive voltage drop.

Don't let extension cords become kinked, and don't place them where heavy equipment can run over them. If the work area is wet, keep extension cords out of any water to prevent shorting out.

Keep your head away from the path of particles thrown out by the blade. It is sometimes advisable to wear goggles or other eye protection.

Use power hand saws only for operations to which they are suited. Work such as rafter notching should be done with a radial arm saw or other equipment.

Check that the guard is in good working order. Disconnect power before cleaning the saw, changing blades, or making adjustments for depth or bevel.

Blow the sawdust away from the saw from time to time, especially in the guard area. When it is necessary to raise the guard for certain types of cuts, use the guard lever.

Place material to be cut on a firm rest such as a horse. Do *not* put it on your hand or arm or across your knee or foot.

The guard serves a valuable purpose. Don't wedge it or otherwise prevent it from working.

Wait until the saw blade stops before lifting the saw from the cut. Before setting the saw down, make sure the guard is closed because the blade may still be turning.

Don't carry a saw with your finger in the switch trigger.

Use the right blade for the type of cut to be made. Use sharp, well-set blades. Don't pull the saw backward in the cut while the blade is running, if you can avoid it.

Use the handle to raise or lower the saw; don't use the cord.

Don't use a power hand saw for cuts if you cannot keep a firm and secure grip on the saw. The plain hand saw is still the best for some types of cuts.

Notify the foreman at once if any saw is defective or needs repair. All saws and cords should be examined at regular intervals, and defective parts repaired or replaced immediately. During these regular checks, clean the saw thoroughly, paying particular attention to the guard assemblies. Repair work should be done only by a qualified repairman, and a record of repair and inspection should be kept.

Have enough saw blades on hand so that sharp blades of the type needed are available when required. Have blades sharp and properly set for the work they are to do. Green or soft wood requires a different set than other work. Blades should be firmly mounted on arbor, with clean contact surfaces free from sawdust and other particles.

Kick-proof (of friction) clutches should be clean and adjusted in proper tension.

Remember, a power handsaw is one of your most useful tools, but it is also one of the most dangerous. It can maim you for life, so treat it with respect.

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SAFETY WITH NON-POWERED HAND TOOLS

Year after year, accident records and reports indicate that little hand tools can cause great injuries. Almost all those injuries can be avoided, though, by following just a few simple rules: select the right tool for the job; make sure it is in good condition before you start work; use it the right way. Here are some examples dealing with basic tools.

SCREWDRIVERS

Proper care:

- Repair worn, bent, or broken tips, or throw the screwdriver away.
- Grind or file the tip of the screwdriver whenever necessary. It should fit the screw snugly.

Proper use:

- Don't use a screwdriver as a punch, chisel, or nail puller.
- Select the right size screwdriver to fit the screw.
- For electrical work, use a screwdriver with an insulated handle.
- Use a vise or other support to hold the piece being worked, instead of holding it with one hand and using the screwdriver with the other.
- Use an awl, drill, or nail to make starting holes for screws.
- Don't force a screwdriver by using a hammer or pliers on it.
- Don't carry screwdrivers in your pockets.

CHISELS

Proper care:

- Keep the cutting edge sharp at all times.
- Repair the chisel head or discard the chisel at the first sign of mushrooming—which can result in hazardous flying particles.

Proper use:

- Select the right size chisel for the job.
- Use a mallet rather than a hammer whenever possible. Make sure the mallet is the right size for the chisel.
- Wear goggles when chipping. Shield the work to protect others.
- Chip in a direction away from you, and don't use unnecessary force.
- Hold the chisel toward the work end so your hand won't get the full force of a blow if you miss with the mallet stroke.

FILES**Proper care:**

- Keep files sharp. Clean them frequently with a file card (short wire-bristle brush).

Proper use:

- Don't use a file unless it has a handle and the handle fits tightly.
- Don't use a file as a pry, chisel, or punch, and never hammer on a file. Files are brittle and may snap.
- Whenever possible, use a vise to hold the object being filed.
- When filing, use firm, smooth strokes without too much pressure.

HAMMERS**Proper care:**

- Make sure that the hammer head fits tightly.
- Replace cracked heads and loose or cracked handles.

Proper use:

- Use the right hammer for the job (e.g., a soft metal hammer on highly tempered tools such as drills or dies, a claw hammer for driving nails).
- Heads should be of proper hardness so they won't chip or mushroom.
- Grip the handle close to the butt end.

WRENCHES**Proper care:**

- If a wrench is bent, cracked, badly chipped, or has a loose or broken handle, discard it. Don't straighten a bent wrench; that will weaken it.
- Keep the jaws of the wrench sharp.

Proper use:

- Use the right wrench for the job, and be sure it fits snugly on the nut. Never use a shim to make a wrong-sized wrench fit.
- If you can't loosen a nut with the wrench you're using, get a larger wrench. Never add an extension—or "cheater"—to the handle for more leverage.
- Pull the wrench—don't push it. Make sure your footing is secure, and allow plenty of clearance for your fingers. Use a short, steady pull.
- Don't pull on an adjustable wrench until it has been tightened on the nut. The jaws should be pointed in the direction of the pull.

PLIERS**Proper care:**

- Don't use pliers on a hard metal surface. This will dull the teeth and loosen the pliers' grip.

Proper use:

- Grasp plier handles at the ends, not near the hinge.
- Never use pliers on nuts; use a wrench instead.

KNIVES**Proper care:**

- Keep knife blades sharp and well-honed. Dull knives are likely to slip.
- When storing, don't have cutting edge exposed.

Proper use:

- Make sure that your hands and the knife handle are dry, not slippery.
- Don't use a knife as a rake, fork, or hook with which to stab or pull the piece.
- Never try to catch a falling knife.
- Use a sheath or holder to carry a knife on the job.

AXES**Proper care:**

- Keep axes sharp and well-honed. A dull ax may glance off the wood and cut your foot or leg.
- Make sure the head is firmly seated on the handle.

Proper use:

- Wear safety glasses and nonslip safety shoes.
- Be sure you have plenty of room for a free swing.

HANDBSAWS

Proper care:

- Keep saws sharp and properly set, with no broken teeth.
- Oil them lightly after each use.

Proper use:

- Inspect the material you're going to cut to avoid sawing into nails or other metal.
- When starting a cut, don't put your thumb on the material to guide the saw. Instead, hold your thumb high on the saw blade away from the material you're cutting.
- Avoid twisting or binding the saw blade.

SAFEKEEPING

In general, keep tools clean and in good condition. Have a place for every tool and keep it there when you're not using it. Sharp tools don't belong in your pocket. Never leave tools lying on the floor or ground—or where they can fall. Many injuries are caused by stepping on, tripping over, falling on, or being struck by tools that have been left lying around.





THE CUTTING EDGE OF KNIFE SAFETY

Utility knives are one of those handy tools that everyone uses from time to time. It's easy to take this common workplace and household tool for granted. That can be dangerous, because even small knives can cause damaging cuts unless you handle them with care. Every time you use a utility knife at work or at home, remember these important safety tips:

Selection. No single utility knife is suitable for every job. Too large a blade is unwieldy and too small a blade makes the job more difficult than it should be. Retractable blades are safer if you need to carry the knife around with you.

Different blade types are designed for special purposes or specific functions.

For example, serrated edges are better for some purposes (cutting cardboard, boxes, rope) than straight blades (preferred for most straight, clean-cutting situations). Be sure to choose the blade that's best for the job, not just the one that's the handiest.

Use. Even with such a simple tool, proper handling is essential. Be sure to follow these basic safety rules whenever you use a utility knife:

- Practice using the blade on a similar spare piece of material. That way, you'll make a better cut on the job and ensure that you're using the proper blade.
- Take time to think through the task and plan your cuts. Draw guidelines on the material, if necessary.
- Make sure the work area is well lighted and free of distractions.
- Be certain that you have enough room to move your arm freely as you cut.
- Make sure the blade is sharp, a guard is in place, and the handle grip is firm.
- Always cut away from yourself.
- Stay focused on the task.
- Hold the material you're cutting as far from the path of the blade as safely possible.

Care. A sharp blade is critical to safe knife use. A dull blade will force you to exert extra pressure, which may cause the blade to slip or slide dangerously. Blades should be checked frequently and changed as often as necessary to maintain a sharp cutting edge. Be sure to stock extra blades in the workplace, as some big tasks may require you to change blades in the middle of the job.

Storage. Safe storage of utility knives, especially those with fixed blades, is essential. Never leave a fixed or open knife lying loose on a work surface when you've finished with it or place it in a desktop container. A toolbox or desk drawer is the best place for this type of knife. And be sure to retract the blade or keep a fixed blade in a sheath. It's easy to make a simple sheath out of heavy corrugated cardboard, which may spare someone a serious injury.

Don't sacrifice safety. Respect your utility knife, and use it with caution.



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USE THE RIGHT TOOL THE RIGHT WAY

We have a great variety of tools of different types at our facility and all of us, at one time or another, use them. Some are specially designed tools for only one or two jobs. We are glad to spend additional money to get tools we need to do our work better and more safely—so there is never any excuse for using the wrong tool. If you don't have the right tool handy, take the time to go get it. Don't take chances!

Of course, a right tool is only half the story. The other half is using the tool the way it is supposed to be used. Using the wrong tool or using a tool wrongly can be equally dangerous. Here are a couple of glaring examples:

- Did you ever see a worker put a wrench on a pipe joint or nut and then slip a piece of pipe over the handle to get additional leverage? No better way has been discovered to hurt yourself and ruin equipment, too.
- Then there is the one who uses the wrong type of wrench and takes a long shot that it won't slip and result in a couple weeks out of commission.
- This third loser is the one who holds an object in his hand and tries to work on it with a screwdriver. The result of a slip is a puncture wound—which doctors tell us is the most dangerous kind because it is the most difficult to clean and the most likely to lead to infection.

All of these are examples of unsafe acts. But there is another important point to consider. No tool is the right tool unless it is in good condition. Is the hammer head secure; is the handle good? Are cutting tool edges sharp? Check the jaws on your wrenches for worn or spread jaws, which are potential knuckle-busters. If the tool is bad, don't use it—replace it. A dirty or greasy tool is a hazard, too, since grease and dirt cause slipping.

One last point: A lot of accidents are caused by leaving tools lying around after the job is done. They cause trips, they can ruin machinery, and if they fall, they can do plenty of damage.

Let's remember that hand tools are like fire. They serve us in many ways, but, like fire, they are a serious potential hazard. So, if you

- Use the right tool
- Use it as it should be used
- Make sure it is safe to use, and
- Keep it in its right place.

Your job will be easier. It will be done better. And you will be much safer.



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WRENCH SAFETY

There are a lot of ways you can skin your knuckles, but using the wrong wrench for the job surely ranks as one of the most painful. There are no statistics available on how many people a year are injured when wrenches slip and send hands smashing into a pipe or machine. But if you've been careful enough never to have been one of those people, I'll bet you know someone who has endured that painful experience.

There are several important safety rules to follow when you use a wrench. Needless to say, the selection of the right wrench for the job is one of them. The location and number of nuts and bolts will determine the type of wrench to use for the most efficient job. The size of the nut or screwhead will determine the size. Be sure not to use a wrench that's too big.

Whether you're using an adjustable wrench or a fixed-jaw wrench, there are general safety points that should be followed.

First, don't use a wrench as a hammer. Any one who hasn't at least had the urge to use the nearest wrench that way is either fibbing or inhuman. But it's dangerous for the user and may set up a hazardous condition for someone else later on if there is undetected damage to the tool.

Never use a damaged wrench. Use only wrenches that are in top condition, and if they become worn or defective, take them out of service immediately.

You can help keep a wrench in good condition by keeping it in its proper place on a rack or in a tool box when not in use. This will keep it from becoming damaged by other tools and from becoming the cause of a tripping or struck-by injury.

When a wrench is to be stored for a considerable length of time, it should be kept in a dry place and coated with rust-preventive compound. Then, upon removal from storage, clean it with a solvent.

Make sure the wrench seats squarely and fits snugly around the nut or bolt. This precaution is particularly important when it is necessary to pull hard on the wrench.

Adjustable wrenches are not made for hard service, so set the adjusting knurl so the wrench fits the nut snugly. Failure to do this can cause injury and also shorten the life of the wrench.

When using an adjustable wrench, grip the nut or bolt so that the pulling force is applied to the stationary jaw section. Note that pulling the wrench is recommended rather than pushing it.

Set a pipe wrench so the teeth will grip the round object with the center of the jaws.

Once you have chosen the right wrench for the job, get a good solid footing before applying the tool. This will help you keep your balance should the wrench slip or a bolt thread break.

Experienced workers soon develop a feel for a wrench. They know when a bolt or nut is tight enough and can avoid snapping it off or stripping threads. Train yourself to develop this skill, and you can avoid some sticky problems.

Remember: Use the right wrench for the job, use it the way it was designed to be used, and never use one that is defective.



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HAND PROTECTION



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BEWARE OF BROKEN GLASS

Recently, a woman working at a checkout counter in a supermarket had her busy routine suddenly interrupted when a bottle of soda pop exploded nearby. She was showered with glass but suffered only minor cuts.

A clerk in a department store was showing a customer a lamp display. The customer accidentally bumped into it, and a lamp fell on the clerk and broke, severing an artery in his wrist.

A maintenance worker was hit in the eye by a sliver of glass when a window fell out of its frame.

The list of injuries could go on, ranging from someone walking through a glass door to dropping a glass in the bathroom. But the safety story doesn't end with the injuries. Someone has to clean up the broken glass, and great care is needed in doing it.

In fact, injuries resulting from picking up broken glass or resulting from someone not picking up broken glass may not always make the headlines, but they take their toll all too frequently with scratches, cuts, puncture wounds, severed arteries, and infections.

Sooner or later, all of us have to deal with broken glass—maybe only occasionally, or maybe often, depending on the nature of our jobs.

There are several basic precautions that are necessary when handling broken glass. First of all, if you get cut, obtain first aid immediately.

When disposing of broken glass, use only special receptacles and take them to the spot where the glass is located. Put a label on each container identifying its contents as broken glass.

Broken bottles and glass should never be deposited in waste paper baskets or regular rubbish containers. If you're working with machinery, it should be stopped before broken glass is removed.

Workers who are regularly exposed to broken glass should wear proper protective equipment. This includes safety glasses, goggles, or masks, depending on the kind of work. Gloves or sleevelets and heavy-soled work shoes are also necessary.

Occasionally, we all break a drinking glass or similar object. In this case, the broken glass may be collected using a piece of cardboard or heavy paper. The smaller particles can be picked up with several thicknesses of wet paper towels, wrapped, and marked as broken glass. Never use cloth towels or napkins to collect glass particles.

Likewise, ordinary cloth mops should not be used to clean up broken glass. Instead, sponge mops, brushes, or brooms should be set aside for glass use exclusively. A shovel and rubber squeegee is also a safe way to handle the situation.

Persons working with machinery and conveyors, where broken glass is a common problem, should use the special tools that are often provided for glass removal in these situations.

At this point, I'd like to emphasize that persons working with glassware have to be constantly alert for breakage, poor stacking, and faulty cartons. A serious injury can result if you reach into a box or shelf where broken glass is partially concealed.

Sometime, you might have to handle or try to open glass containers that might break. In this case, cover both your hands with heavy towels for protection.

Should there be reason to suspect that broken glass is concealed under soapy water in a sink or submerged in some other manner, the water should not be used but should be drained before you attempt to remove the glass particles.

It would be virtually impossible to cover all the instances in which you might be confronted with a broken glass problem. But it should be remembered that broken glass must be disposed of promptly and in a manner that is safe for yourself and others.

If special facilities for removal aren't available, a broom and dustpan, cardboard, or heavy gloves can be used.



SAFETY TOOLBOX TALKS

HAND PROTECTION



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HAND PROTECTION

Two of the intricately designed instruments that we work with are our hands. There are probably no other "tools" that could take the beatings our hands take and still carry out precision maneuvers.

Like most of life's wonders, we have come to take our hands for granted—except when we get our finger pinched in a door or between two bowling balls. Unfortunately, we soon forget this experience and start taking our hands for granted again.

It might surprise you to know that hand injuries account for roughly a third of all disabling on-the-job accidents each year. About 80 percent of those injuries are caused by pinch points, which have the nasty habit of catching us when we aren't looking—or, more accurately, aren't paying attention. Pinch points can be avoided by being aware of their existence and then taking proper precautions.

Many pinch points, such as those formed by belts and pulleys, are covered with guards—which you already know are not to be removed or bypassed. But there are others that you might not think of until the damage is done. For example, if you're moving an object, either on a hand truck or by carrying it, make sure—before starting the job—that the doorways and aisles are wide enough to provide proper hand clearance. Then be equally cautious when you set down the load, so as not to pinch fingers underneath.

Some other precautions include:

- Keep your hands free of grease and oil. Slippery hands can get you into trouble, so if you get grease on them, clean them up right away.
- Take time to remove or bend down protruding nails, splinters, and sharp edges on materials you're going to be working with.
- For safety's sake, don't wear rings when you're working. They can very easily catch on machinery and other objects, resulting in a badly cut finger or worse.
- Never attempt to handle broken glass, nails, or other sharp objects with your bare hands. Sweep them up or wear gloves for the job.

Protecting one's hands with gloves is certainly not a new concept. In medieval times, knights wore armored gauntlet gloves. Later, the bare-knuckled prizefighters discovered it was easier on both parties involved if their hands were covered when they squared off. And as the game of baseball developed, the fielder's glove evolved from a skimpy piece of leather into something with considerably more padding. So when you wear approved work gloves while handling rough materials or lifting or moving objects, you're in tune with tradition.

Despite any precautions we may take, our hands are going to receive minor injuries from time to time, and I caution you to be treated for these cuts and scratches promptly, to keep them from developing into something more serious.

In concluding this session, let me suggest something you should always keep in mind. Your hands are fearless. They'll go anyplace they're sent, and they'll act only as wisely as the person they belong to.



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HOLD ON TO YOUR HANDS

Our hands help us to express our humanity—to work, to play, to give instruction and affection. The hand, including fingers, is a complex tool made up of 27 bones and a network of ligaments, tendons, and nerve fibers, surrounded by muscles and fat and covered by skin.

Because it is such a highly evolved and constantly used instrument, it can be injured in a variety of ways. In fact, nearly 20 percent of disabling occupational injuries involve fingers and hands—second in frequency only to backs. Here are some rules to follow in taking care of these useful tools that do so much for you.

- Wear the gloves we require when you work with caustic chemicals, rough surfaces, sharp instruments, and other materials that might injure your hands. Keep the gloves clean and in good condition, and replace them if they are worn out or damaged by chemicals.
- Never wear gloves when you work on machines such as drills, saws, grinders, or other rotating or moving equipment. These types of equipment can catch the glove and pull the hand into danger.
- Don't wear rings, watches, bracelets, even necklaces, when working on machinery or anything the jewelry might get caught on.
- Use your machine to do the job it was intended for. Don't try to squeeze an additional task out of it. It may squeeze your hand.
- Before you use a machine that is guarded, double-check to make sure the guard is in place and the machine itself is working well.
- Remember, machines are guarded for a very good reason—your protection. Never put your fingers or your hands through, under, over, or around the guard.
- Watch what you grab. How do you know for sure it isn't red hot?
- Keep your work area clean and well-arranged so you don't place a hand in a miscellaneous pile and come away with a cut. Any time you've been working with sharp instruments, put them back away in their cases, out of harm's way.
- Use your brain as well as your hands when performing housekeeping tasks in your area. For example, don't push trash down into a trash can with your fingers—someone else may have thrown in broken glass, hardware, or a solvent-soaked rag or towel.
- Keep your hands clean, washing them often with soap and warm water to help prevent dermatitis. Barrier hand creams put on before beginning a job can also protect against skin irritants.

One careless moment can result in a hand injury that you might regret. Don't be careless. There are two great reasons to hold on to your hands—your left (hold up your left hand) and your right (hold up your right). They're the most important tools you will ever work with, and you wouldn't want to do without them—even for a few days while an injury heals. So heed today's advice and hold on to your hands for tomorrow.



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KNUCKLE DOWN ON HAND SAFETY

Just for one day—say, tomorrow—try paying attention to what your hands do. Start from the time you turn off the alarm clock. Really notice what you do with your hands while you're shaving, washing, dressing, eating, driving, working, writing, etc. Make yourself conscious of your hands all day long. Notice the sensitivity of your fingertips. Note the jobs your hands do that need a light, careful touch and those that take strength. Let yourself discover how wonderful your hands really are.

Then picture what your life would be like if you lost even the partial use of a hand. Can you afford to take your hands for granted? They come just one pair to a customer. They're the only hands you'll ever have, so take care of them.

You don't have to have a serious accident to temporarily lose the full use of your hands. Think back to any time when you had a relatively minor injury such as a torn fingernail or a cut that made it painful or awkward to freely use your hand or fingers. Do you remember how helpless you felt trying to write your name, use a knife and fork, button your shirt, or do any of the simple, everyday things that you normally take for granted?

An informal survey of a number of employees who suffered hand injuries revealed that they knew their jobs. They knew the job hazards, too. But in one case after another, the trouble was that they forgot. They just didn't think.

Knowing the right way to do a job is important. But just knowing is not enough.

In general, handling materials is one of the major sources of hand injuries. These accidents don't have to happen. Most hand safety rules, when you take a good look at them, are only common sense. Let's go over a few.

You know how easy it is for wet soap to slip right out of your hands. For the same reason, it makes good sense to wipe off any object that is wet, greasy, slippery, or dirty before you pick it up. Also, before you handle any material, look it over for slivers, burrs, jagged edges, and rough surfaces.

Especially important, watch out for pinch points. The majority of hand injuries happen when your hand and fingers get caught between two objects.

Keep your fingers in the clear when you're setting down a heavy object, when you're piling material, when you're handling slings and chains, and when you're using tools, such as pry bars, levers, and wrenches.

Watch out for points of contact—where the teeth of moving gears mesh together, around all moving equipment, and anyplace else where two objects meet.

Hands are naturally exposed to injury, probably more than any other part of the body, simply because we use them so often. That's all the more reason to develop hand consciousness and to protect them.

Any time the safe way seems like a little too much time or trouble, any time you're tempted to take a chance or a shortcut "just this once," remember that you may have to live with the consequences for the rest of your life.



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HAND PROTECTION



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PINCH POINTS

Recently, a worker was crushed to death against a wall by a huge truck that was backing up. That was a pinch point accident.

In another instance, a pair of pliers slipped and pinched a worker's hand, which caused a blood blister.

Pinch point conditions are one of the most difficult hazards to guard. For example, let's look at a set of two in-running calendar rolls used to finish cloth or manufacture paper or rubber. The material in the process must reach the in-running rolls to be carried through; no guard can be placed at the immediate point. There are some partial guards on such equipment, but operators must exercise extreme caution and alertness when these rolls are running, which is usually at a very high speed and under considerable pressure.

Closely stored 55-gallon steel drums, when moved or handled, create pinch points between each other or the dolly being used to move them. Because the drums are round, they are more difficult to handle and control in many cases. Here the only protection is care and alertness.

The same thing applies to heavy crates, castings, and boxes that are stacked close to each other.

Improperly guarded punch presses can inflict more serious injuries. However, most punch presses are well guarded by a two-hand trip and photoelectric beams. These must be used with part-revolution presses; they cannot be used with full-revolution presses. Full revolution presses must have a guard-barrier, two-hand control, or similar positive device. Proper guarding prevents entry over, around, and through.

It is dangerous to work around machinery that has oscillating or reciprocating parts or elements. Of course, most of these areas are guarded, but in cases when guards are removed to do work or make adjustments, be sure the parts cannot move or be moved. Tag out or lock out the equipment and be sure the machinery cannot cycle if it is off balance or activated by accident.

There are many commonplace things that are potential pinch points, like heavy steel doors or heavy covers for bins or hoppers, and often there is no way to guard these hazards. Care is your only safeguard. Even extension ladders can create serious pinch points, the rungs sliding past each other can catch fingers, hands, and feet.

Roller, belt, or chain conveyors create many pinch points. On a roller-skate-wheel conveyor, heavy crates, castings, and other materials that are too close together can even cut off a finger. Powered conveyors are most dangerous at floor openings and at the beginnings and ends, if they run inclined between different levels.

A little thought will bring to mind the many pinch points (sometimes called nip points) here in our own operation. Let's discuss some of them now.



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TEN RULES TO SAVE YOUR TEN FINGERS

It has been estimated that in a given year there will be at least half a million accidents in which hands are severed, crushed, mangled, or burned.

That number could be greatly reduced by strict adherence to the 10 rules listed below—both on and off the job.

- 1. Beware of pinch points.** Train yourself to recognize pinch points and avoid placing your hands and fingers in such hazardous spots.

[Note: This would be a good place to have group members report on pinch points they've encountered in the workplace, and for you to mention (without naming names, of course) pinch-point injuries that have appeared on your own first-aid and recordable injury logs. The same "it can—and did—happen here" approach can also be taken with other items in the list.]

- 2. Expect the unexpected.** When using wrenches, persuaders, bars, and other hand tools with which you expect resistance, anticipate that the tool might slip or the object to which pressure is being applied may suddenly give way. Failure to anticipate such an occurrence could result in painful and serious injuries to hands and fingers.
- 3. Inspect tools.** Check to see if they are in good condition and safe to use. A wrench with worn or spread jaws, a mushroom-headed chisel, a worn screwdriver, or a hammer with a cracked handle are examples of defective tools, which are frequently the cause of injuries to hands and fingers.
- 4. Do not work on moving equipment unnecessarily.** If the equipment can be stopped, do so. Working on moving equipment presents a real threat to hands and fingers.
- 5. Replace machine guards following repairs that require removal of guards.** The presence of machine guards is an important factor in keeping hands and fingers out of dangerous areas.
- 6. Be mindful of equipment that starts automatically.** Never work on such equipment without first de-energizing it and eliminating the possibility of automatic startup. That's what our lockout/tagout procedure is all about—and you should exercise the same care at home.
- 7. De-energize electrical equipment prior to working on it.** Flash burns caused by electrical equipment shorting out are an ever-present threat to hands and fingers when work around such equipment is being performed.
- 8. Avoid touching lines or equipment that is hot.** Every hot line or hot piece of equipment is a potential source of painful injury to any hand or finger that comes in contact with it.

9. Be mindful when closing doors. Keep hands and fingers clear. It is a safe bet that everyone has at one time or another caught a finger in a door. Attention to detail can prevent this painful and sometimes serious injury. Car doors seem to be especially dangerous for children's fingers.

10. If the work being performed requires gloves, use them. Gloves offer protection from wood and metal splinters, caustics, acids, electrical burns, thermal burns, chemicals, and many other sources of injury.

[Note: Maybe workers can add more precautions to this list. Why not give them the opportunity?]

In summary: “The workplace and the world are full of hand traps.” Don't expose your hands and fingers to them. Think as you work. Protect your hands and fingers by using foresight and avoiding those situations and actions that carry a potential for injury.



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A GLOVE STORY

The saying that "Using the right tool makes the tough job easy" is certainly true, but the items of protective wear that go with a particular job are also important to making a potentially hazardous task safe. A case in point: gloves.

For anyone who works with molten lead, for example, the right gloves can be as important as the proper ladle size. They should be heat-resistant, fit the hand snugly and be tight at the wrist. Gauntlets don't provide the necessary protection because they can catch on something and cause the lead to splash. Welders' gloves also need to be heat-resistant—and shockproof and fire-resistant.

Stone masons and bricklayers use leather gloves—although long rubber gloves with corrugated ribs are useful for working with masons' wet saws. Canvas or leather gloves are recommended for drilling operations.

Hobnailed gloves are the right choice for metal finishers who must handle sharp pieces of metal. Men and women who work with acids and detergents need rubber gloves. For many people in the health professions—doctors, dentists, nurses—latex gloves are worn—and changed for each patient. (But some of them prove allergic to the natural latex and so must find other kinds of gloves that will avoid the allergic response yet still protect against infection.)

It's not only in specialized trades that gloves are a useful part of the working wardrobe. While performing material handling of various kinds, gloves help guard against splinters, strapping cuts, scraped knuckles when carrying material through narrow aisles and doorways.

The two most important things to remember about the various kinds of work gloves are: **(1)** choose the right type for the job, and **(2)** wear them—they are of no use to you while they're in your locker or tucked in your back pocket.



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HAND PROTECTION



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YOUR HANDS

From the moment of birth until the day of death, our hands serve in an infinite number of ways: They build, guide, communicate, create, play, love, and learn.

Hands have a closer relationship with the brain than almost any other organ in the body, which may account for the fact that the outer layer of the area of the brain that is linked to the hand is longer than any other.

Each hand has 27 bones, 24 muscles, 30 joints and pivot points. Seven or eight muscles cooperate to move each finger. Thirty joints and 50 muscles of the hands, wrist, arm, and shoulder are brought into play to spoon a bowl of soup. A normal grip exerts 90 pounds of force, but some can exert 150 pounds or more.

Work, play, and curiosity are constantly getting hands into trouble. In this mechanized age, the hands are injured more often than any other body part. Power tools cut, tear, puncture, bruise, or otherwise damage tissues, tendons, and nerves. Pinch points are a frequent cause of hand injury.

Today, even badly mutilated hands can often be restored to full use, but only at the cost of valuable lost time and considerable cash outlay—by insurance companies if the injury is job-related and by you personally if the injury occurs off the job.

Think for one moment of the thousand separate tasks you use your hands for each day. Now think of how valuable they are, and think of ways to protect them both on and off the job.

[Note: Have the group share their thoughts on tasks involving the hands and dangers that the hand may encounter (perhaps someone will list these on a flip chart). Then go back and collect ideas on how to prevent each possible accident to the hand or fingers.]

You did a very good job of coming up with how to protect those valuable helpers, your hands. Now be sure to remember your own good advice.



SAFETY TOOLBOX TALKS



SAFETY TOOLBOX TALKS HAZARD COMMUNICATION



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HAZARD COMMUNICATION TRAINING

The hazard communication (hazcom) standard is one of the most complex OSHA regulations, which is probably why it is cited most often during OSHA inspections.

A key element of this standard is training. Here are some of the most frequently asked questions about hazcom training:

WHERE DO WE BEGIN TRAINING ON SUCH A COMPLEX SUBJECT?

Start by taking an inventory of the workplace chemicals. Train on how to read the material safety data sheets (MSDSs), where they are located, how to understand labels, who is responsible for cleaning up spills, what procedures must be followed, what target organs are affected, which PPE should be used, and so on. As you are training, think about what an OSHA inspector would ask.

For ongoing training, review three or four MSDSs per month, then conduct a spot quiz to see if employees understand how to handle the hazardous substances and what the risks are.

Another helpful training tip is to use an MSDS Information Review Form, which contains critical information that is transferred from the MSDS. The review form is more "user-friendly" than the full MSDS (which is always available when more details are needed).

Another technique is to use a highlighter to emphasize the important information on an MSDS. It is also good to provide a handout glossary of chemical terminology.

WE HAVE HUNDREDS OF HAZARDOUS CHEMICALS AT OUR WORKSITE. HOW DO WE TRAIN ON ALL OF THEM?

Many employers will group chemicals by categories that make sense for their operation and train according to these groupings. Examples of different classes of chemicals are solvents, acids, bases, toxic dusts, and so on. Other types of classifications can be flammables, corrosives, caustics, carcinogens, etc. A third way of grouping chemicals is by the hazards they present, such as inhalation hazards or contact hazards. After you teach about the groups, you can deal with additional information about individual substances in each group.

IS ANNUAL TRAINING REQUIRED BY THE STANDARD?

The federal OSHA standards only say that employees need to be trained when they first start a job and then whenever the hazard changes. In other words, annual training is not required, although most employers prefer to do so in order to keep the information fresh in employees' minds. Many state "right-to-know" laws, such as in Texas, do require annual training, so you need to check your local laws.

MUST WE STOP AND RETRAIN ON EACH NEW SUBSTANCE THAT ARRIVES AT THE WORKPLACE?

As long as initial training is comprehensive and covers categories of chemicals and hazards and how to read and understand MSDSs and labels, retraining would merely have to ensure that new products and chemicals and any recognized hazard are identified to the employees, as well as how they can protect themselves. Briefly discussing new chemicals and their MSDSs at your weekly or monthly safety meetings could satisfy this requirement.

HOW DO COMPLIANCE OFFICERS CHECK TO SEE IF OUR TRAINING IS ADEQUATE?

A common way of verifying your training program is questioning your employees about the location of the MSDSs, the type of protective equipment they must use, the emergency procedures in place, and when training last occurred. As one OSHA official put it, "You might have a great written program, but if we talk to the employees, and they do not have a clue, then all you have is a paper product, and it is not worth a thing to you."

Other methods of verification include checking the training roster, reviewing the training materials, and looking at the test scores. Therefore, it is extremely important that you document all training sessions and retain employee sign-in sheets and tests. Inspectors will also observe the employees' work practices.

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MSDSS AND LABELS— READ THEM!

In today's world, a large percentage of tasks require the use of some type of chemical. While many chemicals are classed as "hazardous," we can use these chemicals safely if we bear in mind that they must be used cautiously. Just because we are familiar with a chemical doesn't mean that we should regard it lightly. Needed precautions must be taken every time we handle that chemical, even if it is for the 100th or 1,000th time.

Our company and the manufacturer of the chemical or chemicals that we use want to help you work safely with these substances. That's why there is now a material safety data sheet, or MSDS, available at your job site for every chemical that you will be exposed to on the job.

[Tip: Ask trainees if they know exactly where to access the MSDSS in their individual work areas. If any do not, urge that they check with their supervisor immediately after returning from the training session, so that they will know where to look from now on.]

The MSDS is there for you. Familiarize yourself with what it says on the MSDS about every substance that you come into contact with. It will tell you about the chemical, what the possible dangers could be, and how to avoid those dangers by handling the substance in a safe manner. If you need to use personal protective equipment, the sheet will tell you that, too. If there is something on the MSDS you don't understand, ask your supervisor. It won't make you look stupid to ask. It will make you look careful and concerned, which is what you ought to be.

In addition to reading the MSDS before using a chemical, you will also want to read the label on the container. The label will tell you what the chemical is, the manufacturer, the hazards, and how to use it safely. But don't stop with reading the label just once. Read that label every time you handle the can, barrel, drum, or pipe that contains a chemical that you use. At least look at the hazard warning to remind yourself if the chemical is flammable or combustible and what the health hazards might be.

Is the chemical a corrosive that you must keep from contact with your skin? Is it a reproductive hazard or a carcinogen that you will want to be especially careful handling? The label will give you advice on avoiding harm from the product. It might tell you not to breathe the vapors, or to keep the container closed when you aren't using it.

When you look at the label, look for special symbols and signal words that will give you information quickly and easily. If a product is flammable, for instance, a red symbol together with a picture of flames and the word "flammable" will let you know that the chemical will burn. If the chemical is a poison, expect to see the word "poison" and a skull and crossbones.

Words that tell you how dangerous the chemical can be include:

- **CAUTION**—which means be careful; you can be injured, but the injury will not be grave
- **WARNING**—which means the substance can cause a serious injury, even death
- **DANGER**—which means that the substance is a present danger that could cause a serious injury that might be fatal.

Because so much of what we do in the workplace today depends upon the use of some sort of chemical—and because most of us do use chemicals in our work—it is up to us to take the utmost care. We can begin to do that by reading the material safety data sheet for every chemical that we use and by reading the label every time we take out a container. Yes, every time!



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YOUR RIGHT TO KNOW ABOUT HAZARDOUS CHEMICALS

You work with chemicals in your job every day. Do you know the names of the chemicals without looking at the labels? Do you know how to handle and store them safely without risking potentially dangerous exposure to them? What would happen to you if you were overexposed to these chemicals?

Any worker who doesn't know the answers to these questions is at risk of serious harm. That's why the Hazard Communication Standard—also known as the "right-to-know" law—was established by OSHA. It requires employers to provide their employees with detailed information and training on the chemicals they work with—including the nature of the chemicals, the harm they could cause, and precautions to take when using them.

The information is provided to you in three ways: **(1)** labels on the containers of chemicals, **(2)** a material safety data sheet (MSDS) for each chemical in use at the worksite—maintained in an easily accessible location, and **(3)** extensive training sessions on the chemicals you use on your job and how to protect yourself from being harmed by them.

Always read the label on the container of a hazardous chemical. It can provide you with a lot of very useful information, such as the identity of the chemical you are using and any warnings describing its dangerous properties—for example, **Warning! Highly Flammable!** It may also provide handling and storage information, precautions for using the chemical (e.g., "use only in a ventilated area"), and first-aid information on what to do if you are exposed to the chemical.

The material safety data sheets contain more detailed information than the labels. You should make yourself familiar with this information before you begin working with the chemicals. You can also refer to the sheets if there is a problem, such as a leakage or spill.

UNDERSTANDING THE TERMS

These MSDSs can be written in highly technical language. It is therefore important to understand some of the terminology that is used.

Acute or chronic effects: A chemical that is acutely toxic can injure you after a single exposure, while others will harm you after repeated or prolonged use.

Route of entry: How a chemical gets into your body—through inhaling, swallowing, skin absorption, etc. The route of entry will determine what personal protective equipment you should use when handling the substance.

Local or systemic reaction: When you are exposed to a toxic chemical, you can experience one or both of these reactions. A local reaction will occur at the site of the exposure,

such as irritations or damage to the skin, eyes, or lungs. When chemicals enter the bloodstream through the skin, eyes, mouth, or lungs, your entire body can be damaged. This is known as a systemic reaction. The damage can be immediate or delayed.

Target organs: Organs in your body that are damaged by a systemic reaction to a hazardous chemical, such as the liver, heart, kidneys, and others.

Permissible exposure limit (PEL): These limits are established by OSHA to indicate the average amount of a chemical that you can safely be exposed to over an 8-hour period.

Compatibility: Toward the bottom of every MSDS is a section that describes what other chemicals the material should not be mixed with. For example, chlorine bleach mixed with ammonia can cause an extremely toxic gas. If you have any questions about the chemical terminology, check with your supervisor.

When you have completed all the necessary training on the specific chemicals you may be exposed to here, you should know all the emergency procedures to be used in case of an accidental spill or exposure.

GENERAL PRECAUTIONS

The following general precautions should be used around all chemicals:

- Never eat, drink, or smoke around chemicals in the work area.
- Keep flammable or explosive material away from any heat sources.
- Make sure there is enough ventilation in the work area. If you feel the slightest amount of dizziness or nausea, report the incident immediately to your supervisor.
- Use the proper personal protective equipment. This may include gloves, safety glasses, masks, respirators, and work clothes, depending on the type of chemicals you are using. Keep all equipment clean and report any damage.
- Know how to properly dispose of all contaminated materials.
- Always use established procedures for handling, storing, or transporting hazardous chemicals.

As you can see, the “right-to-know” regulation provides you with a lot of information. It’s up to you to seek out that information and use it for your own protection. **Important point:** If there’s something you don’t know, or aren’t absolutely sure of, ask! Never start a job without knowing the properties and hazards of the chemical(s) you’re working with—and using the personal protective equipment called for.

SAFETY TOOLBOX TALKS





BEWARE OF BATTERY HAZARDS

The ordinary automobile storage battery looks harmless enough. But that may be its biggest fault, because so many people working with or near batteries seem unaware of their potential hazards.

The result is an increasing number of job injuries related to misuse or abuse of batteries.

Many of these injuries can be avoided through a healthy respect for the battery's main hazards:

- The electrolytic agent in battery cells is diluted sulfuric acid that can burn exposed skin and eyes. Even the corrosive dust that forms from spilled battery acid is very harmful to skin and eyes.
- When a battery is on charge, hydrogen gas can build up in the air space near the cap of each cell, and unless the gas is allowed to escape, a spark can ignite the trapped gas and explode the battery.

Controlling these hazards of the storage battery is simple enough. An important rule when working under the hood of a vehicle's engine compartment or on the ground under the engine is to handle metal tools as carefully as possible. This is important if the worker is near the battery, because the spark of metal against metal or from accidental grounding by a tool can ignite the battery's hydrogen gas. For the same reason, never light a match near a battery, and never smoke when working near one.

In filling a battery with acid, take extreme caution not to overfill or spill the electrolyte. If you do spill any, wipe it up immediately, taking care to protect exposed skin and eyes and to discard the wipe-up rag or paper where others will not be exposed to it.

Never install a battery in a vehicle until the battery has been thoroughly inspected for weakened posts, split sides, or cell leaks. The vehicle's battery hold-down or frame must not be too rigid, or the battery walls can be weakened or sprung, allowing acid to leak.

Never work around a battery that has a buildup of dried or dust-like corrosive acid until you have safely removed the buildup. The dust is as potentially harmful as the electrolyte and can dislodge and blow into your face or fall onto anyone working under the vehicle. Goggles or other types of eye shields can protect against dust or electrolyte when the worker must be near these harmful agents.

There are special carrying straps for batteries that allow gentle movement and lifting and help avoid bumping or dropping. Abuse of a battery can mean acid leaks and hydrogen gas leaks later on that shorten its life and can be hazardous to anyone working around the defective battery.

Charging a battery builds up hydrogen gas that is ignitable. So all charging must be done with battery caps removed and in the open air or in a well-ventilated area. Connect the alligator clips of the charger on the battery first, and plug the charger into the wall outlet last.

Any source of a spark during or immediately after charging can lead to an explosion. Beware especially of sparking when trying to start a dead battery with jumper cables. These jumpers can cause arcing and sparks that can ignite any hydrogen gas buildup.

Whenever trying to start a stalled vehicle by using jumper cables, the safest way is to follow these steps:

If the stalled car has a NEGATIVE ground:

1. Connect one end of your jumper cable to the positive post of the dead battery.
2. Connect the other end of this same cable to the positive post of the good battery.
3. Connect one end of the second jumper cable to the negative post of the good battery.
4. Connect the other end of the second jumper cable to the frame or bumper of the stalled car.

If the stalled car has a POSITIVE ground:

1. Connect one end of the jumper cable to the negative post of the dead battery.
2. Connect the other end of this same cable to the negative post of the good battery.
3. Connect one end of the second jumper cable to the positive post of the good battery.
4. Connect the other end of the second jumper cable to the frame or bumper of the stalled car.

Never connect jumper cables from positive to negative terminals. To do so will exceed the design voltage of the electrical system and will burn out the electrical components if an attempt is made to start the car.

Never connect battery leads of jumper cables while an engine is running. Shorting or arcing can create sparks that may ignite hydrogen gas created by charging.

Finally, never check a battery by shorting it with a screwdriver or any metal. The sparks may ignite hydrogen in the battery.



CARBON MONOXIDE— THE HIDDEN KILLER

Winter and cold weather means more time is spent indoors. But, not everything is always safe and sound on the home front. The American Lung Association warns everyone to watch out for carbon monoxide (CO), a colorless, odorless gas that is produced by incomplete burning of carbon fuels. Exposure to this indoor air pollutant reduces the blood's ability to carry oxygen and can cause serious health problems.

At very high levels, an exposed person will lose consciousness and die. Nearly 300 people die every year from CO exposure related to residential combustion appliances. Any fuel-burning appliance that is not adequately ventilated and maintained can be a source of CO, including gas appliances, fireplaces, wood and coal stoves, space heaters, charcoal grills, automobile exhaust fumes, camp stoves, gas-powered lawn mowers, and power tools.

Avoid exposure by following these steps:

- Install appliances according to manufacturer's instructions.
- Have heating system, chimney, and flue inspected and cleaned by a qualified technician every year.
- Do not use ovens and gas ranges to heat your home.
- Do not burn charcoal inside a home, cabin, RV, or camper.
- Do not operate gas-powered engines in confined areas such as garages or cellars.
- Never leave your car or mower running in a closed garage.
- Make sure your furnace has adequate intake of outside air.
- Choose vented appliances if possible.
- Use kerosene space heaters and unvented gas heaters only in well-ventilated rooms.
- Install a CO detector with an audible alarm in your home and garage.



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COMMON SOLVENTS

Most of you know what solvents are, but for anyone who doesn't, a solvent is a liquid that can dissolve other substances without changing their nature.

Water, for instance, will dissolve salt. If you boil water away, you get the salt back, and it's still salt. Water is the most common solvent, but it's no good for greases, oils, or fats—which are what usually make dirt stick to things. So we need solvents that are good at dissolving grease, oil, and fat and washing the dirt away.

Each solvent—alcohol, naphtha, and so forth—has definite advantages and disadvantages. That is the reason for mixtures.

Every solvent is hazardous, depending on how it is used. Many organic solvents will burn. They can cause fires and explosions if misused. Many of them are toxic. Some are flammable, explosive, and toxic. All are useful, and all can be used and worked safely. It's not hard to do—if you know the hazards and how to control them.

When you heat a solvent, you get vapors—how much vapor will depend upon the temperature of the operation and the nature of the solvent. Some solvents evaporate very rapidly; others are slower in evaporating. The larger the area of contact between the solvent and air, the more vapor will be produced.

Suppose you leave the cap off a can of solvent. You'll get only a small stream of vapor. If you could remove the entire top of the can, you'd get more. If you poured the solvent into a large, uncovered pan, you'd get still more. You'd also get some from the stream as you poured it. Then if you emptied the pan across the floor, you'd get more yet.

The hotter a solvent is, the faster it will turn to vapor. It's hard to figure out a condition that requires a solvent to be heated, but it's been done, and in that way lies trouble and danger. Solvents will make vapor faster in a draft than in dead air.

When you handle a solvent, first know the hazards of that particular solvent. Do you remember how to find them out? Right; by reading the label and the MSDS.

Next, use your head to plan the job thoroughly. Remember how solvent vapors act, and make sure that solvents can't vaporize enough anywhere to be hazardous. Don't forget that they spread rapidly out through the air and move with air currents, just as cigarette smoke does.

Know your solvent. Know if it is flammable or toxic or both. Never use gasoline as a solvent because it is extremely volatile and highly flammable. A safe substitute is mineral spirits.



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DANGERS OF CARBON MONOXIDE

Carbon monoxide, or CO, is an odorless, colorless, and poisonous gas. Exposure can be deadly—so deadly, in fact, that some people use a CO source in order to commit suicide. Because CO can overcome you quickly and its symptoms can easily be mistaken for less fatal ailments, it's important to be aware of how CO is produced, what happens if you're exposed, and what to do if you have or observe exposure symptoms.

Consider the following statements. Which are true and which are false?

1. If there's not enough CO to kill you instantly, you don't have to worry about it.
2. CO is not as dangerous in homes as it is in workplaces.
3. CO poisoning can't cause permanent damage if exposure is not fatal.

If you answered false to all of these questions, you already have an idea of how dangerous CO can be. Danger from CO increases with the amount and length of exposure, but in reality, any exposure is a health hazard. CO can be a potential problem anywhere that fuel is burned, whether it's at home or at the workplace. And, CO can cause permanent damage to parts of the body that require a lot of oxygen, like the heart and brain. Such injury may not be noticeable for years.

CO is a common hazardous substance. It's produced when organic fuels are burned in an area with a limited supply of oxygen. The most common occurrence is incomplete burning in an airtight building. Often, a motor vehicle or furnace is the culprit. CO is produced by the incomplete burning of any material that contains carbon, including gasoline, oil, propane, natural gas, coal (both furnace-grade and charcoal), and wood.

CO is produced in workplaces and homes during the operation of equipment such as furnaces, space heaters, water heaters, gas clothes dryers, gas ranges, fireplaces, and motor vehicles, including forklift trucks. CO becomes dangerous when levels build up because of equipment that is not working properly and/or a lack of venting or air supply.

Be aware of CO poisoning dangers. CO can easily cause asphyxiation when inhaled. It prevents the blood from carrying enough oxygen to vital organs. Death can come within minutes of inhaling large amounts, and permanent crippling injury may result from inhaling even small doses. CO exposure kills hundreds of people and poisons thousands each year.

The Occupational Safety and Health Administration (OSHA) set the permissible exposure limit for CO at 50 parts per million (ppm) of air—that is, a value of 55 as an 8-hour time-weighted average. What this means is, even when not fatal, CO poisoning can cause permanent damage and can lead to ongoing health problems such as headache, dizziness, anorexia, and difficulty with muscle coordination. Pregnant women with CO poisoning risk harm to or loss of their unborn child. Children and babies are extremely susceptible to CO poisoning.

Factors that increase health risks to those who inhale CO include heart conditions, asthma, and bronchitis. Drinking alcohol, high altitudes (which have less oxygen), smoking (which raises the CO content in the bloodstream), and hot conditions all increase the health risks for those who have inhaled CO.

Be alert for CO poisoning symptoms—and act quickly! Symptoms may resemble those of the flu, such as dizziness and vertigo, nausea, flushed face, headache, weakness, irritability, sleepiness, confusion, and chest pains for people who have heart conditions. In the event you or someone else is exposed to CO, get to fresh air immediately! Oxygen helps the body rid itself of CO more readily—the purer the oxygen, the better. An unconscious victim needs artificial respiration and immediate medical attention. And, always remember to get medical attention if you think you have inhaled CO. There is a blood test available to determine if your exposure was severe.

Act to prevent CO leaks and exposure at home and work. Keep all fuel-burning equipment and appliances maintained and operating properly. Heating equipment leaks are a common cause of CO poisoning, so be sure furnaces have routine servicing. Also, vent all fuel-burning equipment and appliances outside. Inspect vents to be sure they're not blocked. Check that exhaust fans blow out and away from air intake vents so they don't bring combustion products back into the building. And, be especially careful in energy-efficient buildings, which may have minimal ventilation.

It may seem unnecessary to mention this, but don't let vehicles run in an enclosed area. Accidental deaths result every winter from simply warming cars in closed garages. Maintain vehicles properly. Inspect them for exhaust and pipe leaks and body rot, which could allow CO into the vehicle. Utilize special detectors to alert you to dangerous CO levels, since CO can't be seen or smelled. These detectors will sound an alarm if CO levels are hazardous. CO detectors are relatively inexpensive and can be purchased in most major stores. They're available for both workplace and home use.

Be on the lookout for CO sources wherever you live and work. CO is impossible to see, but its sources can be identified and repaired or modified to keep you, your workers, and your family safe from deadly CO hazards.

SAFETY TOOLBOX TALKS HAZARDOUS MATERIALS



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DON'T LET TOXIC SUBSTANCES HARM YOU

Every day we hear many worrisome warnings about toxic substances, but we don't have to let the information we hear panic us. The very fact that science is finding out more about the effects of certain substances on the human body means that we become better able to keep ourselves from being harmed by potentially dangerous materials.

Chemicals are called toxic when they can cause either long-term or short-term harmful health effects to a human being. What effects will exposure to a certain toxic substance have? That varies according to many factors, such as the amount of the substance you are exposed to, its basic chemical properties, how the chemical came into contact with your body, your own sensitivity to the substance, and the length of exposure.

OSHA's hazard communication standard requires your employer to provide you with information that will help you avoid ill health effects from any chemical you encounter here at work. If you've paid close attention to the training we have conducted, you know how to use material safety data sheets (MSDSs), labels, and the personal protective equipment we provide.

Do you remember that the MSDSs for all potentially hazardous chemicals we use are located (*insert where your company's are kept*)? Have you read the MSDS for each of the potentially harmful chemicals you use in your job? As has been explained in your training, these worksheets describe the chemical and physical properties of the substance, the symptoms of overexposure, and the procedures you must follow to avoid harmful exposure. Ask your supervisor for an explanation of anything you aren't certain about.

In addition, to be safe, follow these basic precautions no matter what kinds of hazardous substances you work with:

- Be prepared for an emergency. If there is a leak or spill, stand back unless you know what the substance is and how to clean it up. Check protective gear and keep it in good working order. Know where emergency gear and supplies are and how to use them.
- Wear personal protective equipment as required or as necessary. Your glasses, apron, boots, gloves, or other items will help keep you from harm.
- If you or your clothing become contaminated by a toxic chemical, shower or wash the areas that have been exposed. Change your clothing following the prescribed decontamination procedures.
- When working with toxic substances of any type, wash your hands thoroughly before eating, drinking, smoking, applying makeup, or handling contact lenses. Shower and change before going home.

- Don't take food, drink, or cigarettes into your work space. (They may become contaminated by chemicals, and you may be exposed by using them.)
- If you are going to work alone where there are toxic chemicals, be sure there's some type of communication system for getting help.
- Keep your workplace neat and be able to identify everything that's in front of you or by your side. Know how to clean spills of the substances you work with and dispose of the contaminant properly. The idea is to collect and confine the hazardous substance. so don't spread the substance with a broom—use a vacuum.
- If you get chemicals on your skin, wash the exposed area with soap and water for several minutes. If you get chemicals in your eyes, call for help and flush them with water for several minutes.
- Whenever you are exposed, notify your supervisor; whenever you are injured, also contact the clinic or doctor that takes care of you.



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FLUORESCENT LAMPS

DOUBLE TROUBLE

Bright, cool-burning fluorescent lamps are commonly used in both industry and offices. Chances are, you have them now. However, fluorescent tubes contain mercury and lead, which are hazardous materials. When you remove old fluorescent lamps, there are specific rules about how to handle and dispose of them, because they are double trouble:

- They pose a serious environmental hazard—the mercury can leach out of landfills and poison both the soil and drinking water.
- They are also a health hazard—workers can be exposed to dangerous mercury fumes and lead powder whenever fluorescent lights are broken. Mercury exposure poses many serious health risks, including permanent nerve and kidney damage.

Incidentally, fluorescent lamp ballasts made prior to 1977 contain polychlorinated biphenyls (PCBs), which are highly toxic. They must be handled as a hazardous waste.

WHAT THE FEDS SAY

In the federal hazardous waste lamp rule, a lamp, also referred to as a universal waste lamp, is defined as the bulb or tube portion of an electric lighting device. Examples of common universal waste electric lamps include fluorescent, high intensity discharge (HID), neon, mercury vapor, high pressure sodium, and metal halide lamps.

Under the federal rules, a used lamp becomes a waste on the day that it is discarded. An unused lamp becomes a waste when the handler decides to discard it. Some states' definitions of universal waste lamp differ from the federal definition. Some also have different criteria for when a lamp becomes a waste. Be sure to check state universal waste rules before disposing of waste lamps.

EPA added hazardous waste lamps to the federal list of universal wastes regulated under the Resource Conservation and Recovery Act (RCRA), effective in January 2000 (see 40 CFR 273.13 and 273.33 of the existing universal waste rule that addresses requirements for hazardous waste lamps). The intent is to encourage the recycling of hazardous waste lamps so that fewer spent lamps, and the mercury inside them, end up in landfills.

Conditionally exempt small quantity generators who dispose of less than 100 kilograms (220 pounds) of hazardous waste of any kind in a month are not subject to RCRA hazardous waste management standards. They may dispose of spent lamps in municipal solid waste landfills. If you store more than 100 kilograms but less than 5,000 kilograms (11,000 pounds) of universal wastes in a month, you are considered a small quantity handler of universal waste and subject to special handling and labeling requirements. Large quantity handlers of universal wastes who store more than 5,000 kilograms of universal waste are subject to notification requirements in addition to the special handling and labeling requirements.

TREAT LAMPS LIKE THEY'RE CANCER—LITERALLY

Whether you're overseeing your lighting retrofit project or have a contractor handling the job, you must be sure that removed fluorescents are handled properly. If your employees will be handling the used lamps, they must receive training in the proper way to handle them.

When you take down old, spent fluorescent lamps, you can't just drop them into a disposal bin. If the glass breaks, the toxic mercury escapes, endangering your employees, subcontractors, and anyone who has to handle the lamps down the line.

The rule requires that the spent mercury-containing lamps be put into packaging that will protect them from breaking. The best bet is to reuse the manufacturers' boxes that the new fluorescent lamps came in for storing the old lamps. Otherwise, package old lamps in some way that reduces the possibility of breakage. Seal the packaging and label it with the words "Universal Waste—Lamps," "Waste Lamps," or "Used Lamps."

If any fluorescent lamps break, they must be contained to minimize releases of lamp fragments and residues. EPA suggests using sealed 55-gallon drums or other container for any broken lamps. The drum must remain sealed while the broken hazardous waste lamps are stored and transported to a recycling facility.

According to EPA's Marilyn Goode, there is no standard practice or guidance for how often the drum can be opened to add broken lamps. "It is difficult to develop a standard for this," says Goode. "It depends upon whether there are a lot of lamps, or maybe just one." With EPA's concern about mercury releases, Goode suggests that universal waste lamp handlers use common sense in opening containers with broken lamps.

You are allowed to accumulate properly stored fluorescent lamps on-site for up to one year. By the end of this year, you must arrange for transportation to a proper recovery, treatment, or disposal facility.

GET A BRIGHT IDEA

When it's time to replace the lighting at your facility, there are several things you will need to consider. What kind of lighting is best for your facility? What will save you the most money?

From an economic standpoint, new technology fluorescent lamps and new lamp ballasts can save a great deal on your electric bill. EPA, and probably your local electric company, encourage the use of energy-efficient fluorescent lighting. But, this doesn't mean just any fluorescent lighting—if you currently have older fluorescent lamps and ballasts in place, you are not saving as much electricity as you could.

EPA estimates that if all commercial floor space in the United States presently illuminated by less-efficient fluorescent lamps were changed over to the newer, more energy-efficient fluorescents, there would be a savings of 35 billion to 40 billion kilowatt hours of electricity!

Also, there are new fluorescent lamps on the market that contain significantly less mercury than standard lamps; this would make your facility less hazardous to your workers as well as more energy efficient! Bottom line: New lamps and new testing standards are increasingly making it more cost-effective to manage older lamps as universal waste and replace them with lower mercury-containing lamps.

HELPFUL HINTS:

- Consider installing energy-saving devices such as motion detector/occupancy switches and timers with your new lighting fixtures. The savings realized in not continually lighting offices or sections of a plant that are not in constant use can be considerable.
- There are currently three fluorescent lamps on the market that contain much less mercury than standard fluorescents:
 - Philips Lighting Company's Alto fluorescent lamp, the first low-mercury lamp
 - GE's Ecolux lamp
 - OsramSylvania's Ecologic series lamps
- In order to use the newer, more efficient fluorescent lamps, you may need to replace your old lighting ballasts, which control the flow of electricity in the fixture. New ballasts can bring further energy savings.
- For lighting large areas, consider High-Intensity Discharge (HID) lamps, which also contain mercury. They are very energy efficient, but are best used outdoors or indoors when they can be mounted at least 12 feet above the working surface. One consideration is that HID lamps don't illuminate right away when you turn them on and may take 3 to 15 minutes.







STORAGE BATTERY HAZARDS

Today, the discussion will be on sources of electrical energy that are used by millions of people each day—storage batteries. The storage battery is a portable power source that can assist us in many ways during our daily activities. For example, if you drove to work today, you used one to start your vehicle. But, as with many good and useful items, there are also some properties that are not so desirable—that may even cause pain and suffering.

Many things we use or do in life require us to take some measures to prevent injury to ourselves or others. So today, we are going to discuss how to safely handle, use, and work around this source of power, which is generated by chemical action.

First of all, what are some of the hazards that are related to batteries?

[Note: Ask the group to respond to this, but be sure to cover acid burns, back strain from lifting, electric shock, slips, falls, explosions, and burns from hot metals.]

Now it's appropriate to review various ways of avoiding those hazards or at least minimizing their adverse effects.

Areas used for charging batteries. These should be elevated, and designed and organized to reduce the hazards. The floor area should be constructed to prevent electric shock, slips, and falls. This could be a wood-slat floor. Consideration should be given to physical barriers to prevent damage to the battery-storage or equipment-charging area.

Adequate firefighting equipment should be readily available, and facilities for flushing and neutralizing spilled electrolyte are needed.

Adequate ventilation should be designed and incorporated to remove fumes and disperse any gases that may accumulate during charging. Precautions should be taken to prevent open flame, sparks, or electric arcs. No smoking should be permitted in charging areas, and signs should be posted as a reminder to everyone that may walk through this area.

Storage of any material that may be conductive, including such metal objects as tools or pipe, should never be on or near the batteries. If a conductor should fall against the terminals and create a short circuit, it could cause the batteries to explode and spray the chemicals on people in the vicinity. Also, if an electrical flash does occur, hot, molten metal may contact the skin or ignite clothing or other combustibles.

Safe work practices. Electrical shocks can be fatal. In some cases, battery potential along with other contributing factors can cause a current to flow through the human body. This not only could cause a jolt but also could cause a jumping-back reaction. This reaction may, in turn, cause another worker to drop something, or the person who has been shocked may fall. There is also

the possibility that the path of the current flow through the body could cause injuries of a more serious nature, such as heart fibrillation. When this occurs, cardiopulmonary resuscitation must be started at once to restore vital, life-sustaining functions.

Safe electrical work practices are therefore essential, and so are general safe work practices, like always being careful and concentrating on the work you are performing. Insist that others also follow the established rules for this work area.

Personal protective equipment. In order to generate power, batteries require an electrolyte, another source of certain hazards, such as acid burns. When handling or refilling a battery, or when it is being charged, the vent caps should always remain in place to prevent the electrolyte from spilling or spraying in and around the work area. But because there may be spraying or spilling despite your care, proper personal protective equipment should be used. For example, rubber boots, rubber gloves, aprons, and chemical goggles can be worn to protect the skin and eyes from contacting the electrolyte. Any chemical that does contact the skin or clothing should be washed off at once with plenty of water, and facilities must be provided for this purpose.

Safe use of carboys. When pouring the acid into batteries that require it to be mixed with water, the acid must be poured onto the water. Never pour water into the acid. When handling large quantities of this electrolyte, it will be supplied in carboys. Carboys should be handled with special care to avoid dropping or breaking them.

Acids in carboys can be dispensed in several ways. One is by using a carboy tilter, which holds the bottle securely while the electrolyte is being poured from it. Remember, it is necessary to keep the carboy in the protective crating when you are moving it.

In case of a chemical burn: What should be done if a fellow employee receives a chemical burn from this electrolyte? Keep in mind that some batteries contain an acid electrolyte, but others can contain an alkali solution. Always know the location of each type of battery and the electrolyte each requires. If either type contacts the skin or clothing, it should be flushed with running water for at least 15 minutes. It is possible to use a neutralizing solution, but extreme care must be followed, using the guidelines on the label or getting help from the company's medical office. Follow-up medical attention is a must.

If the electrolyte gets into someone's eyes, flush the eyes with running water for approximately 15 minutes. Place a sterile bandage over the eyes to immobilize the lid, and then get immediate medical attention. The battery charging room must contain an eye flushing station or fountain for washing the electrolyte from eyes.

Preventing back strains/injuries. Batteries are heavy and awkward to manipulate, so it is necessary to guard against strains and back injuries to workers from manually handling them. Sufficient help must be provided when the weight of the battery is in a range that cannot be manually handled. This will prevent strains, sprains, or hernias.

Hand carts can be made or purchased for transporting batteries when it is necessary. If material handling equipment is provided, all parts of the mechanism should be insulated to prevent them from short circuiting the batteries. Some slings are made of synthetic material, and when they are used, they must be the type that cannot be chemically damaged by the electrolyte in the battery.

Averting explosion. The potential for an explosion is always present when a battery is being charged. The quantities of oxygen and hydrogen in the cells, under certain conditions, can create an atmosphere that is explosive. It becomes even more of a hazard if the battery is defective or if a very heavy charge has been or is being applied.

When the level of the electrolyte is low in the battery, the space inside the battery will fill up with gases. If these gases were ignited by a short circuit, a spark, or a flame, they would create a powerful explosive force. To prevent the rapid generation of hydrogen gases, always follow the manufacturer's recommendations as to the charging rate for their batteries, according to the type and size.

Training. On the surface, this may seem only a minor factor in reducing or preventing injuries connected with storage batteries. But actually it is an important part of the total accident prevention program. In our training sessions, we have discussed many ways that various kinds of accidents happen. Today's aim was to make you aware that when you handle storage batteries, you are handling a potentially dangerous item. Only trained and authorized persons should be allowed to work on and around battery installations.

Many people think that storage batteries are a simple, helpful tool that cannot harm anyone, but I hope that our discussion today has made you more aware. Follow these guidelines for working with and around batteries so that we can prevent

One last warning that I cannot stress enough: Never smoke around any type of storage battery!





SAFETY TOOLBOX TALKS



SAFETY TOOLBOX TALKS

HEAD PROTECTION



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KEEPING IT UNDER YOUR HAT

If an eight-pound iron object is accidentally dropped from five feet above, can your head withstand the 850-pound impact? Can your head stop a one-pound plumb bob that has fallen 10 feet from penetrating your skull? Or, maybe your hair is fireproof and your scalp is able to resist acids and solvents.

Think a minute with the brains that you should be interested in protecting—maybe your head isn't as hard as your family tells you it is. Maybe it wouldn't be such a bad idea to keep it safely sheltered under a hat designed for that purpose.

And after you've decided to actually wear your headgear while on the job, and have even gotten used to the feel of it on your head, consider paying some attention to inspection and maintenance of this important piece of equipment.

Your protective hard hat has two basic parts: the shell and the suspension system. Both parts need to be cared for so that they can take care of you. The life of your headgear can be lengthened by cleaning both suspension and shell with a sponge or soft brush dipped in mild detergent and water. If the hat has gotten really dirty, look up the manufacturer's instructions on removing stains such as tar or oil.

When you rinse your hard hat with warm water, look for cracks or dents that might weaken the hat's structure. When cracks—even hairline cracks—appear, the helmet should be replaced. Small cracks will only spread and widen once they form. Get rid of the hat before something drops on you, splitting the hat and your head at the same time.

Look for other signs of wear such as scratches or gouges. Shells may also not last as long if you work in extreme heat or cold or if they are exposed to chemicals. Under these conditions, they become stiff and brittle and should also be replaced. And if your hat has been hit by an object, saving your head from the blow, retire that protector with honor, too. It has done its job and may not be able to rise to another such occasion.

Now have a look at the suspension system. The webbed suspension holds the hat away from your head. This space allows for some clearance so that your head will not absorb the shock of a blow. The system also allows you to work without losing the fit, and it permits circulation of air. Check the webbing and buckles for damage. Suspensions should be replaced at least once a year under normal wear conditions.

Each day when you put on your hard hat, make sure that it fits as it should. This check is especially important if your hair has grown much longer than usual or been cut much shorter than usual. If the hat is too loose, your head may be too close to the shell and you will be less well-protected from a blow to the head. If the webs are too tight, your hat won't absorb the shock either. Your head and neck will take the damage. For the same reasons, don't carry personal items inside the hat, spoiling the fit.

Don't store your protective hat on the back shelf of your car where it can be damaged by sunlight. Don't alter or modify the helmet in any way. If markings are required, use reflective marking tape, not paint; solvents in paint can make the shell brittle.

Take good care of your hard hat—and take good care of your head by keeping it under your hat.



SAFETY TOOLBOX TALKS

HEAD PROTECTION



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LOOK OUT—ABOVE AND BELOW

Objects falling from above and striking people below cause some of the most serious industrial injuries and account for a number of fatalities every year.

The government, recognizing the severity of the problem, has set standards under the OSHA act for occupational head protection. Other standards for head protection have been set under the construction safety act, longshoring safety act, and NIOSH. It is imperative that every person on the job wear a hard hat at all times.

Let's look at the problem of how to prevent falling objects. First, is the work being done overhead? How can accidents be prevented? Here are some basic precautions to be followed:

- Warn those below that you're about to begin an overhead job by signs, barricades, and good communications.
- Don't carry tools or materials up a ladder. Use a hand winch line, containers, or buckets lifted by a line.
- Before raising tools or materials with a hand line or a winch line, make absolutely sure they are securely fastened so they won't slip out.
- When you pile materials on scaffolds, make sure scaffolding and platforms are provided with toe boards so objects don't fall off.
- Never throw materials or tools.
- Make sure the load being lifted by hand line or scaffold is balanced and that no one is under the load being lifted.
- Keep tools and materials away from the edges of platforms and ladders and off railings or window sills.
- Don't stick tools in your pockets because, when you bend over or reach, they may fall out.
- Practice good housekeeping on the overhead job and keep tools and materials that are not in use picked up and stored properly.
- If the nature of the overhead job involves the danger of falling objects, have the area below cleared, and post the necessary warning signs. Rope off the area.

It is equally important that personnel on the ground be aware of overhead work and obey the signs and barricades.

Another problem is poor stacking in warehouses, yards, trucks, or at the job site. All materials should be piled on a flat base and at a reasonable height. It is best to crosstie and cover the materials for extra protection and safety.

Not all falling objects come from great heights. Probably the most common falling object from a small height is one that a worker is just picking up. The worker doesn't anticipate the heaviness of the object; the object slips and strikes the worker's legs or feet.

Another common instance of an object's falling and causing injury is when two workers are carrying a piece of pipe or some other long, heavy object. Signals are poor, and one worker drops his end of the load. You guessed it; the feet come in for punishment!

Another example: Someone stands a piece of steel or pipe against a wall and walks away. When you approach, the object slips and falls. This can strike any part of the body.

Such injuries are preventable if we wear our hard hats and safety shoes, if we use proper lifting and handling procedures, if proper signals and teamwork are used on a two-man job, and if tools and materials that are not in use are stored in the proper place.

Whether your work takes you overhead or keeps you below, you can eliminate falling objects as a source of danger by following these rules at all times.

Whatever goes up, sooner or later, has to come down. Let's make sure it comes down safely.



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HEAD PROTECTION



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YOUR FRIEND THE HARD HAT

The hard hat, as it is commonly called, is the status symbol of a safe worker and of an employer who believes in accident prevention. Head protection is essential, particularly on construction projects, not only to protect the wearer against the hazard of falling material but also to guard against accidental bumping, which occurs frequently when working in close quarters.

National injury statistics show that the number of head injuries per year averages in the hundreds of thousands. That's a sad fact—and it's even sadder to realize that many of these injuries could have been prevented by the use of head protection.

There are two basic types of hard hats commonly used in industry today. One has a full brim that extends completely around the hat, giving the wearer maximum protection. The second is shaped like a cap and is normally used by workers who are assigned to a job in cramped quarters. It's important to determine which type is most suitable to the particular work being performed. OSHA regs call for using only hard hats that have been manufactured according to specified standards.

Approved hard hats protect the wearer by distributing the impact of a blow over a large area, the hat suspension acting as a shock absorber. A hard hat's effectiveness depends on the shock-absorbing space that exists between the shell and the wearer's head. This space is maintained by suspension straps. Therefore, it is important that seat bands and suspension straps be properly adjusted to obtain the maximum protection.

The materials commonly used in making the shells of hard hats are thermoplastics, glass fiber and resin, and special aluminum alloys. Today, the molded plastic hard hat can be obtained in a variety of colors, including some containing phosphorescent pigments that are especially adapted for night work and street work in which traffic hazards are present. Colors can be used to identify different crafts and supervisory personnel and should be encouraged and given consideration when the hats are being purchased.

The majority of construction projects of any size are posted as "Hard Hat Areas," and everyone should cooperate in observing this essential safety requirement. Your use of hard hats at work is encouraged at all times, not just when absolutely required. And all levels of supervision know that they should set the example by wearing them.

Remember, your hard hat is a status symbol. It identifies a safe worker—a worker who believes in safety and practices this belief.



SAFETY TOOLBOX TALKS



SAFETY TOOLBOX TALKS HEARING PROTECTION



EC-11

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LISTEN UP!

How can you tell if you're losing your hearing? You probably can't. Hearing loss is an insidious process that creeps up on you with little or no warning. As sound reception becomes fainter, you may try to compensate without even realizing it—by turning the TV or radio up louder, by asking others to repeat themselves, or even by leaning closer to the source.

Prolonged exposure to loud noises on and off the job accumulates over years and can eventually cause permanent hearing impairment or deafness. By the time you realize you have a problem, the condition is very likely irreversible.

Don't wait until it is too late. Start wearing your hearing protection devices right away. You are ultimately responsible for consistent and proper use of your protective equipment.

ARGUMENTS AND ANSWERS

I know some of you have concerns and difficulties about wearing your hearing protections, so let's review some of them.

- You are used to the noise and it doesn't bother you. This may be true, but exposure to noise does not "toughen up" your ears. The reason it doesn't bother you may be because you have already begun to lose your hearing.

If you've already lost some hearing, why wear the protectors now? Just because you've lost some of your hearing doesn't mean you can't lose more or all of it. Early hearing loss is concentrated in the higher frequencies. As it progresses, it spreads to the lower frequencies and affects comprehension of normal speech. Although protection devices cannot restore a noise-induced hearing loss, they can prevent additional losses.

- Your machine sounds different with the protectors on. Yes, it does sound different, and over time you will adjust to the differences and be able to monitor the sounds effectively.
- With hearing protection you can't hear your co-workers. Without protectors, the high noise level causes overload for your hearing. Reducing overall sound levels allows the ear to operate more effectively, just as sunglasses provide improved vision in high glare conditions, although it may take a little getting used to. Then you should be able to hear whatever you need to.
- Why do the protectors have to be so uncomfortable? They shouldn't be, although like new shoes or glasses, they do need a period of adjustment. If the discomfort persists, it could be a sizing problem or you may need a different type of protector. Let us know and we can work together to find the right device for you.

To make sure that we all do our part in hearing conservation, it is important that we receive cooperation from everyone. Besides openly discussing your concerns, you can make a difference by doing the following:

- Follow all precautions, procedures, and practices for your machinery and your hearing devices to minimize excessive exposure to noise.
- Watch for warning signs that are posted in areas where high noise levels exist and make sure you wear your protectors in those areas.
- Let us know of any operation or condition that presents a noise hazard that we may be unaware of.
- It doesn't help to follow hearing precautions at work if you are exposed to high noise levels at home. Make sure you minimize noise exposure in all aspects of your life. Protect your children's hearing, too, by explaining the dangers of blasting rock music—and set an example for them.

Above all, wear your hearing protection regularly it does work.



SAFETY TOOLBOX TALKS HEARING PROTECTION



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NOISE ON THE JOB

Have you ever been in an extremely loud setting and asked someone who regularly works there, "How do you put up with this noise?" His shouted reply: "I've gotten used to it!"

People who are exposed to loud noise for extended periods of time do become accustomed to it because of a gradual hearing loss resulting in a reduced sense of volume. Growing "accustomed" to noise is only one symptom of hearing loss. Others are ringing ears after exposure to loud noise, or the impression that other people frequently mumble as they speak. In addition to hearing loss, constant exposure to loud noise can cause high blood pressure, irritability, and other symptoms of stress.

There is a difference between sound and noise. Noise is defined as sounds we prefer not to hear—an insistent horn honking or rock music blaring from a teenager's stereo. Noises don't have to be loud to be irritating. For example, during a quiet, sleepless night, the sound of a dripping faucet can be as irritating as a diesel truck.

But high-volume noise can have a dangerous impact on the inner ear's capacity for hearing. Exposure to loud noise over an extended period of time will eventually destroy a person's hearing. This fact is especially important for those of us who work daily with loud noises.

Sound is measured by decibels. A whisper is about 20 decibels, while voices in a normal conversation range from 60 to 70 decibels. A diesel truck and a power lawn mower both register at about 95 decibels, the level at which noise can damage hearing. At 117 decibels, a pneumatic drill can cause pain to unprotected ears.

Today, millions of people are exposed to hazardous noise on and off the job. In the workplace, machinery often produces noise above 85 decibels. You should wear hearing protection in any area with a noise measurement that is higher than 85 decibels.

Soft, comfortable earplugs, which are compressed before insertion into the ear canal, effectively block out noise by gently expanding and conforming to the shape of the ear canal. The earplugs also prevent dirt and grease from entering the ear, and they can be worn with safety glasses, helmets, and respiratory protection. Other forms of protection such as ear muffs also block out noise effectively, but they cannot always be worn with other protective equipment.

Annual hearing tests can help determine which workers are experiencing hearing loss. By comparing test results over a period of years, serious hearing conditions can be diagnosed and treated.

This company has a hearing conservation program which includes periodic auditory tests for hearing deterioration. Also, the company provides earplugs or muffs to all employees and visitors in high noise areas. You are required to use protection when necessary to ensure that you do not suffer from hearing loss.

Fortunately, a noisy environment can be a safe environment as well. An appropriate hearing conservation program at home, in addition to the one we have at work, is the best insurance that optimum hearing will be maintained as long as possible.



SAFETY TOOLBOX TALKS HEARING PROTECTION



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PROTECTING YOUR HEARING

Noise is unwanted sound, which can have various undesirable effects on those exposed to it.

It can affect you psychologically by startling you, annoying you, and disrupting your concentration. It can interfere with your communications when you are talking to someone—and as a result interfere with your job performance and your safety. It can affect you physiologically by causing a loss of hearing, pain, and even nausea when the exposure is severe.

The amount of noise generated by a particular activity—machinery clanking, jackhammers pounding, a boom-box running at full volume—is measured in decibels. OSHA's hearing conservation standard provides for monitoring the decibel levels of noisy operations. When these exceed a specified level, a number of protections kick in.

First efforts are made to reduce the noise itself, and when those controls are not sufficient to reduce the noise to a safe level, ear protectors of various kinds are to be provided and worn. These may be either earmuffs or earplugs of various designs. We provide a choice of hearing protection devices.

It sometimes seems that there's more resistance to wearing hearing protection than any other type of personal protective equipment. One of the most common reasons given is that the workers don't think they really need it. But hearing loss is so gradual, even in intense exposures, that by the time you realize that you can't hear as well as you used to, the damage has been done and can't be reversed.

Here are some clues that point to a need for hearing protection:

1. Having to speak in a very loud voice or shout directly into the ear of a person in order to be understood.
2. Head noises and ringing in your ears at the end of the workday.
3. Speech or music sounding muffled to you after you leave work, but fairly clear in the morning when you return to work.

Another common reason workers give for not wearing hearing protection is that it is uncomfortable. Evidence of this attitude can be found in such practices as springing muffs so they don't seal against the head, slipping off the inner end of plugs and leaving only the outer end tab to fool the supervisor, and indifferently molding and inserting malleable-type plug materials.

But because the devices work by reducing noise levels at the inner ear, good protection depends on a good seal between the surface of the skin and the surface of the ear protector. A very small leak can destroy the effectiveness of the protection. This is why protectors must be resealed from time to time during the workday, since they have a tendency to work loose as a result of talking, chewing, and so forth.

Some initial discomfort is sometimes experienced in obtaining a good seal, but skin irritations, injured eardrums, or other harmful reactions are exceedingly rare. There will be no adverse reactions as a result of using ear protectors if they are kept reasonably clean. Nor will the use of ear protection make it more difficult to understand speech or to hear warning signals when worn in a noisy environment.

Most of the available hearing protectors, when correctly fitted, provide about the same amount of protection. The best ones for you, therefore, are the ones you can wear properly. Then what you hear today will not be gone tomorrow.



SAFETY TOOLBOX TALKS HEARING PROTECTION



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YOUR HEARING— CONSERVE IT OR LOSE IT

Picture this scene: A group of acquaintances is chatting, and all but one of them begin to speak more and more softly, finally only moving their lips in apparent response to each others' remarks. When cleverly acted, this "script" can make the one who isn't in the know wonder what has happened to his or her sense of hearing.

How many of you have ever been either the victim or the perpetrator of this old chestnut of a "practical joke"? It may have seemed funny at the time, but hearing loss is no joke. It's a real threat to anyone whose ears are regularly assaulted by the loud sounds of machinery, boom boxes, air hammers, traffic noises, and the like. What makes it particularly serious is that noise-induced hearing loss cannot be restored medically or surgically. What makes it particularly dangerous is that it can keep a person from being aware of hazardous situations—because of an inability to hear an approaching vehicle, an alarm bell, or a warning announcement over the P.A. system.

This severe threat to millions of workers in jobs where noise levels were high was recognized by the Occupational Safety and Health Administration (OSHA), which established a regulation dealing with occupational noise exposure. It requires employers whose operations involve harmful noise levels to provide ear protection devices and to establish a hearing conservation program.

The first step, of course, was for employers to measure the sound levels at their facilities. The units of measurement are decibels, and it was established that at a sustained noise level of 85 decibels—where people 4 feet apart would have to shout to hear each other—the ear protection and conservation program were called for.

Our program here is in several parts. First, we made efforts to reduce the noise level with various engineering controls, such as erecting enclosures around especially noisy equipment and placing machines on padding and keeping them well-lubricated. Then we conduct measurements of two things: your hearing and the level of noise to which you are exposed. Each of these is repeated at regular intervals. If noise levels have increased, we take such steps as rotating workers in and out of the noisiest areas or tasks. When hearing tests show an individual is demonstrating any loss of hearing, this can also result in reassignment.

Finally we provide hearing protection devices—or more than one type, so that each of you can get the best-fitting and most effective. And we provide training in the importance of using these protectors properly, since that's the only way they will do you any good. Reminders like this talk today are part of that training.

Don't let these warnings go in one ear and out the other, or you could find that things you want to hear could reach your ears without registering as sound. And that would be a harsh punishment for failing to do your part to save your own hearing.



SAFETY TOOLBOX TALKS



SAFETY TOOLBOX TALKS

HEAT & COLD



EC-11

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BE COOL

It's easier to talk cool than to stay cool some summer days, but heat illness can make you sick, put you in the hospital, even kill you. Don't try to tough it out, but use a little sense when working or playing outside on hot days—or indoors, where processes generate heat or air conditioning is inadequate.

Your reaction to the heat may take the form of a *heat rash*. It isn't life-threatening, but it isn't pleasant either, and it is a sign that the weather is affecting you. Lotions that block pores contribute to prickly heat, as do synthetic fabrics. A shower after each workshift should help, along with a sprinkling of talcum powder or corn starch.

Heat stress is another common reaction to high temperatures. Thirst, tiredness, dizziness, even trouble seeing are indications of heat stress. If the heat seems to be getting to you with one or more of these symptoms, take a break and drink some water or fruit juice to replace lost body fluids.

Heat cramps are another sign of heat sickness. They are painful muscle spasms in the arms, legs, or intestines, caused by losing salt while sweating. Again, cool down and drink some juice. Be sure that your diet during the summer includes foods to replace the salt lost. Surprisingly, such foods as strawberries, celery, and olives contain high amounts of sodium—the important part of salt—and they are great foods for this time of year.

Sometimes, due to extreme heat, a person will faint, especially when standing still in the sun. So avoid standing in one place while working outdoors. If you do faint, though, lying down for a period of time—out of the sun—should help you recover.

Heat exhaustion is a common response to working in summer weather. If you are suffering from heat exhaustion you may feel dizzy, weak, or have chills, with clammy skin and profuse sweating. You may have a headache or feel sick to your stomach. Stop working, move to a cool spot, and lie down or rest with feet slightly elevated. Drinking liquids will help. Heat exhaustion, unlike heat stress, is fairly serious and you should try to go at a slower pace for a couple of days.

Heat stroke is the most serious type of heat sickness. You should pay attention to signs of heat illness so that your reaction to the heat will never get to this stage, because it is life threatening. At this point, perspiration—and its cooling action—stops, and the skin may be hot to the touch. If a fellow worker seems to have heat stroke—appearing confused and showing poor coordination—a doctor or an ambulance should be called promptly. Move the affected person to a cool place at once. Sponge the person with cold water, apply ice packs or cold soft-drink cans, or immerse the person in cold water. Don't stop until help arrives. If the person is conscious, offer water.

When the temperature rises, drink a lot of water, sports drinks, or juices. Skip the alcohol, which places you at a higher risk for heat stroke, and ignore the heavy milk drinks that may turn your stomach in the heat. Summertime calls for a different type of diet, too. Fruits and lightly cooked vegetables make great summer fare and will help you replace some of the elements—sodium and potassium—you lose through sweating.

If you're working outdoors, wear light-colored, loose-fitting clothing. A lightweight cotton hat is a really cool addition to your outfit.



SAFETY TOOLBOX TALKS

HEAT & COLD



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FROSTBITE

For anyone who has to work outdoors or in unheated buildings with limited warm areas during the winter months, frostbite and hypothermia are an ever-present hazard.

Frostbite is the result of ice crystals forming in the fluid and soft tissues of the skin. It is readily distinguishable by a white or greyish-yellow skin tint and the lack of pain or feeling in the affected skin tissue area. Blisters often appear. The areas of the body primarily affected are the fingers, toes, ears, cheeks, and nose.

A person who has frostbite once is more apt to get it again than someone who has not had it before. The injured part of the body may become sensitive to cold and must be protected from further frostbite.

PREVENTING FROSTBITE

To prevent frostbite, you should:

- Wear several layers of loose-fitting, natural fiber clothing.
- Particular attention should be given to protecting the feet, hands and head areas through the use of wool socks, gloves and/or mittens and ski mask or other head protection
- Earflaps and muffs add protection for ears and neck against cold, and a face mask should be worn against windy weather.

Do *not* consume alcohol, because alcohol increases body heat loss.

TREATMENT

Whenever frostbite is detected, the following immediate action should be taken:

1. Protect the affect area from further injury until the patient can be moved indoors.
2. Wrap or cover the patient with blankets, clothing, or other warming materials.
3. Submerge the affected area in warm water (100 to 105 degrees Fahrenheit).
4. Provide patient with warm fluids—never alcoholic beverages.
5. Obtain medical assistance as quickly as possible.

Do not rub the affected area or apply a hot water bottle or heating lamp.

PREVENTING HYPOTHERMIA

To prevent hypothermia, you should:

- Maintain a nutritious diet that includes heat-producing foods such as carbohydrates. Drink plenty of liquids—but not alcoholic beverages.

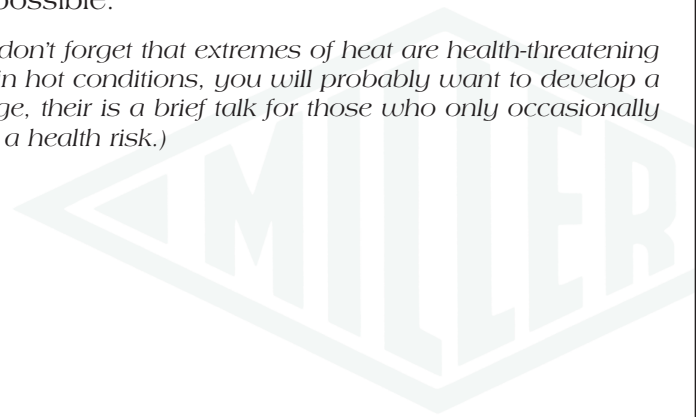
- If on medication, question your physician to ensure the medication does not counteract your body heat processes.
- Wear adequate protective clothing, which includes several layers of natural fiber, loose-fitting outer garments and adequate foot, hand and head protection.
- Remain dry. If clothing becomes wet, it should be immediately removed and replaced by dry clothing. Wool is the only natural material that affords insulation when wet.
- Avoid prolonged cold weather exposure.

TREATMENT

Whenever a victim displays hypothermia symptoms:

1. Move patient to a warmer environment.
2. Wrap patient in blankets or other warming materials. Remove wet clothing.
3. Make patient rest to conserve heat.
- 4 Give warm, sweet fluids—not alcoholic beverages.
5. Obtain medical assistance as quickly as possible.

Note: *Having provided training on exposures to cold, don't forget that extremes of heat are health-threatening too. For employees who must do much of their work in hot conditions, you will probably want to develop a whole safety meeting on the topic. But on the next page, there is a brief talk for those who only occasionally face conditions, at work or play, where there could be a health risk.)*



SAFETY TOOLBOX TALKS

HEAT & COLD



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SAFETY BY DEGREES

Today we're going to be talking about degrees of safety—and by that I don't mean "safe, safer, safest" but rather degrees of temperature, both outside and inside of the body, that can affect our health.

Down the ages and around the globe, mankind has had to adapt to changing environments and extremes of both temperature and humidity— from pole to pole and desert to rain forest. So the human body has developed its own regulating system to handle these extremes.

The system is made up of two parts: the core, which contains the internal organs such as the brain, heart, and lungs; and the shell, which is basically the muscles, fat, and skin surface.

To remain healthy and be able to work efficiently, we must keep our body core temperature as close as possible to 98.6°F. As it drops below that, we begin to experience hypothermia and could eventually freeze to death— at about 80.6°F. When the core temperature climbs, rather than falling, and the body is not cooled by sweat, the condition is called hyperthermia, and the individual suffers some level of heat stress. If unrelieved, this can also be fatal.

The dangers of heat are of greater concern than those of cold because in cold weather, we can always add more clothing, while in hot weather, there's a limit to how much can safely, let alone politely, be removed. So let's concentrate now on how to protect ourselves from such various heat stress disorders as heat cramps, heat exhaustion, or heat stroke.

Our circulatory system plays a vital role in maintaining safe body temperature, because it carries the heat from deep inside the body to the outer shell—the skin—where the heat is dissipated by evaporation. People with high blood pressure may be more prone to heat stress, as may those who have been drinking alcohol or are obese, "out of condition," dehydrated, or unused to hard labor in the particular environment.

Here are a few basics that can reduce or eliminate the likelihood of suffering heat stress:

- Pace yourself when first exposed to high external temperatures, to give the regulating system a chance to work properly.
- Take regular breaks, in areas cooler than the work area.
- Drink larger than usual amounts of fluids (not alcoholic) to assist the normal body process of sweating, and replace the liquid so lost.
- Wear appropriate clothing for the working conditions. Loose-fitting clothing is preferable unless you are working around rotating equipment. Anyone working near furnaces or extremely hot metal should wear special personal protective equipment and keep skin exposure to a minimum.



SAFETY TOOLBOX TALKS

HEAT & COLD



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STOP OVEREXERTION

Overexertion is a very common cause of painful and disabling injuries—and it's especially distressing that it's so easily avoided. It is particularly important to avoid overexertion if there is a history of heart disease in your family or if you are advancing in age, overweight, or unaccustomed to prolonged physical activity.

Here are some examples of overexertion that take only minutes to perform but can result in hours, weeks, or even a lifetime of physical harm.

- Using incorrect lifting techniques when moving or lifting heavy objects
- Trying to "muscle" our way through a job by ourselves when it would have been wiser to get help
- Trying to avoid an extra trip when moving materials by adding an extra package or box to an already full load
- Overextending our reach to paint that one last spot, just to avoid descending a ladder, restationing it, and climbing again.

To some individuals, seeking help for a heavy job is a sign of weakness, while in reality, it could prove to be a painful mistake not to get help.

The motivations that could lead a person to overexert are understandable: to save time or to avoid looking like a weakling or bothering a co-worker. But when the result is a slip, fall, or strain, time has not been saved, co-workers are upset, and one looks a bit weak in the mind if not the body.

It is smart to work safely—and that means not only following safe work practices, such as how to lift correctly, but knowing one's own limitations and therefore when it is sensible to ask for help. I'm sure every one of you is ready and willing to give help when it is asked for; so why hesitate to seek help from a co-worker?

"No pain, no gain"—once a motto for bodybuilders and more casual exercise enthusiasts—has by now been pretty well discredited. Experts now indicate that ignoring pain and continuing to do whatever is causing it is neither smart nor healthy. The only "gain" is more pain and perhaps actual damage to the body. Perhaps a better slogan for those who want to work same and smart would be "Heed pain to avoid strain."



SAFETY TOOLBOX TALKS

HEAT & COLD



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TAMING THE HEAT WAVE

The hot weather in July can have a debilitating effect on your employees who work outside or in hot environments, such as bakeries, laundries, and foundries. These conditions can be hazardous to their safety and health. Here is a safety talk that can provide your employees with some tips for staying cool: Those hot, humid summer workdays are more than an uncomfortable annoyance—they can cause heat stress, which can be life-threatening if proper precautions aren't taken. Heat stress is an ever-present danger, not only for outdoor workers, but also for those working indoors in hot environments.

Sweating is one way the body uses to maintain a stable temperature in the face of heat.

Sweating is only effective if the humidity level is low enough to permit evaporation and if the fluids and salts that are lost are adequately replaced.

If the body cannot dispose of excess heat, it will begin to store it. When this happens, the body's core temperature rises and the heart rate increases. An overheated person will begin to lose concentration, become irritable, and may even lose the desire to drink. The next step is fainting and then possibly death if the individual is not cooled down.

DANGEROUS HEAT DISORDERS

Here is what you should know about the more dangerous symptoms of heat stress and how to treat them:

Heat stroke—The most serious health problem, its signs include:

1. Mental confusion, delirium, convulsions or coma;
2. A body temperature of 106 degrees F or higher;
3. Hot, dry skin with no sweating.

Note: *Victims of heat stroke will die if not treated promptly. Seek medical help, move victim to a cool area, and soak the clothing in cool water. Vigorously fan the victim until help arrives.*

Heat exhaustion—Signs are clammy skin, weakness, nausea, headache, and body temperature higher than normal. Treatment involves resting in a cool area and drinking water or, better yet, an electrolyte sports beverage to restore minerals lost during sweating.

Heat cramps—This painful condition indicates that you have been drinking lots of water, but you haven't replaced the salts lost. Drinking electrolyte solutions should help. Don't massage the cramping area.

Note: *Experts no longer recommend using salt tablets to treat heat cramps.*

Take precautions to prevent becoming a victim of heat stress yourself, here are some precautions to take:

- Gradually adjust to a hot climate by working shorter hours at first and then increasing the time exposure and workload slowly over a period of days.
- Take plenty of rest breaks in a cool area.
- Drink a lot of fluids, including water and sports beverages. Avoid caffeinated or alcoholic drinks.
- Occasionally douse yourself with water.
- Wear lightweight, loose fitting clothing, including a brimmed hat and sunglasses.
- Apply all-day sunscreen to avoid sunburn.



SAFETY TOOLBOX TALKS

HEAT & COLD



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WARM UP TO THE COLD FACTS

Winter signals the need to take extra precautions, because prolonged exposure to cold can cause problems, particularly with workers who must spend a lot of time outside.

Frostbite is a severe reaction by the skin to cold that can permanently damage fingers, toes, the nose, and the ear lobes. The symptoms of frostbite are a loss of feeling (numbness), whitish skin, and sometimes blisters. If medical help is not immediately available, slowly rewarm affected areas, but do not soak in hot water, rub with your hands, or use a heat source!

Hypothermia occurs when the entire body becomes cold, and the body's core temperature drops below 95° F. Symptoms include uncontrollable shivering, drowsiness, disorientation, slurred speech, and exhaustion.

Keep the victim as warm as possible until medical help arrives. If the body temperature continues to drop, unconsciousness or even heart failure may result. Warm the body first and then the arms and legs, using blankets. Get the person into dry clothing if possible. Do not give the person any alcohol or hot beverages or food.

Using certain drugs for diabetes, heart and vascular conditions, and thyroid problems can increase the risk of cold-related problems. So can alcohol, nicotine, and caffeine.

DRESS FOR COLD WEATHER SUCCESS

If you will be working outdoors, wear loose-fitting, natural-fiber clothing. Wear several layers of clothing, rather than one thick sweater. The air trapped between the layers helps to insulate the body. Outer garments should be of tightly woven, waterproof material.

Mother was right—wear a hat! Half of the body's heat is lost through the top of the head! If there is wind, consider wearing earflaps or a hood, a scarf, and a facemask. Use the scarf to cover your mouth in order to protect the lungs from frigid air.

To protect your other extremities, wear mittens or gloves that fit snugly at the wrist, sturdy shoes, and two layers of warm socks.

GOOD WINTER WORK PRACTICES

There are a number of things you can do to protect yourself from cold-related injuries:

- Allow a period of adjustment to the cold before actual work starts.
- Pace yourself to reduce the level of activity outside. Take extra breaks if you feel cold or tired, especially if the temperature is under 20° F.

- Use an on-site source of heat such as air jets, radiant heaters, or contact-warm plates.
- Shield work areas from drafts and wind or, if possible, move work to a shielded area.
- Use tools with insulated handles.
- Change any wet clothing immediately.
- Watch out for your co-workers.



SAFETY TOOLBOX TALKS



SAFETY TOOLBOX TALKS

HOUSEKEEPING



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A CLEAN WORKSITE IS A SAFE WORKSITE

Maintaining good housekeeping is an important part of the overall job of supervision. There are a number of advantages to having a clean and orderly plant, including: avoidance of accidents, better fire prevention, improved health of employees, and increased worker efficiency and morale.

Avoidance of accidents is one of the major goals of any company. That occasional piece of scrap or wet spot on the floor can cause slip, trip, and fall hazards. Cluttered aisles and congested work areas can add to the dangers. A thorough, regular, and successful program of good housekeeping that eliminates hazards makes good sense for everyone.

Housekeeping can appear to be a never-ending and thankless job, but if too much dirt, debris, and disorder are allowed to accumulate, this can eventually lead to production problems caused by increased accidents, absenteeism, and turnover. Typically, you will find that places that have good housekeeping will have competent supervisors and a low accident rate.

People don't really enjoy working in areas that are disorderly and crowded with booby traps. They don't want to continuously climb over excessive accumulations of spilled material, be hit by objects falling from above, or scrape up against poorly placed materials.

Keeping everything in order will prevent these incidents from occurring.

A responsible supervisor knows that good housekeeping cannot be maintained simply by an occasional large cleanup. It must be planned on a regular basis. It should also be a part of everyone's daily routine.

Here are some real life examples of what did happen because of bad housekeeping:

- A mechanic fractured his ankle after he slipped on oil while climbing down from a piece of equipment.
- A machinist slipped on a wet floor and sprained his back.
- An electrician stepped on a tool while climbing down a ladder and sprained his ankle.

All of these accidents could have been prevented through better housekeeping. With good housekeeping, you can reduce operating costs, increase production, and prevent injuries. Good housekeeping is just good business.

CHECKLIST FOR HOUSEKEEPING

- ✓ Is your workplace neat and orderly?
- ✓ Have you emphasized the importance of housekeeping to your workers on a regular basis?
- ✓ Do your employees know that housekeeping is everyone's responsibility?
- ✓ Are spills and slippery spots cleaned up immediately?
- ✓ Are employees provided with adequate storage areas to put tools and other work items away?
- ✓ Do employees use tool belts or work aprons while working on scaffolds or climbing ladders?
- ✓ Are oily rags stored in self-closing, fireproof containers?
- ✓ Is excess debris removed several times a day from the premises?



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HOUSEKEEPING



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BAD HOUSEKEEPING IS KID STUFF

I'm sure just about all of you are familiar with the stage play and television show "The Odd Couple." If you haven't seen the show, at least you've heard about it. Probably not too many of you really identify with Felix Unger, who makes such a big deal out of housekeeping. On the other hand, many do have at least some empathy with Oscar Madison.

Although he's depicted as an overgrown slob, with housekeeping the furthest thing from his mind, some see him as just a perennial teenager—and perhaps some consider him an admirably free spirit.

Those of you with children can remember or look forward to their teen years, when you sometimes wondered just what was on their minds—it certainly wasn't housekeeping. Others of you may have that messy phase "to look forward to," possibly with dread, since it seems to go with age.

A BUSINESS CONNECTION

What does this have to do with the work environment? Actually, a great deal. Housekeeping is a very important part of efficiency, safety, and cost control. Good housekeeping can also have a significant impact on the business a company is able to attract.

Imagine that you are a supplier, entertaining a visitor who is looking for a company that can produce his product at an affordable cost. You want the public areas of your establishment to be a showcase—neat and clean, and perhaps displaying samples of your best work to impress the prospective customer with your abilities.

This is a sensible approach, because a visitor who notes dingy windows, and unattended spill, trash that didn't quite make it to the waste-bin, and other evidence of sloppy housekeeping may well take his or her business elsewhere. That's because a cluttered and disorganized workplace tends to suggest immaturity or poor organization skills, and leads to doubts about the quality and reliability of the work itself.

Just as housekeeping can reveal a lot about the overall character of a business, it can also say a lot for what a company thinks about safety, because poor housekeeping allows a variety of hazards to "lie in wait for" an unwary worker. In any successful safety program, safety gets its equal share of management attention along with production schedules, quality, cost, etc. And good housekeeping furthers the achievement of those goals, whereas poor housekeeping works against them.

So your attention to housekeeping contributes to your own and your co-workers' safety—and also to the efficiency and success of the business. That should be powerful motivation, because your own job is only as secure as your company is sound and its business profitable.



SAFETY TOOLBOX TALKS

HOUSEKEEPING



EC-11

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CLEAN IT UP AND KEEP IT CLEAN

Most accidents result from multiple causes, and one cause involved in many instances of mishap and injury is that the area was messy, slippery, or piled with materials, which prevented normal operations. Cleanliness -good housekeeping is one of the basic elements of accident prevention.

Sure, housekeeping can seem to be an endless job with no reward, but if too much debris, dirt, or disorder are allowed to build up, unexpected booby traps accumulate with them.

That occasional piece of slick paper or oily spot on the floor can cause someone to slip and fall and result in a pulled back or bruised knee. Cluttered aisles, congested work areas, and other results of poor housekeeping are all open invitations to trouble. For example:

- A worker who stepped on a production piece left lying on the floor lost 10 workdays due to a severely sprained ankle.
- Another employee stepped from a ladder onto a spill which no one had cleaned. Result? A slip followed by 9 days out of work for with a wrenched back.
- Some boards were left on a walkway at the finish of a project. Trying to step over them, a worker wound up with a twisted knee and was on light-duty work for a week.

Many of you can probably recall similar incidents here or at a previous workplace, where accidents were at least partly caused by something that wasn't swept up or wiped up or put away when it should have been.

Whereas disorder is unpleasant and hazardous, an orderly, neat work area will help prevent accidents and even enable you to be more productive in your work. If you want order to prevail, you must contribute to keeping the environment tidy by making sure that things are placed where they should be each and every time you're through using them. A once-in-a-while grand cleanup will not do, although you may need to undertake a first big housecleaning, in order to get started. After that, a constant effort must be made to keep your area clean or conditions will soon slide back to the mess

you had before. Make order and cleanliness a regular habit, and after only a week or two the cleanup won't seem to be an effort.

Who is responsible for keeping things clean and orderly? You and everyone else. And everyone who wants to keep the workplace safe and pleasant to work in will shoulder that responsibility readily. Unfortunately, it takes just one bad housekeeper to set a disruptive example. Don't be that bad example. It also takes just one tidy individual who cares about safety and the quality of his or her work to be a positive model for everyone else. Could that be you?

If there is a mess in the area you are responsible for, set it right. If the area is someone else's responsibility, notify that person. But don't just leave a hazard while you are on your way to tell someone else. Alert the workers around you and put up a barrier in the meantime unless it will cause more of a hazard.

Don't let cleanup be a dangerous job either. Take appropriate safety precautions such as using the right equipment for cleaning spills. Don't just reach into a pile of broken glass with your bare hands get a broom and dustpan and wear gloves, if necessary.

Be alert, too, to the hazards that can appear seemingly without warning such as dirt that has blown in the door and could get in the equipment and cause a breakdown, or a floor tile that has suddenly popped up. Take care of those you can handle by yourself, and report anything needing special tools or skills to the proper person. You'll be justly proud of knowing that you did your part for your own safety and that of others.



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CLEAN OUT ACCIDENTS WITH GOOD HOUSEKEEPING

Remember what your mother told you? "A proper place for everything and everything in its place." Well, Mom was right, especially at work where an effective housekeeping program can make a big difference in preventing accidents, fires, explosions, and occupational diseases.

Good housekeeping provides other benefits as well:

- Encourages efficiency
- Utilizes space better
- Keeps inventory at a minimum
- Helps control property damage
- Provides a good appearance of your facility and impresses the customer
- Reflects a well-run organization
- Encourages better work habits
- Minimizes janitorial work
- Makes jobs easier and working conditions more pleasant

On the other hand, here is what we can expect to find if our workplace is disorganized:

- Cluttered and poorly arranged areas
- Untidy piling of materials
- Items stored that are no longer needed
- Blocked aisles, stairways, and exits
- Materials stuffed in corners and out-of-the-way places
- Materials gathering rust and dirt from nonuse
- Overcrowded storage areas and shelves
- Overflowing bins and containers

- Broken containers and damaged materials
- Combustible materials stored near sources of ignition

Tackle your housekeeping chores by assigning different areas of responsibility to your workers. Use a housekeeping checklist to evaluate each unit as you begin your program. Remember to keep up the housekeeping campaign after the initial newness wears off.

The result will be employees who are proud of their jobs, their workplace, and the product they produce. The benefits will be higher production and better products at a lower cost.



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HOUSEKEEPING



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CLOSE ENCOUNTERS OF THE DANGEROUS KIND

We all know that falls are one of the major causes of injury in America's workplaces. Another is what we call "struck-by" accidents—referring to all those situations in which any part of our body collides with an object or another person. The force of that collision, of course, determines the severity of any resulting injury.

It can be a little scary to realize how many "opportunities" there are for such accidents in an average workplace. For example:

- Trip over an object protruding into a walkway, and there will be a painful encounter between you and the floor. You may even have a broken arm or leg.
- Run into someone coming the other way around a corner or through a door, and a black eye or other bruises may well be the least serious outcome.
- If it's a moving vehicle you meet, even a handcart or loaded dolly, you'd be lucky to escape with a few bruises.
- Walking under a scaffold, crane, or conveyor is really tempting fate; doing so without a hard hat is absolutely begging for trouble.

[Note: This is a good place to ask for other examples of dangerous encounters that could occur—or perhaps have occurred—at your facility. Then seek suggestions of ways to avoid such occurrences, either before or after you have provided some examples.]

An employer can do a great deal to prevent, or at least minimize, such occurrences—for example, placing mirrors at blind corners, and windows in solid doors. The beepers on backing vehicles is another "built-in" safeguard. So is the alarm that signals the overhead passing of a loaded crane.

These measures won't protect you, of course, if you ignore the alarms or don't bother to look where you're going.

By the same token, the company's safety rules can't keep you from harmful encounters unless you follow them. For example:

- Wear your hard hat as required.
- Keep your own work area and all aisles clear.
- Heed all warning signs and signals.
- Never move a load you can't see over.

- Clean up small spills promptly; report larger ones.
- Report floor defects, wobbly stair rails, “dead” light bulbs.

You can easily see that you yourselves must shoulder a great deal of the responsibility for keeping your various encounters in the workplace safe and productive. And keep in mind that both the company and your co-workers count on your doing so.



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INDUSTRIAL HOUSEKEEPING

Of all the factors contributing to job safety and health, good housekeeping often appears to be the least interesting and challenging. Yet good housekeeping—some call it “plantkeeping”—can be of vital importance.

Think about what can happen if an accumulation of oily rags tossed in a dark corner ignited one night—the next morning, no job. Or because eating areas were dirty, an outbreak of a serious disease interrupted jobs for weeks. Yes, good housekeeping is very important.

A positive attitude is a good place to start. People who like and want to work in an orderly surrounding have that positive attitude. And when that attitude is translated into behavior, they feel better, think better, do better work, and are safer—and so are their co-workers.

How can that be? because clean work areas and aisles help eliminate tripping hazards. Immediate cleanup of spills prevents slipping injuries. And keeping out-of-the-way places and storage areas uncluttered reduces the chances of disease and fire, as well as slips, trips, and falls.

Good housekeeping goes hand-in-hand with public relations. Both the exterior and interior of a plant should be attractive, projecting order, care, and pride. The condition of the building makes a marked impression on all who enter the plant, employees and visitors alike. A visitor's first impression of a company is important, and the company image affects the amount of business it does.

WHO, ME? YES, YOU!

Whose responsibility is this housekeeping? It's everyone's! Whatever an employee position or title in a company, cleanup tasks should not be shrugged off. The employee who sees a co-worker or supervisor pick up a piece of paper from the floor and put it in the trash is influenced by this action far more than any kind of sign or oral instruction.

Since housekeeping is everyone's responsibility, it's yours. So get in the habit of putting tools away in their proper place, cleaning up spills immediately, stacking cartons or parts neatly and safely, and picking up refuse and putting it in the proper waste containers. Do not allow trash cans to overflow. Remember, putting things in their proper place doesn't waste time—it saves time!

Lunchrooms and eating areas must be clean and sanitary. Food must never be eaten or stored where toxic materials are present. Hands must be washed before eating thoroughly to remove any hazardous or toxic substances.

DESIRABLE OUTCOMES

The first and foremost results stemming from good housekeeping are safety and health, for both you and your co-workers.

Second, when good housekeeping becomes an ingrained habit and begins to happen naturally, the time and effort necessary to keep the workplace clean and safe is reduced.

Third, production quantity and quality are increased, which in turn contributes to improved job security.

Good housekeeping is thus an essential factor in a good safety program, promoting safety, health, morale, and production.



SAFETY TOOLBOX TALKS

HOUSEKEEPING



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'KEEPING HOUSE' WHERE YOU WORK

Most of you probably have had to help with the house cleaning chores at some time or another, so I'm sure you all agree that good housekeeping practices are important in the home.

However, we sometimes overlook the fact that good housekeeping is a key duty on the job, too. The orderly arrangement of work areas is vital to the safety of all workers, regardless of whether they are involved with machines and tools or with appliances and furniture.

Falls often result from tripping over loose articles such as tools left in aiseways and work areas. Wet spots on the floor or trash and other articles left in stairways also take their toll.

During periods of rain and snow, you know what a nuisance it is when the kids track water into the house from outside. Well, you'll probably hear me yell loudly if you do that here, too.

Wet spots cause slips and falls. They should be cleaned up as soon as possible, regardless of who was responsible for the mess. The company has placed trash receptacles in several strategic areas, so there is no excuse for waste paper, pop bottles, or other materials being thrown on the floor. And you'd better get in close for a sure shot at the trash barrel, unless you've recently been contacted by an NFL or NBA scout.

A word of caution—if a bottle smashes on the floor, don't attempt to pick up the glass with your bare hands. Wear gloves, or sweep up the pieces. Use the same procedure for cleaning up nails and other sharp objects.

Let's face it, your job is much easier to do when your work area is kept neat. Keep your tools and equipment off the floor and stored in the proper places. This not only reduces tripping hazards but also protects the equipment you use to earn a living.

Did you ever go to the closet at home to get your umbrella and have to pull it out from under some other articles? Things start falling all over and you begin to lose your cool. Maybe you have a tendency to swear at those inanimate falling objects as though the mess is their fault. But who was it that left stuff piled on top of the umbrella when in a hurry to dig something else out of the closet?

The same principles apply when storing materials or equipment on the job. Take time to make the stacks neat—and not too high. If possible, keep the little-used items at the back or bottom, leaving articles that are needed most often readily accessible.

Just as a quarterback has to keep his eyes open for changes in the defense or certain other tell-tale moves of opposing players we need to keep a lookout for danger signals on the job in order to keep “our team” safe and successful. These danger signals include evidence of poor housekeeping—a spill, a tear in the carpet, articles projecting from a shelf, wires across a walkway, etc. These things must be corrected immediately, so if you can’t do so yourself, let me know so I can see that it’s taken care of.

In closing, I’d like to emphasize that we’re all dependent on each other for safety. It’s up to each of us to hold up our end of the deal. When each of us keeps his own area in order, the whole plant is a safer place in which to work.



SAFETY TOOLBOX TALKS

HOUSEKEEPING



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LEARN FROM NEAR ACCIDENTS

When you notice a red light glowing on the dashboard of your car, you recognize it as a warning, to let you know that your engine is overheating or that there's another problem.

A near accident is a warning too: For example, when you're driving down the highway at a good clip and another car pulls out in front of you, it's necessary to hit the brakes or execute a quick maneuver to avoid an accident.

Chances are that you'll be pretty hot under the collar at the other driver's action, but if you're smart, you won't let anger overpower your safe driving habits. You'll also make a mental note to be more alert and watch for cars approaching the highway from side roads. This could save your life next time.

A near accident in the workplace is a warning or an indication that something is wrong. Perhaps a machine isn't operating correctly, or materials aren't stacked properly, or someone has acted in an unsafe way. Close calls or near accidents on the job should also be converted into safety precautions.*

Let's consider some typical accidents that could have been avoided if the close-call warning had been heeded.*

- A shop worker tripped over a two-by-four and fractured an ankle.
- A secretary slipped on some trash and grabbed a metal file cabinet in an attempt to break the fall, pulling the cabinet over on top of her.
- A machine operator was injured when a motorized hand truck struck the machine that he was operating.

***Suggestion:** *Using real examples from your own operation can have great impact.*

It's fairly certain that the proper handling of earlier near accidents could have prevented the real thing from happening in these cases. The two-by-four, loose tile, and trash on the floor had probably caused other employees to step aside to avoid tripping or may even have caused stumbles that didn't result in injury. And how many near misses were there involving some kind of powered industrial truck and a machine?

Chances are, there were several, yet in all of these cases and doubtless in many others no one heeded the warnings. Nothing was done to correct the situations, and accidents resulted.

MAKING OUR OWN LUCK

We can't go through life depending on luck to keep us healthy. We have to make our own luck, as the saying goes—by acting in a safe manner and taking proper precautions.

An actual accident isn't hard to remember. You may still have the pains or scars to remind you. Someone burned as a child doesn't need a slap on the wrist to promote caution thereafter. But as we've noted, a near accident is often forgotten, with no benefits resulting from the experience.

How can we turn a close call into a contribution to safety? First, recognize it as a warning. Next, correct the situation, or remove the hazard, that caused the near accident. If it can be handled routinely, do so, but in any case report it to your supervisor. This lets him or her plan how to keep the same situation or hazard from arising at some other time or place.

Constant safety awareness on everyone's part is the most important factor in accident prevention. It's what makes us recognize a close call as a warning. So what do you do when a stack of boxes tips over, the handle on a tool snaps, or a ladder slips and, fortunately, no one is hurt? After taking a moment to feel thankful, you take action to prevent what could be a harmful accident next time.



SAFETY TOOLBOX TALKS

HOUSEKEEPING



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NEATNESS DOES COUNT

Good housekeeping is at least as essential in the workplace as it is in your own home. When your workspace is clean, orderly, and free of obstructions, you can get the job done safely and properly. A messy work area, on the other hand, promotes accidents because it hides hazards. These hidden hazards can cause you and others illness and injury. Don't accept the sight of paper, debris, and spills as a normal working condition. If you consider this as normal you may begin to think of worse dangers as acceptable as well.

Effective housekeeping takes an ongoing effort, not just hit-and-miss attempts to clean up once in a while. Periodic cleanups aren't enough to reduce workplace accident rates. Don't begin a drive to clean up and then let things slide after a week or two. Set your work area in order and keep it that way. A lasting result is the only meaningful one.

While we are not expected to clean up for others unless that is the job we have been hired for, as adults we can help clean up after ourselves and keep our own work area neat and in order. That is an understood part of our job description.(On the other hand, it would not be very adult to notice a hazardous situation and do nothing about it just because it waist within our own area.)

Here are some specifics to be mindful of.

- Keep the floor around you clean and clear of waste. If your job is one in which debris is created, you can attend to the immediate floor area every once in a while as you work.
- Keep your workstation cleared of personal items such as clothing and lunch boxes. These should be stacked neatly in a locker or an assigned storage spot.
- Keep stairways, passages, and gangways free of obstructions. Don't place materials on the stairs or in aisles as you work. Bundle hoses and cables when not in use.
- Be aware of protruding nails, sharp corners, open cabinet drawers, and trailing electric wires in the work area. Either correct the unsafe condition if you are able and it is safe to do so, or notify the person responsible for overall maintenance of the space that something should be done.
- Wipe up spills as soon as they occur. Use proper procedures as described in the material safety data sheet if the substance is a hazardous one and put on any personal protective equipment that is required. Dispose of used rags or towels in the proper manner.

- Keep your tools and equipment clean and in good shape. If equipment is damaged, report it and follow up to make sure that the equipment has been adjusted before using it again. After finishing a job, place tools and unused materials in the spot where they belong.

Good housekeeping is also an important part of fire prevention. Make sure that you don't keep more combustible and flammable materials at your workstation than you need for the job at hand—and keep these liquids in safety cans. Place oily or greasy rags in metal containers. Place all other trash and scrap in the receptacles provided for them. Don't reach into waste containers—dump trash into another container or remove the bag.

It is also your responsibility to smoke only in designated areas and at designated times—if you must smoke at all—and to dispose of matches and butts in the receptacle provided.

Let working in an orderly fashion become second nature to you. It is one of the most important ingredients in doing things right and keeping yourself and others safe on the job.



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HOUSEKEEPING



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WHY PRACTICE GOOD HOUSEKEEPING?

Good housekeeping is an important safety issue. It shouldn't be a surprise if you consider that many of the potentially dangerous materials, tools, and substances you work with are lying, ready to make trouble, in the work area. Even items that aren't really hazardous can be dangerous when they're left around where people can trip over or bump into them.

Good housekeeping has other virtues. When your work area is clean and neat, it's a lot easier to find what you need and do your job efficiently. It also makes it easier to respond to or get out fast in an emergency.

Good housekeeping is everyone's responsibility. While the maintenance department employees handle heavy cleaning and similar tasks, they don't know where all your tools and materials are kept. They haven't had the training you've had on proper handling of hazardous substances and other materials in your work area. In short, it's not their job to pick up after you.

Good housekeeping has to be constant and ongoing if it's going to prevent and eliminate hazards in your work area. Most people would never let any part of their own homes, including home workshops, get as cluttered and dirty as their work areas become. And that's not just unpleasant—it can be extremely dangerous.

There are several types of hazards that you should always be on the alert for so that they can be eliminated immediately. You can readily prevent these hazards by applying to your own work area the safety rules and procedures you've learned. Let's look at the potential hazards one by one:

- Tripping and falling hazards are anything on the floor that doesn't belong there: machines, tools, cords, air hoses, scraps, boxes. You can protect yourself and others from tripping and falling hazards by not keeping anything—even temporarily—on the floor. Every machine, tool, material, and substance belongs in some specific place. That place should never be the floor. Other things that don't belong on the floor include boxes that are waiting to be moved and cords, cables, and air hoses. Rest them on an elevated surface, out of harm's way.
- Floors should be kept clear—period.
- Impact and contact hazards—that is, objects that can hit you or that you can bump into—are common problems. Open drawers and tools left perched precariously on a table are typical examples. Contact hazards can be prevented by putting things away properly—don't just leave tools or materials on the edge of a surface where they can fall. And, don't leave drawers open where someone can bump into them. Put things where they belong.

- Puncture and splinter hazards exist when sharp-edged or pointed tools are left exposed. Splinters can develop on any surface and on a variety of materials. Puncture and splinter hazards can be prevented in a similar way. There's no excuse for leaving sharp or pointed objects lying around where someone—like you—could be injured by them. Splinters are a little less obvious. If you risk touching a rough edge with splinters, either cover it or sand it off.
- Electrical hazards include extension cords, cords left near heat or water, overloaded circuits—anything that could cause fire or shock. Protect yourself and others from electrical hazards by knowing the basics of electrical safety. Don't overload circuits, and be sure you're using the right plug in the right outlet. Make sure wiring insulation is intact. Don't use extension cords if you have a choice. And, never leave a cord near heat or water. Fire prevention requires you to practice electrical safety and keep an eye out for anything in the work area that could burn. But, electricity is not the only fire hazard.
- Be alert to open containers of flammable liquids, scrap or flammable liquids near ignition sources, dust or lint on machinery, and materials that block access to fire exits or equipment. If you're working with flammable liquids, make sure they're kept in approved airtight metal containers and that they're nowhere near an ignition source. Don't let dust or lint build up on machinery or work surfaces. If they contact an ignition source, like a spark, you could have a fire on your hands.
- You accomplish another part of fire safety when you eliminate tripping and falling hazards. If there is a fire, the aisles and passageways must be clear so workers can get out and firefighters can get in. Also keep this in mind when you stack materials—don't pile them so high they interfere with the sprinklers.
- Chemical exposure or spills are always a risk when chemical containers are in the work area, especially if they're left open. Chemical reactions can occur if the chemicals in the work area are allowed to mix with things that will cause dangerous reactions, such as other chemicals, water, or air. Watch out for combustible scrap, like oil-soaked rags. Such scrap should be disposed of in tight-sealing metal containers that are emptied daily.

As you know, there are a lot of ways to protect yourself from chemical exposure. Be sure to remove only the quantities of a chemical you need and to keep the container closed when not in use. To prevent chemical spills, inspect containers regularly to make sure there are no leaks. If there is a small spill, clean it up immediately according to the procedures on the material safety data sheet (MSDS) and your company policy. If you've read the MSDS, you shouldn't have a problem understanding chemical reactions. Nevertheless, don't leave the container sitting around. Someone less knowledgeable than you could move it near an incompatible substance—which could just be air. So, keep an eye on your chemicals, and keep only what you need in the work area.

If you train your eyes to look for these hazards, you can eliminate them before they cause trouble. As you can see, good housekeeping for safety is really a matter of applying all your safety knowledge on a small scale. Even one tool or a small chemical container can cause a big problem. This kind of housekeeping takes almost no time and effort if you do it as you go.

Instead of leaving a tool in one place and then going back and putting it away properly later, put it away properly the first time. Instead of leaving materials on the floor to be taken to storage, take them now. You get the idea. The whole point of good housekeeping is that it's an ongoing part of safety, a necessary step in every job.

Here are a few more housekeeping tips to keep in mind:

- Don't let grease or dirt build up; they're not only fire hazards, but are also bad for the equipment.
- Keep food, drinks, and cigarettes out of the work area. They can be contaminated by chemicals, attract bugs, and add to the clutter.
- Keep cords, wires, and ropes untangled. Getting knotted up is bad for them and a pain in the neck to undo.
- Make sure all containers and materials are labeled. If you don't know what something is, find out.
- Dust or wipe lights occasionally. Dirty lightbulbs don't give off much light (and waste energy). They can also build up heat and may even become a fire hazard.
- Report holes, loose boards, and other flooring problems so they can be fixed before someone trips and gets hurt.
- Throw away trash promptly and properly. Be sure that hazardous trash goes in proper containers, incompatible trash in its containers, etc. Trash should also be emptied frequently.
- Don't pile up scraps of odds and ends that you think might come in handy someday. If you really can use them, choose and label a shelf or drawer and keep them there.

It's not really very hard to keep your work area clean, uncluttered, and safe, and it makes for much more pleasant and productive working conditions.



SAFETY TOOLBOX TALKS



SAFETY TOOLBOX TALKS

JOB HAZARD



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JOB KNOWLEDGE—A KEY TO JOB SAFETY

As far as I can see, we're all sound in mind and body. I, for one, want to stay that way, and I assume you do too.

Since you began working here, we've tried to make you aware of safety. There are signs that tell you about various safety rules, and there are posters that remind you to wear your goggles and hard hats. I call you together for these occasional talks to hammer on the same ideas. The result, I hope, is that all of us are always conscious of the need to be careful in our work, so that we and others do stay safe and healthy.

But maybe we haven't talked enough about the one thing that can do more to keep you from getting hurt than almost anything else: knowing your job. If you know what you're doing, chances are you won't get hurt.

Knowing your job, of course, includes a lot of things. First, there is the skill you had to learn when you first started the job. Not just anyone can operate a piece of machinery safely. You had to learn the right way to use the equipment.

You also had to learn what you couldn't do with that machine or piece of equipment. That's just as important. It's important to know that a crane can't handle more than so many pounds of material. It's important to know that a crescent wrench was never designed to drive nails.

But besides knowing what you can do and can't do with the equipment and materials you work with, besides having the skill you need to do your work, you also have to know what the dangers of your work are.

For example: If you're using a grinding wheel, you'll know that there is danger from flying particles, and you'll keep a guard in place and wear safety goggles. When you know your job, you know there is good reason for the protective equipment you are required to wear.

The first rule of safety, then, is know your job. If you really do know your job, you'll never get to a point at which you think you're so skilled that you no longer need to guard against the dangers that are part of the job.



SAFETY TOOLBOX TALKS

JOB HAZARD



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JOB SAFETY ANALYSIS

Some hazards on the job are obvious, so it is easy to use care around them and to develop safety procedures. However, many potential safety and health hazards are less obvious and only uncovered as a result of a systematic analysis of both the job and the worksite.

When something is analyzed, each of its parts is given a close examination. Such is the case when a job safety analysis is made. Each step of the job is broken down to pinpoint any safety hazards involved.

Most of us don't have time to completely analyze our jobs. This is usually an assignment that is given to a safety engineer or someone with similar responsibilities. However, we should all be aware of potential hazards connected with our jobs, and this awareness should become second nature to us.

Let's take a look at some of the elements of a job safety analysis. You may recognize at least a few of the elements as things you are already concerned with.

Motions, positions, and actions often result in injuries, and their consideration is significant to safety. People who reach over moving equipment or objects are vulnerable to injuries. Reaching beyond the range of clear vision is also a dangerous practice.

Other items in this category include motions too rapid for conditions, off-balance positions, incorrect posture while lifting or handling objects, and positions that are hazardous in relation to machines or other workers. Maybe you can remember having a "close call," if not an injury as a result of a similar situation.

Looking into the job safety analysis further, you will find that both physical and equipment hazards may be present. Problems around equipment and machinery develop at points of operation or around flywheels, gears, shafts, pulleys, keyways, belts, and sprocket chains.

In addition, other important concerns are the operation of brakes and exhausts. Activities such as feeding, oiling, adjusting, grounding, and maintenance also have be observed for possible hazards.

Other hazards include tools that are too long, too short, have a design flaw, or are in poor repair. Certainly guards that do not give adequate protection are perils to your safety.

Faulty layout of work areas may cause hand and foot injuries in materials handling operations. Poor work area arrangement can also be responsible for strains from lifting.

Safe housekeeping is important in all kinds of employment. It is also very predictable. Without it, a safety program won't be successful. Housekeeping problems often involve waste disposal, tool storage, misplaced objects and materials, and leakage and spillage. Windows, ledges, and storage areas should not be overlooked in examining job hazards, particularly if storage involves flammables.

So, you have to plan ahead and think your job through. That's being safety minded. A safety-minded worker will:

- Follow instructions
- Correct unsafe conditions if authorized, or report them to a supervisor
- Avoid horseplay and distracting other workers
- Comply with safety rules and safe practices
- Practice good housekeeping
- Use the right tool for the job
- Lift properly
- Use proper personal protective equipment
- Operate, adjust, or repair equipment only when authorized.

If an accident should occur, and you are requested to supply information to help analyze the cause, or if your job is being analyzed for safety, keep in mind that your cooperation will contribute to your own security as well as to the success of the overall safety program.



SAFETY TOOLBOX TALKS



SAFETY TOOLBOX TALKS

LADDERS



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A SIMPLE DEVICE, AND SAFE

Ladders are a simple device for safe climbing, and that may be their biggest fault. Workers using them tend to mistake simplicity for harmlessness, forgetting precautions or rules of proper use. That kind of mistake causes thousands of accidents and disabling injuries every year.

Most accidents with straight ladders are caused by the ladder's skidding or slipping. This is easy enough to prevent. Equip the ladder with a nonslip base like safety feet, for example, or block the base of the ladder.

Lashing the ladder is another precaution against its moving or slipping, and to make sure the lashing is there when it's needed, permanently attach a short length of rope to a side rail. Also, make sure the ladder is placed at a safe angle so that the distance from the wall to the base of the ladder is about one-fourth the distance from the base to the ladder's top support.

When you are setting up a ladder, make sure the footing is level and that the ladder rests on a firm platform. Lean the ladder against something solid and unmovable, not against a window sash or glass surface. Also make sure the ladder top juts well above a roof edge, beam, plank, or scaffold so that the climber has plenty of side rail to hold onto when stepping off. Three feet is the recommend safe amount.

Once the ladder is properly in place, step onto it facing the rungs and grasping the rails with both hands. Do not hurry up the rungs, but climb one at a time.

Never try to carry tools or anything else up a ladder, because hands should be free for climbing. Instead, hang tools in a sack or from a strap placed over the shoulder, or use a bucket or line to haul them up later.

While working on a ladder, don't try to reach out too far, but move the ladder as work requires. Never go higher than the third rung from the top on a straight ladder.

If those precautions are followed, and if the ladder is in good condition and is the right one for the job, then a simple device for climbing is a safe one, too.



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CLIMBING FIXED LADDERS

We'd all agree that a steeplejack's job is dangerous. Those rungs running up a tall smokestack look pretty treacherous, and they are for any ordinary guy who has no business climbing them.

But steeplejacks rarely fall. They specialize in climbing safely and handle themselves safely when they get to the top. They take no chances, take nothing for granted, and test and check everything their safety depends on.

That's why most of the falls from high ladders are suffered by people who don't do much ladder climbing. They don't use enough care.

First of all, no one who is bothered by heights should climb a high ladder. That will only create nervousness and lack of self-confidence. A person needs steady nerves and a clear head on a high ladder.

Lots of people won't admit that they're afraid of height, though, because they've been brought up to think that fear is something to be ashamed of. Actually, that's the wrong attitude. Fear is a perfectly natural reaction to a dangerous situation or one that seems dangerous. It gives a person the extra strength and energy needed to meet an emergency. A person who isn't capable of fear is abnormal.

Look the ladder over well before you start up. See anything wrong? Bent or missing rungs? Grease or heavy rust on rungs or rails? Any places where there isn't plenty of clearance? How is the toe clearance behind the rungs? It should be enough to keep the toe of your shoe from touching the structure when your heel is snug against the rung.

If a pipeline or anything else cuts the clearance anywhere, don't forget to watch out for it when you get to that place. Lack of clearance has finished off many a man and thrown scares into a lot more because, if you don't allow for it, you're likely to miss a rung.

Be especially careful of wooden ladders. Wooden rungs have a way of rotting and coming loose. Take no chances with them.

Electric wires, unless in pipe conduit, are very dangerous to have within reach of a metal ladder because of the danger of shock involved. The insulation on the wire may not be very good, since it's exposed to all kinds of weather. In fact, the air around the wires may be all that's keeping the juice in them.

Getting any part of you against or even close to a wire may give the electric current the chance it's always looking for to escape the ground. If it takes off through you, you'll come to on the ground, if at all.

In below-freezing weather, check for ice. Sometimes people don't take into account the drip from an overhead platform or an iced-up eaves trough when they are deciding where to place a ladder. It's best not to even try to climb an icy ladder. If you must, use a safety belt, be sure to keep it hooked while you work, and knock the ice off as you climb.

After you've checked the ladder, you're ready to start up. Give it a good shake to make sure it's well secured, and look out for any looseness at each point of support as you come to it. In climbing, set your foot on the rung so that your head is snug against the ladder and close to the rail, unless the ladder is too wide for that much spread to be comfortable.

Grasp the rails. If you hold onto the rungs and a loose rung pulls out, you're probably a goner. Even if it turns a little, you may miss your grip. But if you have a good hold on a rail, a rung can let go under your foot and still not throw you.

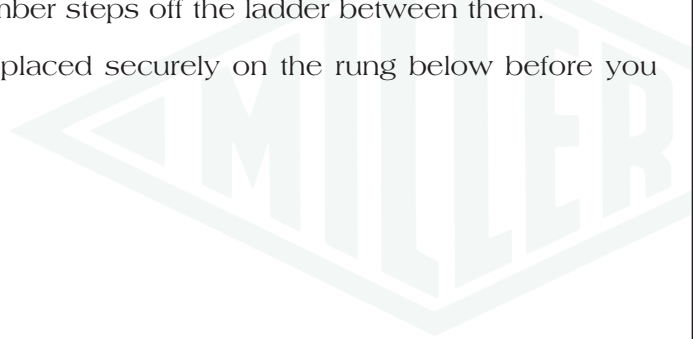
Always be sure you have a good grip with one hand and are solid with one foot before you take a new hold for the next rung. That goes for climbing either up or down.

Finally, when you hit the top, be sure of your footing when you step across from the ladder to the roof. Unless the setup is right, that's the high point.

If the ladder rails aren't run up at least 42 inches above the roof or platform edge, ask for a higher ladder. The rails should be spread apart above the roof and curved over with the ends made fast—rungs out, of course—so that the climber steps off the ladder between them.

In climbing down, be sure you have your foot placed securely on the rung below before you change your hand hold.

Never hurry on a ladder.



SAFETY TOOLBOX TALKS

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PORTABLE LADDERS: DO'S AND DON'TS

Portable ladders are a simple and effective means for climbing safely to a work area. However, careless use of ladders has led to thousands of disabling injuries and even fatalities. These accidents could have been avoided by following three basic safety rules.

- 1. Use a ladder that is the right type and size for the job to be done.** The right type of ladder means using a heavy ladder for construction work—not a light household-type ladder. Metal ladders should never be used if you are working near exposed electrical circuits or power lines. This is particularly important if you are working in fields near power lines where a wind may blow the ladder into those lines. If you are working around trees and shrubs, check to be sure that power lines are not hidden behind them. The safest stepladder is 10 feet long or less. Never splice ladders together or place a ladder on an unstable base such as a barrel or box to gain additional height.
- 2. Don't use a ladder that is in poor condition.** Inspect the ladder each time you use it. Check for missing, broken, or weakened rungs, side rails, and cleats. Make sure that auxiliary equipment such as ropes, pulleys, and extension ladder locks are in good repair. Clean oil or grease off ladder rungs and side rails to prevent slipping. Do not use a defective ladder. If your ladder needs repair, mark or tag it: **DANGEROUS—DO NOT USE!** If it cannot be repaired, dispose of it permanently.
- 3. Take commonsense precautions when positioning a ladder or working on it.** Position your ladder from the wall at a distance equal to approximately one-fourth the length of the ladder (at a 75.5 degree angle). Make sure the footing is secure. If it isn't, lash it to the point where the ladder touches the surface it is leaning against. **NEVER** lean a ladder against something that might move.

When placing a ladder up against a building, don't lean it on a window sash. Instead, fasten a board securely across the ladder so that the board extends across the window and for some distance on either side of the window.

As you climb up and down the ladder, always face the ladder and use both hands to hold the side rails. Don't carry tools or materials in your hands as you climb. Instead, put them in your work apron or use a rope and bucket to raise and lower them to and from the work area.

Always stay below the top three ladder rungs, unless you have a firm handhold or are wearing a secured safety belt. Many deaths have resulted from workers who fell off ladders because they weren't wearing a safety belt.

Keep the ladder from becoming unsteady by not leaning or overreaching from it. Never reposition a ladder while you are standing on it. Avoid using ladders in high winds.

If you are working in front of a door that opens toward a ladder you are working on, block the door, lock it, or guard it. Have a co-worker guard your work area to prevent anyone or anything from accidentally bumping into the ladder. Barricade or rope off the space around it.



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SAFE LADDER USAGE

Both single and extension ladders should be equipped with nonskid safety feet and should be placed on a firm, level surface. The distance from the ladder's base to the wall should equal one-fourth the distance from the base to the point of support.

Never set ladders on boxes or other objects to make the ladder reach higher areas.

Lock or barricade any doors that may open toward ladders.

Approximately three feet of a straight ladder should extend above the topmost spot to be reached.

Never stand above the third rung from the top of a straight ladder or above the second highest step of a stepladder.

Never use stepladders as straight ladders. Open stepladders fully and make sure that the spreader is locked securely.

Only one person should be on a ladder at a time and should always face the ladder when going up or down.

While on a straight ladder, hold on with one hand and don't overreach. It's safer to climb down and move the ladder. Use a safety belt if both hands have to be occupied.

If you use a metal ladder, make sure that it—or you—doesn't come into contact with electric wires or equipment.

Never carry large objects while ascending or descending a ladder. To carry tools and accessories, use shoulder straps, bags, or hand lines.

Inspect all ladders at regular intervals.

Defective ladders should be tagged "dangerous—do not use," and removed from service without delay.

Ladder steps and rungs should be kept free from oil and other foreign matter.

Ladders should not be painted because paint may conceal defects.

When not in use, ladders should be kept on racks having sufficient supporting points to prevent sagging.



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SCAFFOLDING

Falls are one of the commonness causes of workplace accidents and injuries, and scaffolds contribute, at least indirectly, to many of these.

Avoiding scaffold accidents involves three elements:

- Proper erection and maintenance of the scaffold itself
- The provision and use of appropriate fall prevention/arrest equipment
- Following safe work practices.

ERECTING THE SCAFFOLD

Many scaffold accidents are caused by using improvised scaffolding—made quickly or on the spur of the moment, or in an offhand way—such as putting one box on top of another on a steel scaffold, instead of installing two more steel bucks.

There are many types of scaffold, and although some may have unique requirements, following the most up-to-date requirements carefully is important for every type. Here are some examples:

Steel scaffolding should be erected and used in accordance with the manufacturer's recommendations, making sure all connections are properly seated and locked.

Wood scaffolding must conform to safety code design and be in strict compliance with material specification and bracing. Specifications for guard-rail height, cross-bracing, and toeboards are clearly spelled out in OSHA regulations.

Free-standing towers greater in height than four times the width of the base should be guyed. Pole scaffolds should be anchored at the designated intervals. Foundation sills should be placed under all scaffolds that are set on earth. Planks should be secured to the scaffold when left unattended.

FALL PROTECTION

Many of the specified requirements for scaffold erection are directly aimed at preventing or at least minimizing the risk that a scaffold worker will fall. But such devices as safety belts and harnesses add protection by ensuring that if a fall does occur, it doesn't result in serious injury or death. We provide such equipment, but it will be of no help to you unless you use it. That's why we will deal strictly with anyone who does not use these required protective devices.

SAFE WORK PRACTICES

Before you work in or near high places, and particularly on scaffolding or with safety belts, always check the ropes, cables, chins, or other holding devices for weakness caused by accident or normal wear.

Swinging scaffolds pose particular problems of their own. It is advisable to have one person in charge of the moving up and maintenance of scaffold machines.

Another danger associated with scaffolds is that tools or materials may fall off and cause severe injury to someone below. Or debris and other objects may fall from other areas of the building onto the scaffold. Therefore:

- Hard hats should be worn by anyone working on or below the scaffold.
- Overhead protection should be provided, either on the scaffold itself or projecting from the floor of the building immediately above the scaffold.
- When deemed advisable, screening should be placed up to guardrail height to prevent materials from falling off.
- The scaffold surface must be kept in good condition, properly guarded, and clean—housekeeping is just as important there as on floors and aiseways.

The safe use of scaffolds depends greatly on the common sense of the workers themselves. Once we've made sure the scaffolds have been erected correctly, and that fall protection gear is provided, the rest is up to you. To be safe, work safely.



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STAYING SAFE WITH PORTABLE LADDERS

Portable ladders are a simple and effective means for safe climbing except for one major problem. Workers sometimes find portable ladders so easy to use that they neglect normal precautions and safety rules. The result, too often, is an accident.

Almost all ladder accidents can be avoided by following the three basic rules of ladder safety:

1. No ladder is safe unless it is the right type and right size for the job
2. No ladder is safe if it is missing rungs, if its rungs or rails are defective, if it is poorly built, or if it is in a weakened condition
3. No ladder is safe unless the person using it takes commonsense precautions.

Using the right type of ladder makes the job safer. For example, don't use a stepladder to do the job of a straight ladder by leaning it against a support.

Heavy construction jobs call for heavy ladders, not light household types. Metal ladders must not be used in the vicinity of exposed electrical circuits or power lines, where they may come in contact.

The right length is important, too—neither too long or too short. Stepladders are safest if they're 10 feet or less in length, and they should never be longer than 20 feet. In construction work, extension ladders can be used to reach up to 44 feet, but, for greater heights, scaffolds should be used. *Splicing two ladders together is never safe.*

A ladder should always be examined before it is used to be sure there are no defects that make it unsafe to use. (The reason a ladder should never be painted is that the paint could conceal significant defects.)

A ladder is unsafe to use if side rails are cracked or split or if there are sharp edges or splinters on cleats, rungs, or side rails. Check also for missing, broken, or weakened cleats, rungs, or treads by placing the ladder flat on the ground and walking on it. If a defective ladder cannot be repaired, it should be disposed of permanently.

Once the ladder has been checked and found safe, set it at an angle of about 75° with the floor or ground. The distance from the wall to the foot of the ladder should be about equal to 1/4 of the ladder's total length.

After setting the ladder in place, check it for firm and level footing. To prevent slipping, nonslip points or safety shoes are recommended. But, if this is not practical, the ladder should be secured firmly by lashing it with rope or some other suitable line.

The ordinary straight ladder is not built to support more than one person at a time. In going up or down, always face the ladder and grasp the side rails with both hands.

Never carry tools or materials in your hands when going up or down the ladder. Instead, put them in a sack that hangs from a strap over your shoulder or use a bucket and rope to raise and lower them.

Don't lean a ladder against an object that might move, and never lean it against a window sash. If you must work near or on a window, fasten a board securely across the top of the ladder to give a bearing on each side of the window.

Always stay below the top three rungs unless you have a firm handhold or a safety belt. Even then, you should hold on with one hand while working.

Be sure you keep moving the ladder as needed to reach new areas to be worked. Never overreach, push, or pull the ladder while working on it. Never straddle the space between the ladder and another object or try to work in a high wind. Any of these actions could upset you and the ladder.

If you're working in front of a door that opens toward the ladder, the door must be blocked open, locked, or guarded. In any other situation in which a person or vehicle may bump into the ladder, get a helper to stand guard. If you can't, then be sure to rope off the space around the ladder.

Some points to remember:

- Always inspect a ladder before using it.
- Outdoors, don't work on a ladder if it's very windy.
- When going up or down, face the ladder. Don't hurry. Take one step at a time, and hold on with at least one hand.
- Don't overreach or try to reposition the ladder while you're on it. Instead, get down and move the ladder to a better working position.
- Don't work on any of the top three rungs of a ladder unless you have a firm handhold or a safety belt.
- Secure the ladder against slipping before you try to use it.
- Don't ever use a metal ladder near live wires or parts.
- When a ladder is not in use, store it under cover, horizontally, with supports to prevent sagging. Don't let it lie on the ground where heat or dampness may weaken it.

SAFETY TOOLBOX TALKS

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THERE'S MORE TO LADDERS

More precautions are needed to stay safe while using a portable ladder than are usually taught. By keeping some of these in mind, you might avoid an unfortunate accident.

Before you even use a ladder, have a look. Are there missing or loose steps or rungs? Test them with your hand. Are the treads worn or the surfaces splintered or broken? Are braces or spreaders worn, loose, bent, or broken? Don't make temporary or makeshift repairs. If the ladder is defective, take it out of service and tag it. Use a ladder that is in good repair instead.

Before setting up a ladder that you have okayed for use, check for overhead power lines so that you are sure to avoid contact. Remove tools and materials from the area around the base and the top of the ladder.

Rest the top of the ladder against a solid surface that clearly can withstand the load. Where the surface is not sufficient to the load, attach a ladder stay across the back of the ladder.

Secure the ladder at the top to prevent it from slipping. Secure the base of the ladder against accidental movement. If the ladder doesn't have non-slip feet, nail a cleat to the floor or anchor the feet or bottom of the side rails. If the ladder is not thoroughly secured top and bottom, station a helper at the foot of the ladder facing the ladder with a hand on each side rail and one foot resting on the bottom rung.

Guard or fence off the area around the ladder if it is in a location where people have access.

When using the ladder, always keep three point contact, with two hands and one foot or two feet and one hand on the ladder at all times. Grab the rungs of the ladder while you are climbing, not the side rails—holding on is easier that way. Wear protective footwear with slip-resistant soles and heels. If you are working 10 feet or more off the ground or working with both hands, tie yourself off with a safety harness.

When work requires you to reach and look up, rest frequently to avoid arm fatigue and dizziness. If you do become dizzy or disoriented, place both arms over a rung and rest your head against another rung or the side rail. Climb down slowly and carefully.

Stepladders, too, must be stabilized. Ensure all four feet are on firm, level, and dry ground. Never place a stepladder on top of something else to gain height. Don't climb a stepladder that is leaning against the wall—use a straight ladder.

If you are using a stepladder, face the ladder when climbing up or down. Maintain a firm grip, using both hands in climbing. Keep the stepladder close to your work. Don't overreach; move the ladder when you need to. Never stand, climb, or sit on the pail shelf at the top.

When the job is over and you store the ladder, place it where it belongs. Usually ladders are stored sideways on racks with supports every six feet. Ladders must not be stored where they will be exposed to the weather. They should be clean when they are put away—in a well-ventilated area if they are wood and in a not too hot area if they are fiberglass (not above 200 degrees F).

When carrying a ladder to or from storage, use a partner if the ladder is long or heavy. Both of you should be on the same side of the ladder you are carrying. Try to stay in step. Arrange a signal for a change of direction. Use caution in carrying ladders through a passageway or doorway where your view might be obstructed.

Being safe in ladder use is simple. Know the rules and then follow them.



SAFETY TOOLBOX TALKS



SAFETY TOOLBOX TALKS

LO-TO



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DON'T JUST TURN IT OFF—LOCK IT OUT

Any powered equipment is potentially dangerous—even if it's supposed to be shut down! Many needless accidents occur when somebody turns on a machine that other employees are repairing. "I didn't know anyone was working on it" is the usual alibi in accident investigations.

Accidents occurring under these circumstances are not only needless but serious. They result not in small cuts or scratches, but most often cause amputations, serious fractures, and death. Any energy source—electrical, mechanical, pneumatic, hydraulic, or gas—can be deadly if not controlled.

There is one sure way to prevent such accidents from happening to you and that is to make certain that power cannot possibly reach machinery while you are adjusting or repairing it. How is this accomplished? By locking out and tagging power at its source. These procedures are so important that there are federal safety regulations covering them.

Locking out means placing a lock on a device that prevents the release of energy, such as an electric circuit breaker, a disconnect switch, a line valve, a block, and others.

Tagout means attaching a tag on a switch or other shutoff device that warns others not to start up the equipment. Tagout may only be used together with lockout, unless locking out the equipment is impossible.

Sounds easy? It is, if procedures are followed correctly. Here is a general lockout procedure that can be adapted to your job.

- Turn off the equipment at the control panel
- Turn off or pull the main disconnect
- Attach your safety lock at the main switch
- Try to restart the equipment at the control panel
- Check the machine for possible residual pressures, particularly for hydraulic systems
- Complete your servicing work
- Replace all guards on the machinery
- Remove your safety lock and adapter
- Let others know that the equipment is back in service.

No lockout system will be effective if it is undertaken in a hit-or-miss fashion. Here are some common mistakes in lockouts. See how many you've been guilty of:

Mistake 1: “This job will only take a few minutes. I don't need to use a lock—I'll just shut it down.”

Mistake 2: Your co-worker pulls the switch and correctly locks it out. Then you place your lock through his lock. When he finishes up first, he removes his lock and leaves yours lying on the ground near the switch. Now you have no protection. Always use a multiple lockout when more than one person is servicing the equipment.

Mistake 3: You're afraid you're going to lose the key, so you leave it in the lock. Again, this does not protect you and can be dangerous.

Mistake 4: “Joe, could you take my lock and shut off the machinery and lock it out while I get my tools together?” Don't depend on the other guy! Do the shutoff and lockout yourself.

Mistake 5: You locked out the control circuit and thought that was good enough. Wrong! The main disconnect or switch must be locked out too. Even one drop of water or a few particles of dust can cause a machine to operate without anyone pressing any start buttons.

Mistake 6: Everything is correctly locked out and you're ready to go to work. You've only got an hour to finish the job. Stop! Before you do anything, take a few moments to test the controls to make sure they are definitely inoperative.

As you can see, it is up to you, the employee, to perform a proper lockout. Ask to see your company's written lockout procedures for the equipment for which you are responsible. Make sure you have received training and understand exactly what to do. Your life may depend on it!

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LOCKOUT FOR SAFETY

Every year, people are killed on the job by activated machinery. Many of those deaths could have been prevented by following lockout/tagout procedures to turn off machinery that is being serviced or repaired.

Here are some real-life examples:

- An untrained worker was feeding scrap cardboard into a shredder. When the shredder jammed, he tried to fix it without turning off the machine. His arm got caught, was pulled into the shredder, and he bled to death.
- A worker was inside a cement mixer, cleaning it. Another worker, who didn't know anyone was inside the machine, turned it on and the worker inside was killed.

These tragic examples of accidental death could have been prevented by following lockout/tagout procedures. They also make it clear that everyone has to be aware of the importance of shutting off power to machinery when it's being fixed, cleaned, or maintained. Even if you don't operate heavy equipment, you could accidentally get in its way if it's not properly disconnected. So, let's review and practice basic lockout/tagout procedures to make sure no worker is ever killed or injured by equipment that should have been shut down.

Any powered machinery or electrical equipment that could move in a way that would put people in danger is a hazard that can be prevented by lockout/tagout. You also have to be alert to equipment that could roll, fall, or move onto a person after it's shut down.

Hazards occur during the following circumstances:

- Repair
- Maintenance
- Cleaning
- Mechanical or operational problems
- Machinery that's thought to be fully turned off but isn't

The bottom line here is simple: Never try to clean, repair, or perform maintenance on any piece of machinery or equipment without completing lockout/tagout. There's a second bottom line, too, that applies to everyone who even gets into the vicinity of a machine: Don't touch, much less operate, any piece of equipment or machinery unless you are trained and authorized to do so. Don't touch anything that's locked and tagged unless you are responsible for working on it and are sure the power is disconnected.

The key point of lockout/tagout procedures is to shut down completely machinery and electrical equipment before repair, maintenance, and cleaning. Here's the six-step shutdown procedure:

- 1. Before shutdown.** The authorized employee must know the type and magnitude of the energy, the hazards of the energy to be controlled, and the method or means to control the energy. The authorized employee must notify all affected employees of the lockout.
- 2. Shutdown.** The authorized employee shuts down the machine or equipment by the normal stopping procedure, such as pressing the stop button, moving the switch to the “off” position, etc.
- 3. Isolation.** The main power switches, circuits, or additional sources of energy are moved to the “off” position or otherwise made inoperative.
- 4. Lockout.** Locks are placed on switches or other energy sources in the “safe” or “off” position. During a group lockout, all members of the group must add their own locks to the group lockout devices and should never place a lock inside another individual's lock. Warning tags should be placed with each lock.
- 5. Energy release.** All potentially hazardous stored or residual energy, such as that in springs, elevated parts, rotating flywheels, hydraulic systems, electrical systems, and air, gas, steam, or water pressure, etc., is relieved, disconnected, or otherwise made safe by repositioning, blocking, bleeding down, etc. If there is a possibility of reaccumulation of stored energy to a hazardous level, verification of isolation must be continued until the servicing or maintenance is completed or until the possibility of such accumulation no longer exists.
- 6. Testing.** After making sure that no personnel are exposed, and as a check on having disconnected the energy sources, the authorized employee operates the push button or other normal operating controls to make certain the equipment will not operate.

CAUTION: *Return operating controls to the “neutral” or “off” position after the test. The equipment is now locked out.*

Tagout is the process of placing tags on machinery to warn workers not to start or operate the equipment. It usually occurs after lockout and is a way of making doubly sure that other workers know to stay away from the machinery. Tagout is not a substitute for lockout. However, in cases where machinery cannot be locked out, tagout becomes extremely important because it is the only way to warn other employees that the equipment should not be used. Tagout alone should be used only with management approval.

When maintenance or service is done, only the same authorized employee who installed the lock may remove it. Special circumstances may apply during shift changes and when an employee who placed a lock or tag is not available to remove it. Usually, this involves a designated worker who must notify the person who locked out a machine that the lock is being removed. For safety, follow your company's procedures in these situations.

Once servicing is complete, follow these steps:

- 1.** Check all around the machine to make sure that all maintenance items have been removed and that the equipment components are operationally intact.
- 2.** Check the work area to make sure all employees are removed from the area and cannot enter during this phase.
- 3.** Verify that the controls are in neutral.
- 4.** Remove the lockout devices and reenergize the machine.
- 5.** Notify the affected employees that the servicing is completed and the machine is ready for use.

SAFETY TOOLBOX TALKS



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MACHINE GUARDING



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ABRASIVE WHEEL GRINDERS

Abrasive wheel machines are used in general industry, construction, and maritime operations, but the small "fixed bench" or pedestal grinders can be found in just about every maintenance and machine shop in America. There are also portable abrasive tools that are carted out to make repairs. This adds up to a lot of workers exposed to serious risks for eye injuries, hand or finger injuries or amputations, inhaling grinder-generated dusts and fumes, and hearing problems caused by the grinding noise.

Protective devices keep operators from making contact with the sharp metal-removing wheels or debris. OSHA-required protections include:

- **Wheel guards** are heavy metal hood-like enclosures in alignment with the wheels that cover the spindle end, nut, and flange protections.
- **Machine-opening guards** protect the operator as the wheel diameter becomes smaller.
- **Work rests** support the piece being ground and prevent jams or broken wheels. They should be no more than 1/8" from the wheel.

INSPECTION AND MAINTENANCE PREVENT ACCIDENTS

Operators should inspect the wheels for damage before mounting them. A wheel should be evenly worn without a lot of nicks or scrapes. Check for cracks by tapping the wheel: a clear "ping" means it's not cracked; a dull thud means it is cracked and shouldn't be used.

Check to see that the grinder and the wheel are securely mounted. Be sure electrical cords are properly grounded, the plug has a good connection, and the power transmission motor cover is in place.

Test the wheel before you use it without using materials. Stand off to one side to observe it in use.

PERSONAL PROTECTIVE EQUIPMENT

For your safety, employees working on grinders should wear:

- Safety glasses with side shields or a full face shield to protect eyes from flying chips and particles.
- Gloves to protect the hands from sharp edges and flying particles.
- A dust mask to protect your respiratory system should you inhale dust or fumes.
- Hearing protectors to protect from hearing damage.

Clothes, hair, and jewelry should not be worn loose because they could get caught in the machine.

FOLLOW THESE SAFETY RULES

- Keep the area around the machine clean because sparks could ignite debris.
- Match the wheel to the machine's size and speed. Note the maximum speed and don't exceed it.
- Connect dry grinding operations to an exhaust system.
- Adjust the work rest. If you must adjust it again, turn the power off—don't move it while the grinder is operating!
- Stand so that you have good balance and can reach controls and materials without stretching.
- Get firm control of the tool, then let it reach full speed before each contact with the piece you are working on.

You have probably heard stories about accidents or near-misses with abrasive grinders, so you know that everyone in the area should wear eye protection. Yes, these machines are relatively small, but they are responsible for many serious eye and hand injuries each year.



SAFETY TOOLBOX TALKS

MACHINE GUARDING



EC-11

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BEWARE THE PINCH POINT

Pinch points are machine points so named because they can pinch some part of your body between two moving parts or between one part that is moving and one part standing still. Pinch points are among the most common hazards in the workplace and they are the cause of many serious types of injuries, from scrapes and bruises to broken bones and worse.

Some pinch points are offered by equipment in operation. These areas are guarded as a matter of regulation by OSHA and by your state safety and health agencies. Other pinch points are created by worker activity and it would be impossible to guard all of these, even if we could figure out what each one was.

Pinch points that are not guarded will be found just about everywhere that you look. The door hinge is a pinch point, scissors and similar tools can serve as pinch points, and desk and file drawers certainly offer pinch points to the unwary. Pinch points such as these that don't say "danger" in an obvious way are all the more likely to cause some harm. When a pinch point is not guarded by some safety device, that leaves it up to each of us to make sure that we don't get hurt. What are the unguarded pinch points in your own work space? Think about what these might be and approach them gently. The less energy that you use in maneuvering in the area of the unguarded pinch point, the less likely you are to have an accident. And if there is some accident nonetheless, if you have used caution, it is less likely that you will be seriously hurt. So don't slam doors or drawers in your haste. A hand or finger may get more than pinched.

Some pinch point hazards come from carelessness or inexperience. Hand carts and hand trucks are frequently the source of pinch point problems. The use of the hand cart or hand truck often leads to abrasions and even to the breaking of fingers when the cart is jammed through a doorway that is far too narrow. If you aren't used to operating the hand truck, put on a heavy pair of gloves for better grip and some protection from scrapes. Slow down when you near a potential pinch point. Stop before trying to push through a passageway that may be too narrow for your vehicle. Check the opening before you try to squeeze through and allow for more than a finger's worth of clearance.

What about pinch points—or nip points—that are guarded, which should be the case with all equipment that has a possible pinch point? The rule here should be obvious. If equipment is guarded, don't remove the guard while machinery is running. If the equipment has stopped and you need to service or check the machine, be sure that the source of energy is completely locked out before you touch the guard. Obey all lockout/tagout policies as they are followed in your workplace so that the now unguarded machinery will not start suddenly and catch you in a pinch point.

Sometimes, you may be tempted to remove a guard on machinery that you operate because you feel that you can increase your productivity if you do so. Forget it! Serious accidents happen in just such a way. You may think that you know your equipment so well that you can do very nicely without the device that guards the pinch point, but hands and arms have frequently been lost in an attempt to gain a little speed. Leave the guard on the machine while you are operating it and if it has been taken off for any reason, replace the guard before turning the machinery back on. Remember, a machine that offers pinch points has to be guarded. That's the law and that's the way you can remain safe.



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GRINDING WHEELS

Ancient man sharpened his tools and weapons by rubbing them with a stone. Modern man uses the same principle to sharpen the tools of industry. The grinder (or grinding or abrasive wheel) is one of the commonness and most useful tools we have. Without the grinding wheel, our present high levels of industrial efficiency and production would never have been possible.

Like all modern improvements on old processes, the power-driven grinder of today is not an unmixed blessing. Unless safe practices are followed and proper safeguards are adopted, injuries may be many and great.

Skilled workers such as tool makers, grinder operators, and machinists suffer the greatest number of injuries from grinder injuries—which tend to be more severe than many. Most grinding wheel injuries need not occur, however, if commonsense precautions are fully observed.

One study of grinding wheel injuries reveals two highly significant facts: eight out of ten injuries occur at or near the point of operation, and five out of ten injuries are eye injuries. That emphasizes how important it is to have adequate eye protection. Failure to use goggles can be disastrous. A flying particle can blind an unprotected eye beyond repair.

Poorly fitted goggles and use of the wrong type of goggles are other major factors in grinding wheel injuries. So goggles should fit well and should be the right type for the work. But most important, they should be worn. They won't save your eyes if they are kept on the shelf.

Grinder shields of shatterproof glass are valuable as an additional factor in safe grinding. Large, clear shields will enable a worker to see the operation without eye fatigue.

With few exceptions, a grinding wheel must be equipped with a protection hood that will effectively shield workers from flying fragments and effectively restrain pieces of the wheel if the wheel breaks in operation. There are several different types of hoods for different kinds of operations. Choose the correct type for the work you are doing—check with your supervisor if you're not sure.

Good lighting is another important factor. The source should be properly located and of sufficient intensity to illuminate the point of operation on any part of the grinding surface.

Most grinding wheels are designed to be held between flanges. Do not operate a wheel that is not mounted on suitable flanges. Place facings of compressible material between the wheel and its flanges.

Never use defective grinding wheels. Let me repeat that: *Never use defective grinding wheels.* Grinding wheels that have been discarded must never be used again for grinding.

Before mounting a wheel, inspect it carefully for cracks or marks that indicate damage. In addition, give it the "ring test." Test the wheel by tapping it gently with a wooden mallet or the handle of a screwdriver. If the wheel is not defective, it will give a clear ring.

Proper safeguards form part of safe grinding operations. Safe practices form the rest. If a few safe practices are faithfully observed, grinding wheel injuries will be few and far between. Here are a few basics:

Before starting, check the grinding wheel for sprung or cracked flanges, which will put extra strain on it. Make sure, too, that the wheel is not cracked or broken.

- Check that the wheel is the right size, grit, and bonding for the work to be done. Before starting, check the wheel for sprung or cracked flanges, which will put extra strain on it. Make sure, too, that the wheel is not cracked or broken.
- Make sure the wheel is balanced and centered. Eccentric or unbalanced wheels are highly dangerous. Great strain is placed on the bonding of a wheel if one side of a wheel is ground down more than the other and the wheel is even just a trifle off-center. The wheel may then explode.
- Keep work rests securely anchored in place, not more than one-eighth of an inch from the wheel. Improperly adjusted work (or tool) rests cause many accidents and injuries. When they are dangerously worn, work rests must be repaired or replaced.

Excessively high wheel speeds are another major cause of injuries. A grinding wheel must not be operated above the speed recommended by the manufacturer. Know the safe speed limit of the wheel you use, and don't mount a wheel that you use on a machine that can exceed the safe speed limit for that wheel.

By holding the work in an unsafe way, you can dash your fingers or hands against the wheel. Grip the work securely, not too close to the wheel. Use the work rest whenever possible. Don't work the piece too close to the edge of the wheel. Don't jab the work into the wheel. Don't force work against a cold wheel; apply the work gradually to let the wheel warm up. And don't leave a grinding machine unattended while the wheel is in motion.

Here is a summary of these basic rules, which you should use as a mental checklist every time you approach a grinding job::

- Don't use a grinding wheel unless you are an authorized and trained operator.
- Don't use a grinding wheel unless it has an effective protection hood.
- Always wear properly fitting goggles when grinding of the right type for the work.
- Check the wheel before starting. Check size, grit, bonding, balance, etc.
- Never operate the wheel beyond the manufacturer's safe speed.
- See that the work rest is securely in place, not more than one-eighth inch from the wheel.
- Hold the work properly against the wheel, using the rest; don't force the work.
- Don't leave a grinding machine unattended while the wheel is in motion.

Remember and follow these pointers, and you'll stop grinding out injuries!

SAFETY TOOLBOX TALKS

MACHINE GUARDING



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MACHINE GUARDS

Guards are installed on machines to protect operators and others in the area from injury. Today, most machines at most worksites are equipped with guards. The dramatic improvement in guarding over the past dozen or so years has meant fewer employees sustaining the crushing injuries that used to occur all too frequently.

Yet even today some operators find ways of putting themselves in danger by removing or bypassing machine guards or tampering with interlocks so they can operate their machines faster. *In this company, failure to use the guards provided is cause for disciplinary action.*

Of course, it is often necessary to remove a guard to service or adjust a machine, a tool, or a piece of equipment. When doing this, be sure the power is turned off and the switch is locked out or tagged out. When the service job is completed, make sure the guard is replaced securely and is working properly.

Breakdowns, jammed work, and broken parts sometimes cause us to forget ordinary safety procedures. Very often, to remedy these conditions it is necessary to get into out-of-the-way places. Extreme caution is needed, because in some cases the location of the trouble cannot be guarded. So be sure that basic and added precautions are taken to avoid any movement of the parts. *Among the kinds of setup to be extra careful around are:*

- Meshing gears
- In-running rollers
- Reciprocating parts
- Chain and sprocket drives
- Cams and rollers
- Belts and pulleys
- Flywheels
- Cutting or abrasive surfaces
- Cooling fans
- Conveyor equipment
- Rotating couplings and shifts
- Hot or overheated parts
- Warm gears.

Guards are there to prevent injuries and should never be tampered with. It is to everyone's advantage to make sure all guards are placed properly—and it pays to double-check; hands, arms, and lives are saved that way. If you see a piece of equipment without a guard, or any other unsafe condition, report it to your supervisor immediately, whether the equipment is in your work area or elsewhere.

Let machine guards do the job they were designed for—protecting you and co-workers from injury.



SAFETY TOOLBOX TALKS



SAFETY TOOLBOX TALKS

MATERIAL HANDLING



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CHOCK AND BLOCK

Every year, workers are disabled or fatally injured because the wheels of a rig or trailer were not chocked and blocked. The majority of these accidents involve local drivers and dock workers, and occur because of incorrectly handled freight, hazardous working conditions, or unsafe equipment. An essential part of a safe working environment is the proper design and maintenance of equipment, including chocks and blocks.

Many roll-away accidents are caused by a failure to chock the wheels. In some instances, drivers are crushed by their own rigs, while in others lift operators are disabled because the trailer rolls from the dock dumping the lift on them. A unit at a dock should always be chocked. Lift operators should never enter a trailer without first verifying that it has been chocked.

The purpose of the chock is to pin the wheels and hold them stationary. Therefore, it is the rearmost axle on a tandem-axle trailer that should be chocked. The force of the lift entering the trailer exerts a downward force, helping to pin the wheels more than if the front axle is chocked. If the front axle is chocked, sometimes the forward motion of a lift entering a trailer can move the chock forward, allowing the trailer to pick up momentum and jump the chock.

Platform parking areas should be equipped with wheel chocks, which can keep vehicles from moving while being loaded or unloaded, especially if forklift trucks are used. Chocks should be available at all times, fastened to their respective docks, and stored properly.

Equally important is blocking freight inside the trailer; this lessens the chance of a load shift, which can cause a trailer to turn over or damage other cargo. The principle used in both chocking and blocking is the same: securing to prevent movement. To do that in blocking, it is necessary to block all four sides and to block each item separately. Cargo doesn't necessarily have to be round (such as reels or machinery on wheels) to move—how about a skid that rests on runners? Better to nail it with nails to be sure.

The type of blocking material used is also important. Make certain that nails or spikes are long enough and the lumber is thick enough to prevent the cargo from shifting. Use only sound blocking materials, and never use other freight as a block, unless you are willing to pay a claim on the block.

Most importantly, be alert and remember this easy rhyming reminder: "chock and block when you reach the dock."



SAFETY TOOLBOX TALKS

MATERIAL HANDLING



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DO'S AND DON'TS OF LIFTING

Is lifting part of your job routine? If so, then every day you risk injury from strains, sprains, hernias, cuts, and bruises. All it takes is one wrong move to injure yourself. Thousands of on-the-job injuries are related to improper body movement in lifting procedures.

You can prevent injuring yourself by learning proper lifting techniques. A back injury can cost you doctor's fees, lost wages, and future job opportunities, as well as keeping you from the regular activities you enjoy. Remember, your back is supporting you and the load you are carrying.

DO'S OF LIFTING

- Think before you lift! Before you begin, know the right way to do the job. Check first with your boss if you have any questions about moving a load.
- Always size up the load. Get help for heavy or bulky objects.
- Inspect your path. Be wary of stairs, curbs, or other tripping or slipping hazards. Choose the flattest, straightest, and clearest route before you lift the object, even if it is a little longer.
- Be sure of a firm grip. Check the object you are going to lift for nails and sharp edges. If the load is wet or slippery, wipe it off.
- Make sure the weight of the object is stable and distributed evenly if possible.
- Stand close to the object with legs at shoulder-width stance. Bend at the hips and knees into a squatting position, keeping the feet flat. Check your footing. Pull the load close to your body.
- Lift with your legs, not your back. Squat down close to the load, keep your back straight, and lift slowly, using "leg power."
- Use material handling equipment whenever possible. Proper use of hand trucks and dollies can save a lot of manual effort.
- When two people are lifting, designate one person to direct the lift.
- When unloading, do face the spot you have chosen and lower the load slowly by bending your knees. Don't bend over.
- Keep your fingers away from the bottom of the load.

DON'TS OF LIFTING

- Avoid heavy lifting if you have had previous joint injuries, are underweight or overweight, or have any medical problems such as heart disease or high blood pressure.
- Never lift more than you can easily handle.
- Never reach over your shoulders to lift. Instead, use a step stool or platform.
- Never lift with a rounded back and straight legs.
- Avoid twisting your body when lifting or when carrying. Move your feet to change direction.
- Never look down when lifting.
- Never lift from an unbalanced position. This means no lifting from one knee or reaching over another object to pick something up.
- Never carry a load that blocks your view.
- Never try to recover a falling load.



SAFETY TOOLBOX TALKS

MATERIAL HANDLING



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EMPTY SKIDS AND PALLETS

Handling empty skids and pallets may seem like a rather routine job to most of you, at least so far as safety is concerned.

Don't be fooled. This kind of work can easily result in injuries if safety precautions aren't taken. Material handling causes more injuries than any other type of work. I can be even more specific and say that lifting—which is a basic maneuver in handling skids and pallets—is a leading cause of on-the-job injury.

Let's take a few moments to go over some of the steps we can take to keep injuries at a minimum. First, inspect the skids and pallets you'll be working with for splinters, loose nails, and other defects. If you find a unit that is unsafe, it should be set aside and marked for discard or repair.

When it's time to lift, follow the guidelines we've reviewed so often. Lift by bending your knees and straightening your legs to lift. Keep your back straight and use leg muscles, not back muscles.

Stacking or discarding skids usually requires two people, and they should lift in unison. Use the same procedure for lifting pallets that are heavy or bulky. This is not only to minimize the risk of strain from lifting, but to avoid dropping a pallet—which is not only noisy but can weaken or damage the pallet.

As an added safety measure while handling objects, there is certain protective equipment that should be worn. Leather work gloves will protect your hands, and of course, safety shoes will protect your toes.

You probably already realize how important a clean work area is to your safety and the safety of others. Well, a lot of safe housekeeping has to go into skid and pallet handling, too.

Stacking should be done with care so that piles will be stable. Piles should be limited to a height of four feet, and units should be stacked flat, never on end. Piles and individual units must be kept clear of aisles and doorways, and they shouldn't obstruct switchboxes, fire extinguishers, or other emergency equipment.

Runners and deck boards shouldn't stick out into aisles where someone will bump into them or trip over them. Also, you should if possible, avoid walking on or stepping over skids and pallets, since this can easily result in an accident.

When stacking units, consider the weight capacity of the floor. Also make sure that the crush strength of the units you're working with is not exceeded. If you're working with paper board, allow for its lower resistance, which makes it easier to damage than wood. Also, it will absorb more moisture, which can weaken it.

Sometimes, separate skid runners and platforms are used. In this case, the platforms should be stacked flat in a rack that is no more than 32 units high. Again, care must be taken when removing the platforms from the rack. Usually, a worker is stationed on each side.

When it's necessary to discard certain units for scrap, trucks or dollies should be used, especially if the load is to be moved any distance. Loads of units to be discarded should be stacked carefully. Be on your guard for nails and splinters, and if you are going to dispose of the units by burning them, observe all fire, safety, and environmental regulations.

I've taken several minutes to cover some of the major points of safety in handling empty skids and pallets. They're all pretty basic—the kinds of precautions that should be taken on many jobs. But that's the way it should be with safety. Develop safe practices and attitudes on one job, and they'll follow through in everything you do.



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MATERIAL HANDLING



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HANDTRUCK SAFETY

Two-wheeled handtrucks are uncomplicated and harmless looking. But if improperly used, they can be the source of a variety of injuries.

When loading two-wheeled handtrucks, place heavier items at the bottom to form a lower center of gravity. The load should be well forward so that the axle, not the handles, will carry the weight. Balance is vital in handtruck loading. Load evenly to prevent tipping. Keep the load low enough to allow a clear view over it.

The loaded truck should start with a steady push on a level floor. If it doesn't, remove some of the load.

Two-wheeled trucks should have brakes so the worker won't have to hold the truck with his foot on a wheel. Test brakes before using the truck.

If the truck is loaded while horizontal, bend at the knees and lift with leg muscles, not the back, in raising to pushing position.

Have a "flight plan" for the trip. Know the route; inspect for obstacles, slippery spots, and so forth beforehand. Follow routes approved for handtruck travel. Don't take shortcuts, and don't be in a hurry.

Never walk backward with a truck. When going down an incline, keep the truck ahead. When going up, keep the truck behind.

When unloading, leave the truck and the load in a safe place. Make certain they're not blocking an emergency route. Fifth-wheel trucks should have a wheel chained to the frame to keep the truck from moving when left standing.

Heavy leather work gloves and safety shoes should be worn when working with a handtruck. Sides of doorways and nearby walls are threats to hands. (Handtrucks should have knuckle guards just below the grip handles.) The wheels present a potential hazard to the feet of both loaders and truckers.



SAFETY TOOLBOX TALKS

MATERIAL HANDLING



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LOADING DOCK SAFETY

Working on loading docks presents a variety of hazards for employees and poses special safety issues. You need to be careful about what you are doing, and you must always be aware of other workers around you—particularly co-workers using forklifts and other forms of material-handling equipment. Loading dock hazards include:

- Slips caused by wet or oily floors
- Falls from dock edges
- Falls caused by unsecured dock plates
- Carbon monoxide (CO) exposure from trucks and powered material-handling equipment
- Back injuries from improper lifting or carrying
- Head and eye injuries from falling objects
- Hearing damage from a loud noise level
- Injuries from careless operation of forklifts

PREVENTING SLIPS, TRIPS, AND FALLS

Slips, trips, and falls are among the most common types of loading dock accidents. Because of the amount of activity, materials, and equipment around, precautions must be taken to manage the area to promote safety.

- Spills, leaks, and wet areas need to be cleaned up immediately.
- Cracks, holes, or other damage to flooring needs to be repaired.
- Dock plates must be properly placed.
- Containers, packaging, and tools must be kept out of the way.
- Trash must be removed from the area and disposed of properly.
- You must always watch where you are walking and remember to stay clear of dock edges.
- Horseplay and other unsafe behavior, such as jumping onto or off the loading dock, is firmly discouraged. You must be taught how to use material-handling equipment safely and how to properly load a hand truck.

SAFETY PRECAUTIONS REQUIRED AROUND VEHICLES

Loading dock injuries occur when you are hit by powered material-handling equipment operating in the area. Other accidents occur because trucks and trailers are not properly secured and shut down. Rules for vehicle safety should include the following:

- If you are driving a truck, turn off the engine to prevent CO release.

- If you are driving a forklift (not truck drivers), check to see that truck wheels are chocked.
- Loading dock workers are prohibited from riding on forklifts or distracting the operators.
- As loading dock workers, pay attention to power vehicles and other material-handling equipment and keep out of the way.

With awareness, training, and enforcement of safe practices, your loading dock can be a safe place for all who work there.

KEEP LOADING DOCK HAZARDS AT BAY

PREVENT SLIPS, TRIPS, AND FALLS:

- Walk, don't run.
- Stay away from dock edges.
- Don't jump onto or off a loading dock.
- Don't indulge in horseplay.
- Don't clutter walking and driving areas.
- Pick up trash and dispose of it properly.
- Clean up or report spills, leaks, or wet areas immediately.
- Report any holes, cracks, or other damage in flooring.
- Secure movable dock boards.
- Watch where you're going.

PREVENT VEHICLE ACCIDENTS:

- Turn off truck engines to prevent release of CO.
- Be sure truck wheels are chocked.
- Don't ride on a forklift or distract the driver.
- Don't stand under the forks of a power vehicle, even if the forks are empty.
- Keep alert to power vehicles moving around you.
- Get out of the way when a forklift horn sounds.

PREVENT LIFTING AND LOADING INJURIES:

- Lift only what you can carry without strain.
- Otherwise, get a helper, a hand truck, or other material-handling aid.
- Lift properly—bend your knees and lift with your legs to save your back.
- Use the same technique for unloading materials.
- Balance hand truck loads with heavy objects on the bottom.
- Keep the load weight forward, over the axle.
- Keep hand truck loads at a height you can see over.

SAFETY TOOLBOX TALKS

MATERIAL HANDLING



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MANUAL HANDLING OF MATERIALS

You don't have to be involved in the manual handling of materials for very long to discover that—as with any other part of the job—there's a right way and a wrong way to do it. Maybe, you've also discovered that the seemingly fast and easy way isn't always the right, safe way. Skinned knuckles or pinched fingers are instant reminders that something wasn't done right.

For a few moments, let's review some of the precautions that we can take to protect ourselves while handling materials.

PERSONAL PROTECTION

First, considerable hand protection can be gained by wearing work gloves. Most work gloves are ventilated for the comfort of the wearer, so there's no good excuse for not wearing them when the occasion calls for it—which is much of the time.

Gloves can prevent many cuts and scratches, and many kinds of gloves give you a better grip. That's important, because without a good grip, the object you're carrying can slip to an awkward position that's hard on your back—or can fall onto vulnerable toes. The risk of dropped objects is also why you're expected to wear safety shoes as needed.

STACKING

The way materials are stacked has a considerable bearing on safety. Although conservation of space is important, materials should not be stacked too close to a wall or column. Rather, proper clearance should be left at the top and on all sides of piles.

When a pile falls, serious injury to workers and materials can result. So, when material is piled, it should be in stacks that will stand steady. Sometimes, this means that the materials must be criss-crossed or interleaved with corrugated board. Objects that roll should be chocked. Piling too high or in a way that will interfere with lighting or circulation of air should be avoided.

DROPS, SPILLS, PROPER TOOL USE

Don't be afraid of putting a cleaner out of a job by picking up things that you drop on the floor. Tripping and slipping hazards could put both you and the cleaner out of work for long time. Keep tools and other articles in the right bin or drum, and wipe up spills right away.

We can't mention too often the importance of using the right tool for the job. Don't attempt to use your fingers as a pry, a wrench for a hammer, or a screwdriver for a chisel; you'll just be inviting a painful injury.

Handling materials does not necessarily mean becoming engaged in hand-to-hand combat with them, but if we don't use all available protection and precautions, the results may be the same.



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MATERIAL HANDLING



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MATERIAL HANDLING/PLACEMENT

The tradition of lifting objects by hand with a straight back and bent knees was a simplistic explanation for complicated body mechanics. That tradition also assumed there was a clean and neat working area with room for moving hands-on material. But you know that simple explanation doesn't always match up with real situations.

Here are basic principles for lifting, moving, and placing that can be applied to whatever your moving task may be.

PREPARE FOR PLACEMENT

Before you pick anything up, you must be ready to set it down. This applies to a pencil or a 200-ton boiler in a power plant. So, if you are not ready to set it down, you are not ready to lift it up.

Preparing for placement is the first rule for any kind of material handling. If you are handling material, you do not want to hold it any longer than necessary. You must have a place to set it down.

PLAN YOUR ROUTE

Which of you has ever had a box in your hands or a load on your forklift and discovered a door was locked, the floor was wet, or you had to deal with ramps, inclines, or stairs? Frustrating, wasn't it? And if you managed to get through the job without damage to yourself or the material, it was "better luck than management."

When carrying a load, always look at least 10 feet ahead in the direction you are traveling—and try to visualize the path for at least two corners ahead of you. Create a carrying space ahead of you whether you are walking or operating equipment to move materials.

Walk-behind and ride-on pallet movers must have clear paths and good surfaces to roll across. The wrong surfaces (floors that have cracks, dips, holes, or slippery and bumpy areas) can cause an injury when the pallet mover suddenly stops or shifts its load.

Ramps and inclines must be anticipated when manually or mechanically moving a load. With the exception of walk-behind pallet jacks, pallets should be on the uphill side of the equipment so the material will not slide off. Plan where you will make turns in order to position mobile equipment for the ramp.

PREPARE THE MOVER

Whether you are moving materials manually or mechanically, you must be prepared. Warm-up time is important for an engine because it wears out more quickly if put to work immediately after you turn it on. Your muscles also need a warm-up period.

The greatest number of sports injuries occur when athletes do not warm up properly. Speakers warm up their throats and minds, race car drivers warm up their engines and their mental attitudes, and ovens are warmed for proper use. Similarly, we must learn to warm up our muscles before we use them to lift. Without warming up, we are more likely to incur an injury or cause one for someone close by.

Taking proper care of your body is important for lifting tasks in the same way it is necessary to take care of a crane, forklift, or two-wheeled dolly. Mechanical equipment must be properly inspected before every shift, and in the same way, you should ask yourself if you are physically ready to perform a task.

We have inspection checklists to help make sure a forklift is ready to roll efficiently and safely. But the only checklist for your body's condition is in your mind. For best results, use your mental checklist before lifting and moving materials—and keep these thoughts in mind while you're doing it:

- **Keep your body moving.** The longer you stand in one place while lifting, the more likely your muscles are to resist change. Under tension, muscles relax and accept a certain strain limit.
- **Turn your entire body** when you change directions while handling material. Turning only the upper part of your body when handling a load causes severe strain on these muscles.
- **Be sure the load is balanced.** This rule remains the same whether you're handling materials manually or using equipment. Although there are variations in lifting techniques, balance is important no matter what method you use (some people achieve this by lifting equal weights in each hand).

Without balance, your muscles will overcompensate by themselves and suffer from overexertion. This translates into pain and takes a long time to heal properly. A sprained ankle is one type of overexertion injury caused by trying to keep your foot straight when you step on an uneven surface or because your foot is unbalanced and cannot support your body.

IN SUMMARY

When you have to move materials from one place to another, don't forget the importance of planning and preparation. Then, during the operation, remember the tips on motion and balance. You'll save yourself a lot of grief that way.

SAFETY TOOLBOX TALKS

MATERIAL HANDLING



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STRUCK-BY ACCIDENTS

Many "struck-by" accidents are related to material handling and housekeeping. Poorly stacked materials, including boxes, barrels, and parts, may fall over, striking you or your co-workers. Be alert for hazards of this nature in your area and report them to your supervisor.

Objects that block aisles—wheelbarrows, boxes, carts, and containers—may injure workers who bump into them. Aisles should be clearly marked and material or material-handling devices should not extend into pathways.

Besides looking for hazards in the aisles, watch for falling objects from overhead locations. Someone may have left tools or loose parts on window ledges, shelves, cranes, or working platforms. If there is a potential danger from overhead hazards, wear an approved hard hat. Be alert and report hazards.

Horseplay may also result in "struck-by" injuries. Do not throw things or roughhouse in your workplace. A well-meant joke may turn into a serious injury.

Sometimes accident prevention in the workplace is thought of in terms of properly designed guards and other company-fostered devices. But it's more than that. You play an important role in the overall safety program. You perform your job every day, so who else would know the ins and outs of it as well as you?

Look for these and other potential dangers:

- No side barriers on conveyors
- Objects leaning against walls, racks, posts, or equipment
- Inadequate guarding on belts or other conveyors traveling from one level to another
- Unmarked low beams or pipes
- No screen guard on equipment or poor or incomplete screening to guard against objects flying off the equipment

But this is only a partial list. Situations may even change daily.

Opening doors can present a "struck-by" hazard. Have you ever approached a windowless door and had it swing toward you, narrowly avoiding it? Never stand in front of that kind of door. If you have to work near such a door, prop it open or place a warning sign on it. Working from a ladder placed in front of the door is asking for trouble. You have to exhibit a certain amount of caution also. Do not push the door open rapidly or forcefully. When approaching double doors, follow signs indicating which door to use.

People can also be safety hazards if they do not watch where they are going. Don't let conversations distract you; pay attention to your path of travel.

When approaching a corner or intersection in a hallway, walk in the center of the hall instead of next to the wall where you cannot see or be seen by those traveling in other directions. Or maybe you and your co-workers can agree to walk to the right and thus reduce the chance of bumping into each other.

Think about ways to avoid this type of accident. The next person you bump into could be carrying a sharp object or other injury-producing material.



SAFETY TOOLBOX TALKS

MATERIAL HANDLING



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WHEELBARROW SAFETY

You can't beat wheelbarrows for fuel economy and low maintenance costs. They're also safe when used correctly. However, they are often used in an unsafe manner, which results in serious injuries. Maybe that's because their elementary design lulls some people into carelessness.

Misuse of wheelbarrows—such as using one for a job that calls for a hand truck—could be asking for trouble. Your load could be damaged and so could the wheelbarrow. Most important, an injury could result. For example:

- A worker was moving a loaded wheelbarrow when the wheel struck a rock. The wheelbarrow tipped and the handle struck his knee, causing a painful lost-time injury.
- Another worker was taking a barrow filled with scrap to a scrap box. It gained speed as it went down a ramp, and when the wheel struck the edge of the scrap box, the whole wheelbarrow flipped. The worker didn't let go of the handles and was thrown into the scrap box, suffered bad lacerations on both arms and legs, and was lucky it wasn't worse.
- Lacerated knuckles are common injuries in moving wheelbarrows through doorways or in other tight quarters—as some of you may have found out. (For this reason, a wheelbarrow that is consistently used in tight quarters should be equipped with knuckle guards.)

There are, however, safe procedures that can be used to eliminate the painful aspects of using a wheelbarrow.

First of all, balance the load over the wheel. Never overload a wheelbarrow or attempt to move more than you are physically able to handle.

You'll find that it pays to plan ahead. Observe the route you're going to take. Avoid obstacles that can throw the wheelbarrow off balance and tip it over.

When you raise and lower the handles, use precautions similar to those for other lifting jobs that may threaten your back: Keep your back and arms straight and your knees bent, making use of your leg muscles.

Always watch out for other workers and equipment or other objects that may be damaged if bumped. Be sure to keep a tight grip on the handles, and keep your speed under control. Should the wheelbarrow go out of control, let go of it. Shout a warning if others are nearby.

Safety glasses, safety shoes, work gloves, and a hard hat, if required for the job, are standard items of protective gear.

Wheelbarrows should be properly lubricated and stored in areas where they will not obstruct aisles or emergency equipment or cause tripping hazards.

It should be apparent that operation of a wheelbarrow not only requires a minimum of training, it also requires proper precautions if it is to be used safely.



SAFETY TOOLBOX TALKS



SAFETY TOOLBOX TALKS

PPE



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GEARING UP FOR SAFETY

Some hazards at work simply can't be eliminated completely by engineering solutions or substitutions. That's when the company must provide its workers with personal protective equipment. Sounds simple-yet, is it?

Every supervisor has heard all of the standard excuses. "The glasses give me headaches." "The shoes pinch my toes." "This hard hat is too heavy."

What do you say to people who give you these excuses for not wearing personal protective equipment? Do you force them to wear it and then have to police them every day?

Here are some ideas on how to motivate your workers to wear their protective equipment:

- **Make sure you believe in the use of protective equipment yourself.** If you don't wear your glasses, you can't really expect your subordinates to do so.
- **Explain to your employees why the equipment is necessary.** Sometimes a simple explanation is all that is necessary. At other times you may need to cover details, such as past accidents, near misses, the hazards of new equipment, as well as the cost of accidents-especially to the injured party.
- **Let your employees select their protective equipment.** Give them a choice of shoe style, hard hat color, or eyeglass frames. Workers tend to have pride or a sense of ownership in something that they have chosen as opposed to something that was forced on them. They will wear it more often with less resistance. They will also take better care of the equipment.
- **Be firm about the use of the equipment.** Pat employees on the back when you see them wearing their glasses or putting on their safety shoes.
- **Use disciplinary measures to keep workers safe if necessary.** Don't let even one employee get away with not wearing the equipment. Give a firm warning first; then take more serious steps.
- **All it takes is for you to educate your employees.** If you make them believe that they really ought to wear personal protective equipment, they will.



SAFETY TOOLBOX TALKS

PPE



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PPE—IF YOU NEED IT, YOU'VE GOTTA USE IT

At each of our discussions, there is generally one particular phase of safety being stressed. The goal is to reduce the number of disabling job injuries—which will benefit both you and the organization.

Today the topic is safety clothing and equipment designed for our personal use as an important contributing factor toward safety. The abuse, misuse, or nonuse of such equipment, on the other hand, are contributing causes to many disabling injuries.

IT DEPENDS ON THE JOB

The particular type of equipment needed to provide the needed protection depends on the "particular type of work being done. In areas where flying particles are likely to be found, goggles must be used to protect the eyes. But this won't provide enough eye protection for an electric welder; that job calls for a helmet equipped with dark glasses to protect the worker's eyes from the blinding light and the sparks from the electric arc.

Similarly the kind of protection safety shoes are supposed to provide determines what type of shoe is appropriate. In other words, it must be slip-proof, nonconductive, high-topped, steel-toed, etc. And the type of safety helmet to be worn depends on the type of hazard the wearer is likely to encounter. In some occupations "bump caps" may be adequate; in many they are not.

OSHA SAYS

The regulations established by the Occupational Safety and Health Administration for head, face, eye, hand, arm, and foot protection give a very general overall description of when such protective gear is to be used. (Hearing protection devices and respirators of various kinds are covered by more extensive and specific rules.) They also describe the standards the pieces of equipment must meet.

Originally these OSHA rules said only that the required personal protective equipment must be provided (whether by employer or employee), maintained, and worn. It was pretty much a matter of our responsibility as employers to require the use of PPE and your responsibility to actually use it. This made a certain amount of sense because, after all, it's your eyes that can be injured if your safety glasses are hanging around your neck.

But then OSHA apparently decided that too many injuries were occurring as the result of failure to wear protective equipment. So their revised rules call for what they refer to as a hazard analysis—to make sure we systematically identify all the factors in our work that would call for requiring PPE. On top of that, it's become the employer's responsibility not just to state that the equipment must be worn but to see to it that it is worn.

NO EXCEPTIONS, NO EXCUSES

That's why supervisors are now getting "on the backs" of employees who aren't wearing the personal protective equipment they're supposed to, and why disciplinary action is forthcoming.

But it's not just a matter of compliance. It's because we really don't want you to be injured. That's not totally unselfish—we don't want you hurt, and we do want you on the job. That's why we don't make exceptions or accept excuses. If you don't need safety headgear on your own job, you must wear it if you go to an area where falling objects may be a hazard. If your gloves or goggles don't fit snugly or are uncomfortable, don't just leave them in your locker. Report it promptly so the situation can be corrected.

Remember: no excuses, no exceptions—and, we all hope, no injuries.



SAFETY TOOLBOX TALKS

PPE



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PRO-TECTIVE EQUIPMENT

As you watch a football or hockey game on TV, do you think that the players look ridiculous wearing helmets, face guards, shoulder pads, hip pads, knee pads, and other protective equipment? Do you mumble to yourself, "Boy, what a waste of time putting on all that gear?" Do you say to yourself, "That stuff looks really uncomfortable. Why do they bother putting it on?"

Of course, you don't. Yet, every day when employees go out to tackle their jobs, they use every one of those excuses—plus some more—as a reason not to wear personal protective equipment (PPE).

There's no option for football players not to wear their PPE. They don't get on the field without it! Their array of safety gear adds weight to be carried up and down the gridiron, and it makes them hot as well.

Do the players complain? Probably. Do they wear the stuff anyway? Absolutely. They'd rather be a part of next week's game than sidelined with an injury or seeing their family visit them in a hospital room.

Protective equipment requirements are built right into the rules of the game—just the way your PPE rules are built into the safe work practices at your company. In both instances, there are penalties for breaking the PPE rules—grounds for disciplinary action—whether we are talking about ignoring lockout procedures, improperly disposing of hazardous waste, or failing to wear prescribed protective equipment.

Today there is such a wide variety of safety equipment, from hard hats to safety glasses to gloves to hearing protectors to safety shoes, in so many interesting designs and colors, that we really have no excuse not to wear them. They look good and can be so unobtrusive that you sometimes can forget that their main purpose is to protect you from serious hazards.

It was not always so. Be glad you weren't around in Rome in 1586 A.D. when workers donned iron helmets as protection while relocating a 327-ton obelisk at the Vatican—and you thought your hard hat was heavy! Or, how about going back in time to 1910 when the first safety shoe was invented? It had a toe box made of wire screen and was coated with tar. Unfortunately, if you worked in a hot environment, the tar tended to melt—all over your foot!

Sure, equipment may be a nuisance to put on or seem bulky or uncomfortable, so it may be tempting not to put it on. But if your hard hat or hearing protectors or some other equipment is uncomfortable, then it probably doesn't fit properly. Make sure you get a correct fitting and try out several different types. Sometimes it just takes some time to get used to wearing the equipment. Give it a chance before giving it up.

As any fan knows, injuries still occur, some of them very serious. But the pros figure out the odds and know that wearing PPE greatly decreases the likelihood of injuries. So be a pro, too, be sure you wear your PPE!



SAFETY TOOLBOX TALKS

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WHY ALL THIS EQUIPMENT?

Many jobs in this plant require the use of personal protective equipment of one type or another. In the press room, it's foot guards; in machining and salvage grinding areas, it's safety goggles; in process areas, it's face shields; and in spray painting, it's respirators.

[Note: "Customize" the foregoing introduction by using examples found in your own operations—as a lead-in to the next sentence.]

In our department it's **(name the necessary equipment)** that must be worn at all times.

"Why all this equipment?" you ask. It is for your protection from the kinds of injury you must guard against in your particular job. Most of you in this group wear your safety equipment without fail. Some have had to be reprimanded or even more severely disciplined before accepting the protective requirement. A few, unfortunately, have learned an even harder way—through injury—that wearing their protective gear is the smart, safe thing to do. Let's make it 100 percent safe in our department by wearing the equipment provided for you.

Eye injuries have often been at the top of the list of cases requiring a doctor's attention. Luckily, they were not serious injuries—but we all know that any one of them could have been. You should also know that most of the people involved were those who are required to wear eye protection but didn't have it.

Safety goggles can take a terrific blow; your eyes cannot. I would like all of you to close your eyes and count slowly to 10.

[Wait approximately 10 seconds.]

Now, open them. That was only 10 seconds, but it seemed longer, didn't it? I can't think of any better reason for people to want to protect their eyes. They do so much for you, do something for them: Protect them.

As you all know, the regulation on foot guards requires that if during the course of your job you handle materials that may cause injury to your feet, you must wear foot guards.

Gravity is constantly pulling hard on all objects. If you don't have a good grip on an object, and you let it slip from your hands, down it will go. Look at your feet, and you will see the part of your body that is most likely to be between the falling object and the floor. Of course, you have the option of purchasing safety shoes with metatarsal guards and wearing them instead of foot guards.

According to the National Safety Council, scores of people have been crippled by objects falling on their feet. But the Council has no figures on the thousands of crippling injuries that did not occur because objects struck safety shoes instead of feet. Let's use our heads to keep our feet and our jobs.

Today I've talked about only two of the items of protective equipment we have here. But whether it had been gloves, hard hats, face shields, respirators, or earplugs, the message would be the same. All such equipment, and our insistence on your wearing it has one purpose: your protection from the kinds of injuries that you must guard against in your particular jobs.



SAFETY TOOLBOX TALKS





RESPIRATORY PROTECTION— A MATTER OF LIFE AND BREATH

When it comes to personal protective equipment, certain requirements must be met for it to do its job properly—the job of guarding its wearer from injury or illness. Whether the item is safety shoes or safety glasses, it must be the right type for the particular job. And it must fit properly.

The same criteria apply to respiratory protection, and there is an extensive set of OSHA regulations—revised early in 1998—governing how we decide when to require it and how we make sure the criteria are met.

Basically it's a matter of evaluating all the tasks performed by a company's workers and determining which of them call for some level or form of respiratory protection. To a minor degree, all forms do the same job: They assure that the wearer gets sufficient oxygen but does not inhale noxious dusts, sprays, gases, fumes, chemical vapors, and so on. But they are not interchangeable.

A simple dust mask worn over nose and mouth, along with safety goggles, may provide adequate protection for a sander in a wood shop. But it would not be appropriate for a firefighter or other person entering an IDLH atmosphere (one that is immediately dangerous to life or health). So, management must purchase the right types of respirator, certified for their particular uses as the result of testing by NIOSH—the National Institute for Occupational Safety and Health. In addition our respiratory protection program includes:

- Getting a medical evaluation for every employee required to use a respirator. This must be done by a physical exam, through use of a health questionnaire, or a combination. The purpose is to get a recommendation from the physician or other licensed health care professional on the employee's ability to use a respirator. Primarily this relates to any physical conditions that would make respirator wear inappropriate for the individual (such as respiratory ailments, overweight, past heart conditions). It also takes into account the type and weight of the respirator and the atmosphere in which it will be used—any temperature or humidity extremes, for example.
- Arranging for any necessary follow-up medical examinations—such as if there is a significant change in workplace conditions or the physical effort required of the user.

- Conducting, or arranging for, fit testing of any tight-fitting facepiece an employee is required to use. This will be repeated at least annually and whenever there's a change in the employee's physical condition that could affect the fit—such as a visible change in body weight.
- Providing for the care of the respirators: cleaning, disinfecting, and storage in an accessible area that will protect them from damage, contamination, and the adverse affects of sunlight, dust, chemicals, or extreme temperature or moisture.
- Delivering thorough and clearly understandable training, for all employees required to use respirators—before use and at least annually thereafter. It will include why the respirator is needed, the importance of proper fit, use, cleaning and maintenance, any limitations of the equipment, and what to do in any emergency situation such as malfunction.

Many of you are not required to use respirators at this time. Any of you who are have already been fitted and have been trained in detail. We felt it important, though, to outline the general elements of our respirator program for all of you, so that you understand the careful procedures that will be followed if should be required to use one in the future. Then when the time comes, you can breathe easy.



SAFETY TOOLBOX TALKS



SAFETY TOOLBOX TALKS

SAFETY ATTITUDE



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ACTING OUR AGE

Have some of you—those who are kissing your thirties goodbye—noticed that they are building stairs steeper these days? Or that it's a longer run from your house to the bus stop?

I've noticed it, and have figured out that maybe the trouble is I am not as young as I used to be. Just possibly that is the trouble with me and you—and not that the stairs are really steeper or the distances longer.

The doctors claim that when we put on a few years, we ought to start "acting our age." That does not mean we are ready for the wheelchair, but it does mean we have to use our heads a little more and our muscles a little less.

We can still do plenty of work, even heavy work, if we are in a normal, healthy middle age. But some of the faster, rougher, harder kinds of exercise are hard for us to take and hard on our hearts and systems generally. And there are some other things we used to get away with that play hob with us now—like eating big meals of rich food, and throwing down too many drinks, and sitting up all night to shoot the breeze, outwit a deck of cards, or goggle at celebrities on the late TV shows.

I am not trying to preach a sermon, or tell you how to run your life. It's not my responsibility how you act off the job. But I do have an interest in keeping you around the job and seeing that you keep on drawing a paycheck for doing a good day's work.

So I feel obliged to give out some advice, especially since this advice is based on what doctors say is right for workers our age. They say, take it easy, get a little extra sleep, and give a little extra thought to your eating and drinking habits. Leave the house in time to get to work without running, and when you are going upstairs, walk, don't run.

When there is a nice weekend, you can enjoy a lot of sports, and be good at them, without trying to be a champion weight lifter, sprinter, or tennis ace.

If you come back from a weekend or vacation feeling all dragged out, chances are you tried to subtract 10 years from your life in your habits of exercise. If you do that often enough you will cut 10 years off—but off the wrong end.

One last point: You probably get your car overhauled every few thousand miles. Well, give yourself as good a treatment as you give your car.

If you have not had a checkup from a doctor lately, get one. Let him or her check over your weight, your ticker, your blood pressure, and whatever else needs looking at. Checkups like that often catch trouble before it gets serious, and that may mean several extra years of useful and enjoyable life for you.

Me, I want a chance to cash in on some of my social security and my pension. I want some days in the sun a few years from now. And I figure that if I want those things, I am going to have to "act my age" from now on. how about you?



SAFETY TOOLBOX TALKS

SAFETY ATTITUDE



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DEVELOP A HEALTHY SAFETY ATTITUDE

You know your job. You have the ability to do it well. But do you have the attitude required to do the job both well and safely?

There's no hiding attitude from others. If you have a poor attitude about safety, you may be able to hide it from yourself, but it will show up in everything you say and everything you do. Some workers seem to have the attitude that safety rules were made to be broken—especially when no one is looking. Even those who are hard-working, exacting, and conscientious about every other aspect of their jobs can have a poor safety attitude. They take shortcuts not because they are lazy, but because they want to get the work done more quickly.

Other workers think that not complying with the rules won't cause too much of a problem if they perceive that a risk is small. They take chances, and this leads to accidents. These individuals don't take safety seriously—until it is too late. These are the people who say, "Don't worry. I've done it this way lots of times—right before they fall flat on their faces."

Most of us don't intend to walk around with a bad safety attitude—or even realize it when we have one. We think that our last couple of accidents simply "happened" to us

Luckily, attitudes are not permanent states of mind—they can be changed. Here's how you can carry through with a good—even great—attitude concerning safety:

- Keep your mind focused on the job at hand. Put aside for the moment any personal problems that have been bothering you so that you can watch for hazards and accomplish what you have set out to do.
- Tell yourself that you will not let nearby noises or conversations bother your concentration and prevent you from doing the job safely.
- Don't give in to pressure from your co-workers to be unsafe. You don't have to join in horseplay, take shortcuts, or participate in coverups. Instead, take the lead in behaving in an adult and responsible manner.
- Report all accidents and near accidents—even though they may seem unimportant at the time.
- Try to understand why an accident occurred, to help you avoid making the same mistake twice.
- Practice the techniques you have learned for lifting and other methods of doing the job in a safe fashion.
- Practice good housekeeping. Keep your work area free of clutter. Clean up spills.

- Be considerate of your co-workers. Don't do anything that would endanger them. In fact, go a step farther and remind co-workers about safety. Say something when they forget to put on equipment to protect themselves or when they ignore the rules.
- Take the time to remind your family about staying safe at their jobs, in school, or in the home.

After following all these suggestions for a short while, you will have developed a proper safety attitude, one that others can and will respect and even try to imitate. But even better than that, you'll feel good about yourself and will be able to do productive work and stay safe at the same time.



SAFETY TOOLBOX TALKS

SAFETY ATTITUDE



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IT'S OUR OWN RESPONSIBILITY

What with all the government safety regulations as well as company policies and procedures, it's easy to forget that safety is primarily a personal responsibility. Workplaces can be covered with warning signs, safety posters, and bulletin boards. Safeguards can be installed on each piece of equipment. We can attend training sessions and be told of safe ways to do work, but none of these things can ensure freedom from accidents unless we want to prevent them. It's up to us!

Unless we realize that our own actions determine whether accidents happen—and until we accept responsibility for these actions—injuries will occur.

Who puts tools and equipment into motion and controls their movements? Who but ourselves can control the placement of our bodies, the movement of our arms, legs, and eyes, and—most important—the activity of our brains?

One's ability to control his or her own actions carries with it the responsibility not to let these actions harm co-workers.

BEING ACCOUNTABLE!

Machines do not reach out and bite. Tripping hazards don't grab a person's feet. Hand tools don't slice and jab into flesh by themselves. Yet, judging from the statements people use to describe their injuries, one would think that the tools and equipment they use were alive.

It's apparent that the people who make such statements are not fully aware that they are accountable for their own actions and must accept the responsibility for them. Little can be done to prevent their accidents and injuries until they do accept this responsibility. Many accidents are prevented, it is true, when OSHA standards and the boss's requirements are met. But when each individual employee brings an acceptance of personal responsibility and accountability into the workplace every day, everyone's risk of injury drops dramatically.

Consider a cargo handler who steps into the cab of a tractor, slips, and scrapes a leg against the door—causing a deep cut requiring stitches. Investigation reveals that the nonskid surface on the cab floor was badly worn and slippery.

What caused this accident? An irresponsible individual would lay the blame on the physical condition of the tractor and might ask, "Why wasn't the cab floor reported for repair?" A person who accepts responsibility would have reported it.

Hard luck, the conduct of other people, inadequate tools, and unfavorable conditions are just a few of the favorite reasons immature, irresponsible people use to absolve themselves of personal accountability when things go wrong.

Accepting responsibility for our own actions, on the other hand, is a sign of maturity. It means we believe firmly that it's up to us to do everything we can to prevent accidents. No one else can accept our safety responsibility for us.



SAFETY TOOLBOX TALKS

SAFETY ATTITUDE



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SAFETY ATTITUDES

Most of us had some type of safety training during childhood. We were taught to look both ways before crossing streets and not to play with matches. As adults, we are warned by others and by the media not to smoke in bed, not to stay out in the sun too long, and not to drive while under the influence of alcohol. And yet, common as these safety rules may be, how many of us can truthfully say that we have never turned a light on or off with wet hands, smoked in bed, gotten a sunburn, or driven home from a party after having a bit too much to drink?

Employees often neglect safety rules because they:

- Are in a hurry.
- Figure accidents always happen to others.
- Are resentful of their supervisors.

Every time employees engage in unsafe acts, they are taking a gamble—betting that an accident will not occur. Is health, and possibly life itself, worth such a bet?

When employees are aware of safety rules and break them anyway, we say they have unsafe attitudes. Picture a technician who neglects to wear eye protection while working with harmful liquids that could splash the face. Think about a warehouse worker who knows that an object weighs too much to be lifted by one person, but nevertheless attempts to lift it without any help. These employees are demonstrating unsafe attitudes.

Safety officers may give excellent safety orientations, you may know all the safety rules, and you may be able to demonstrate the safe way to do a job. But knowing every safe rule ever written will not protect you if you fail to use that knowledge daily on the job. The habit of doing things the wrong way is difficult to break, but it can be done.

The next time you are about to break a safety rule, stop and think about what could happen to you, your co-workers, or your family. Imagine the pain, the inconvenience, and the lost time and money that could result. Then do the job correctly, the safe way. At first you will be slowed down, but soon you will start to notice safety becoming a habit—and it will turn out to be one of the best habits you have ever had, because it will decrease your chances of joining those who are disabled or killed in accidents each year.

Here are a few basic safety rules that should be practiced again and again until they become automatic:

- Report all accidents to your supervisor, even though they may seem minor at the time. Studying the causes of accidents points out ways in which they can be avoided in the future.

- Practice good housekeeping to prevent slips and falls—your own or anyone else's. Clean up spills, and keep all areas—especially heavily traveled ones—free of clutter.
- Know which types of fire extinguishers may be used safely on each class of fire. Use of the wrong type of extinguisher can cause serious injury. For example, you may receive a serious or fatal shock if you use water on an electrical fire.
- Use good body mechanics when lifting and moving objects. Get help when you need it and let your legs rather than your back do most of the work.
- Wear eye protection when needed: when there may be flying particles or when working with acids or harmful chemicals that might splash.
- Make sure electrical equipment is in good condition before using it. Have defective tools, cords, or other equipment tagged for repair. Do not touch outlets, switches, or electrical equipment with wet hands.

Share your own safe attitude and habits with your co-workers. You'll do this in a tactful way of course, but remembering that it's important for their safety and your own.

No one can say when an unsafe condition or act will result in an accident, when an accident will result in injury, or when injury will cause permanent disability or even death. So we must all resolve to work safely and never take chances with the life or health of ourselves and our fellow workers.



SAFETY TOOLBOX TALKS

SAFETY ATTITUDE



EC-11

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TAKE SAFETY PERSONALLY

With all the emphasis on safety programs, safety training, and safety rules, it's easy to forget that when you come right down to it, safety is a personal matter. Let me explain a little.

When I see Betty operating her die press with her safety glasses hanging around her neck, I may very well holler at her in less than musical tones to get them up where they belong. And when Jack attempts to bypass the machine guard on his press, I'll address him in no uncertain or gentle terms. Should either of them take my comments personally?

The answer is both "no" and "yes." It's "no" in the sense that I'm not attacking either of them as a person, only criticizing a particular behavior. But it's "yes" because the reason is concern for their personal safety.

And when each of you makes safety his or her own personal goal, this will be a safer workplace for all of us. It takes the same kind of responsibility you accept and exercise when you're driving. You know you have brakes, and you have them regularly checked, but in heavy traffic or bad weather you don't rely totally on the brakes—you make it a point to drive more slowly and be even more watchful than usual. In the same way, even when your machine guards and safety glasses are in place, you can't assume that means you don't have to exercise care and caution. A Successful Formula When you take safety personally and add a generous portion of positive thinking, you have a good formula for safety success. By positive thinking, I mean a combination of attitude and objectives. It means first of all believing that your actions count and can prevent accidents and preserve safety. Then it means knowing the difference between safe and unsafe actions and being determined always to choose the former.

Here are some expressions of positive thinking with regard to safety:

- I am responsible for my own health, safety, and well-being.
- I am also my brothers' and sisters' keeper in the matter of safety on the job.
- Accidents can and will happen unless I do my part to prevent them.
- There is always a best—safest—way to do any job, and that way is the only right way to do it.
- It is only common sense to follow the work rules and practices designed to promote the health and safety of myself and my co-workers.
- Before starting any job, I will check carefully to be sure there are no hidden hazards that require special protective measures.

- When protective equipment is called for, I will wear it; when special procedures are required, I will follow them.

If there's one thing I hope you'll take out on the floor with you from this session, it's this: In our ongoing battle against accident and injury, two of our most powerful weapons are positive thinking and taking safety personally.



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TAKING CHANCES

Why do some people persist in taking chances and others don't? How can you get your workers to realize that taking a chance is just not worth the risk?

Have a heart-to-heart discussion with them at your next safety meeting. Ask them when they've taken chances at home or work and discuss what could have happened to them.

Find out if they have had any accidents in the past. Are they more careful now? Ask them why they took the risk. Use the following safety talk as a basis for your discussion:

Two painters were working near the ceiling of a factory building. They decided to get a better angle, so they left their ladders and climbed on an elevated sheet metal duct. Both workers were seated on the same section of the duct when it sagged and broke apart. One painter fell to his death, while the other grabbed a building strut and saved himself. The survivor never took chances again, but it was a hard way to learn a lesson.

Workers press their luck every day. They climb on equipment that is not designed for supporting additional weight. Laws, safety codes, and company policies specify the proper procedures for doing a job safely. Still, people fall from window ledges, forks of lift trucks, tops of machinery, and ventilation ducts.

Most workers know the safe procedures. Yet they continue to risk their lives by engaging in unsafe work habits. Why?

Here are some likely answers:

- It may have been too inconvenient to get the work done using the proper equipment.
- The right equipment and supports may not have been provided.
- The unsafe method may have been used in the past with no ill-fated consequences.
- Some employees may not have been trained properly to recognize unsafe procedures.
- Some people just don't bother to think about whether a procedure is safe, as long as it is easy and quick.

If we are really serious about the business of safety, we will develop the habit of following safety rules no matter what kind of job we are doing. We will work only with equipment that is intended for that particular use.

We are not paid to take chances. Instead, we must take the extra time and effort to obtain and use the proper equipment for the job. If safety rules call for a two-inch plank, let's not use a one-inch board because we think that it will probably hold us just this once.

It's important to make safety a habit. That means following the correct procedures every time, even when we're tempted to take a short-cut.

How can we be sure we will do this? Here is a tried-and-true formula for success:

1. Start each task with an eye toward anticipating what could go wrong.
2. Next, mentally run through all of the safety procedures you have been taught.
3. If you have any questions or concerns, now is the time to check with your supervisor before you start the job.
4. Then, obtain the proper equipment to accomplish the task safely.

If you still feel rushed or tempted to bypass procedures, stop and think about the ruptured duct and the painter who didn't make it.

CHECKLIST FOR THE SUPERVISOR:

- ✓ Do your employees use the right equipment for the job?
- ✓ Do you provide the correct equipment for them or is it difficult to obtain?
- ✓ Have you observed employees using unsafe methods while doing their work?
- ✓ Do you immediately correct any employee using improper procedures?
- ✓ Have you noticed any employees who repeatedly flout safety rules?
- ✓ Do you discipline employees for failing to follow safety rules?
- ✓ Do you provide additional training for repeat offenders?
- ✓ Have you made it clear to your employees the consequences of unsafe behavior?
- ✓ Do they understand the dangers involved?
- ✓ Do they feel comfortable discussing safety concerns or questions with you?

FOR THE EMPLOYEES:

- ✓ Do you plan out each task while anticipating what could go wrong?
- ✓ Do you mentally run through all the safety procedures that you have been taught before you begin each task?
- ✓ If you have any questions, do you feel free to discuss them with your supervisor?
- ✓ Do you always obtain the correct equipment for the job?
- ✓ Do you inform your supervisor of any unsafe conditions?
- ✓ Do you use the proper personal protective equipment and is it in good condition?

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THE RIGHT SAFETY ATTITUDE

Employees are paid to get out production, and there can be no quarrel with the worker who gives his or her all toward this end. However, this doesn't mean you have to take safety shortcuts, since statistics indicate that accident prevention and high production go together like peanut butter and jelly, or April showers and May flowers.

Accidents cost money, and must be paid for by the company. This cost is not like the cost of materials, equipment, or wages. It is a total loss, to say nothing of the loss and suffering of the injured employee. There is no return for the company or the injured employee on money spent as the result of an accident. Look at it this way: An accident-free business is a profitable business.

When you buy a house, a car, or any large item, you weigh the advantages and disadvantages before you invest your money. The same is true of investing your time and effort in safety, with one exception. You may decide to forego the expense of a new car, but you should not, in fact cannot, afford to forego your "safety investment."

A good safety attitude toward laws, rules, and housekeeping practices is the best way to protect yourself and your fellow employees from accidents. People with lackadaisical attitudes about safety blame accidents on the "law of averages." But accidents don't just happen—they are caused. Most accidents happen as a result of an unsafe condition, a poor attitude, or both.

People with bad attitudes are showing disregard for themselves and others. Just look at traffic accidents, for example. Research shows that bad driving attitudes often cause unsafe acts, and unsafe acts are involved in most accidents. The same is true in your job.

People who take chances—trying to repair machines while they are running, or removing a guard to make the work go quicker—are showing a bad safety attitude. You can never be smart enough or quick enough to beat the odds!

What about good attitudes toward safety? All of us are required to follow certain procedures in our jobs, but your best defense against injury is a good safety attitude.

One way to build a good safety attitude is to learn your job well. Know the hazards and know the safeguards. If you understand your work, you will have a better understanding of the importance of safe work practices and a good safety attitude.

Another indication of a good safety attitude is to set an example for others. If you see a piece of scrap on the floor, take the time to pick it up, because it could cause an injury to someone else. This may sound too simple to work, but it really does. Safe attitudes are contagious.

If you run into a problem that you're not sure you can handle safely on your own, report it to your supervisor or manager, who is in the best position to correct the problem quickly.

Another key to working and being safe is communication. Here's your chance to tell us what safety items you are concerned about. Tell us what hazards you have seen recently. Is there a condition you know about which could cause an injury? Is there a suggestion you feel would help prevent an injury? It is part of the company's safety attitude that you are in an excellent position to spot the signs of potential trouble. So all your comments will be reviewed and corrective action will be taken promptly.



SAFETY TOOLBOX TALKS



SAFETY TOOLBOX TALKS

SCAFFOLDING



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A SCAFFOLD PLANK

We can have the best tubular steel scaffolding or any other work platform in existence today, and it would be no safer than the weakest scaffold plank on the work deck. Therefore, if we are to have safety on the job, we must exercise care in the selection and use of our scaffold planking.

Let's see what constitutes a good scaffold plank and how it should be used. The plank should be no less than 2-by-10 inches (nominal size). It should be rough-dressed, seasoned, and straight-grained, free from large, loose or dead knots, and free of knots in groups. Check for splits and any other defect tending to decrease the structural strength.

Another important step is field-testing the plank. A good, practical method is to lay the plank across two concrete blocks or any other blocking material. Make sure the span distance is at least as great as the scaffold span. Two workers stand in the center of the plank (it isn't necessary to jump up and down). A plank that cracks is, of course, discarded.

After testing is completed, the plank is placed on the scaffold. This brings up another important phase: securing the plank to the scaffold to prevent slipping. Where there is a fixed distance to span, such as in tubular steel scaffolding, a good way to prevent slippage is to install cleats. If this isn't practical or it becomes necessary to overlay planks, then securing should be done by wiring after planking has been placed.

Last and equally important is the care we take of this piece of lumber on which our lives depend. Use a scaffold plank only for walking on and for no other purpose. Under no circumstances must anyone be allowed to abuse a plank—by throwing it from a scaffold, running over it with equipment, or doing anything else that may cause damage. Even internal damage, though invisible, can still cost a life. Don't let it be your life!



SAFETY TOOLBOX TALKS

SCAFFOLDING



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SCAFFOLDING

Falls are one of the commonness causes of workplace accidents and injuries, and scaffolds contribute, at least indirectly, to many of these.

Avoiding scaffold accidents involves three elements:

- Proper erection and maintenance of the scaffold itself
- The provision and use of appropriate fall prevention/arrest equipment
- Following safe work practices.

ERECTING THE SCAFFOLD

Many scaffold accidents are caused by using improvised scaffolding—made quickly or on the spur of the moment, or in an offhand way—such as putting one box on top of another on a steel scaffold, instead of installing two more steel bucks.

There are many types of scaffold, and although some may have unique requirements, following the most up-to-date requirements carefully is important for every type. Here are some examples:

Steel scaffolding should be erected and used in accordance with the manufacturer's recommendations, making sure all connections are properly seated and locked.

Wood scaffolding must conform to safety code design and be in strict compliance with material specification and bracing. Specifications for guard-rail height, cross-bracing, and toeboards are clearly spelled out in OSHA regulations.

Free-standing towers greater in height than four times the width of the base should be guyed. Pole scaffolds should be anchored at the designated intervals. Foundation sills should be placed under all scaffolds that are set on earth. Planks should be secured to the scaffold when left unattended.

FALL PROTECTION

Many of the specified requirements for scaffold erection are directly aimed at preventing or at least minimizing the risk that a scaffold worker will fall. But such devices as safety belts and harnesses add protection by ensuring that if a fall does occur, it doesn't result in serious injury or death. We provide such equipment, but it will be of no help to you unless you use it. That's why we will deal strictly with anyone who does not use these required protective devices.

SAFE WORK PRACTICES

Before you work in or near high places, and particularly on scaffolding or with safety belts, always check the ropes, cables, chins, or other holding devices for weakness caused by accident or normal wear.

Swinging scaffolds pose particular problems of their own. It is advisable to have one person in charge of the moving up and maintenance of scaffold machines.

Another danger associated with scaffolds is that tools or materials may fall off and cause severe injury to someone below. Or debris and other objects may fall from other areas of the building onto the scaffold. Therefore:

- Hard hats should be worn by anyone working on or below the scaffold.
- Overhead protection should be provided, either on the scaffold itself or projecting from the floor of the building immediately above the scaffold.
- When deemed advisable, screening should be placed up to guardrail height to prevent materials from falling off.
- The scaffold surface must be kept in good condition, properly guarded, and clean—housekeeping is just as important there as on floors and aiseways.

The safe use of scaffolds depends greatly on the common sense of the workers themselves. Once we've made sure the scaffolds have been erected correctly, and that fall protection gear is provided, the rest is up to you. To be safe, work safely.



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SCAFFOLDING



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SCAFFOLDS ARE FOR SAFETY

Scarcely a day passes that we don't read of or hear about someone being injured or killed in a scaffold fall. Faulty design and inadequate construction are sometimes involved but, in most cases, scaffold accidents are caused by careless maintenance and improper use. Help keep your scaffolds safe by observing these simple procedures:

- Inspect scaffolds daily prior to use, particularly guardrails, connectors, fastenings, footings, tie-ins, and bracing.
- Keep platform closely boarded. The space between scaffold planks should not exceed a half inch.
- Keep platforms fenced and securely fastened. Tube and frame scaffolds must be tied to the permanent structure at intervals of 30 feet horizontally and 26 feet vertically.
- Don't stockpile materials on scaffolds; remove all materials at the end of the day.
- Never overload scaffolds. Pile materials being worked over ledger and bearer points to minimize platform loading.
- Don't work on scaffolds during storms or high winds, and clear platforms of all ice and snow before using. Sand wet platforms to prevent slipping.
- Protect scaffolds. Don't bump or strike against scaffolds with vehicles or materials. Control hoisted material from the ground with tag lines.
- Prior to moving portable scaffolds, make sure platform planks are securely fastened or remove them.
- Keep platforms and the area around scaffolds cleared of debris, unneeded equipment, material, and other hazards that will cause you to trip or fall.



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SCAFFOLDING



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USING SCAFFOLDS SAFELY

Imagine for a moment that you are required to work on scaffolding set 25 feet above the ground. Suddenly, the wooden plank you are standing on gives way and you find yourself free-falling to the rock-hard pavement below. Quite a nightmare—yet, for numerous workers each year, this nightmare becomes an unfortunate reality. You need some basic safety knowledge to work with scaffolding successfully.

Let's review a few actual scaffolding incidents that unfortunately resulted in fatalities. A bridge painter was attempting to make unauthorized adjustments on an elevated work platform suspension system. A scaffolding support cable slipped, causing the platform to shift. The employee lost his balance and plunged 364 feet, sustaining fatal injuries upon impact. After investigating the incident, OSHA cited the worker's employer for failing to provide adequate training and failing to provide a safe scaffolding system.

In another case, a masonry worker was standing on an elevated platform. The guardrail had been temporarily removed in order to speed the transfer of material to the platform. During the transfer, the employee lost his footing and plunged 50 feet, sustaining fatal injuries upon impact. OSHA investigated the fatality and cited the employer for failing to provide adequate training and failing to provide a safe scaffolding system.

In this final incident, two bricklayers were working on a scaffold. The unapproved plywood flooring they were standing on gave way, causing them to plunge 47 feet, which caused fatal injuries upon impact. What's more, the workers had recently completed scaffolding safety training. OSHA investigated the fatality and cited the employer for failing to provide a safe scaffolding system.

All of these incidents are similar in that human lives were needlessly lost as a result of improper scaffolding practices and failure to provide supplemental fall protection. To ensure the safety and well-being of everyone at a worksite, take these steps before erecting scaffolding:

- The site must be assessed.
- Potential hazards must be identified.
- Known hazards must be reduced or eliminated.
- Suitable footing locations must be determined. (Keep in mind that what may initially appear to be hard footing can turn soft following a rainstorm or thaw.)
- Emergency procedures must be established and communicated.
- Periodic inspection intervals must be determined. The findings of the inspections must be documented.

- Suitable tie-off locations must be identified.
- Rescue procedures must be established.

There are also safety considerations when dismantling scaffolding systems:

- Additional precautions such as fall protection and temporary bracing may be required to ensure the safety of employees during the dismantling process.
- Plan ahead and anticipate problems that might occur—take precautions to prevent incidents.
- Follow manufacturer's guidelines.
- Arrange scaffolding members according to type.
- Inspect for damage prior to transport and storage.
- Remove damaged equipment from service for repair or disposal.

Keep safety uppermost in you mind when working on scaffolds, and the chance of a dramatic accident putting your name in the headlines of a newspaper is decreased greatly!



SAFETY TOOLBOX TALKS



SAFETY TOOLBOX TALKS

SLIPS & FALLS



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DON'T BE A 'FALL GUY'

Falls hurt—and worse: They can disable or kill. Falling injuries occur in every industry, but they can be prevented or reduced in severity by the worker who is alert. Remember, falls will cost not only your company, but you and your family. They can cost you pain, time spent at the doctor, enjoyment that you might have had on your time off, lost income when you are out of work, loss of mobility, and the ability to do the tasks you usually do around the house. And, perhaps worst of all, people don't always recover 100 percent from falls. Permanent pain spots and reinjury points can be created.

Slippery surfaces, poor lighting, obstacles, having your vision obscured when carrying packages and other factors can all cause falls. Be aware when hazards exist, report those which can be corrected, and take steps to reduce your own likelihood of falling down on the job. Some of these are:

- **Staying flexible.** Those who are not limber usually have a higher center of gravity and are toppled more easily than the supple individual. Daily stretching helps.
- **Staying straight.** The use of drugs, alcohol, even some prescribed or over-the-counter medications can alter your perception and throw off your sense of balance. Make it a point to find out any side effects of medicine you are taking.
- **Wearing the right shoes.** Be sure that your shoes give you proper support, are the right size, don't have heels that will catch on the stair treads, and don't have slippery soles.
- **Wearing the right glasses.** Make sure your vision is corrected and, if necessary, wear the glasses that will help you see danger. But realize, too, that glasses may cut off some peripheral vision and that stairways and ladders can be risky for individuals wearing bifocals.

Not only can you prevent falls, but you should be prepared to reduce the impact of falls that *do* occur. Decide now to walk around in an alert, balanced state, watching where you are going and ready to catch yourself quickly should you begin to slip. Here are some “safe falling” techniques to consider:

- **Your head is a heavy body part.** Don't tilt your head back as you walk up stairs, throwing off your balance. Look up with your eyes only. If you work at a height and find yourself falling, don't look down with your head either, because that will propel you forward.
- **Gripping a nearby railing may help.** Use your thumb, along with the little finger and the ring finger to grip. The little and ring fingers actually have more gripping strength than the index and middle fingers.

- **When falling, defend the vital areas.** It's better to have soft tissue damage than severe breaks. The head is vulnerable to serious injury and must be protected first of all. Protect it by tucking it to either collarbone. Next comes the spine and back, then the joints such as knees, wrists, shoulders, elbows, and ankles.
- **Disperse the force.** Spread the impact of the fall over as wide an area as possible. Don't break a fall with only your hands, for instance; use the insides of your forearms along with your hands.
- **Relax.** Athletes and stunt riders learn this important lesson early. Know how to reduce the force of impact: Yell and exhale when falling.



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KEEP ALERT—AND PREVENT FALLS

Rarely does anything happen as quickly as a fall. During a fall, our reflexes come into play and try to protect us. Often this quick muscular reaction can cause strains or sprains and, in some cases, body tension, which may result in a more serious injury than if the body were relaxed during the fall.

Since we have no control over our reflex actions, it is wise to be aware of objects and conditions that cause falls.

Some of the most common tripping hazards, or falls at the same level, are caused by objects left lying around and low protruding pipes, lumber, drawers and tool handles. Oil, water and other liquids on walking surfaces are especially dangerous. Spills should be cleaned up immediately or absorbent material spread over the area to reduce the slipping hazard.

Beware of ice and snow in trucks, docks and construction sites and when entering or leaving the plant. Falls from one level to another frequently involve falling off ladders, docks, scaffolds and roofs, through floor openings, or down stairways, which can often result in serious injury or even death.

In order to avoid such hazards, precautionary measures must be taken. Always use an approved ladder and never overextend yourself while working on it. Check it for safety grips or tie the bottom portion. It is important that the bottom of the ladder be placed 1/4 of its vertical height away from the building. For example, if the ladder is 16 feet high, the bottom of the ladder should be 4 feet from the building. The top of the ladder should be 36 inches higher than the level at which you are working.

Keep metal ladders away from live electrical wires. Perimeter guarding should be installed around open areas where ladders are being used. Scaffolds should have guardrails and toe boards.

Stairways are meant for walking, not running. Use hand rails, and if there is not enough light, report it. Stairways are to be kept uncluttered with the treads in good shape.

Being alert is one of the surest ways to reduce injuries caused by falls. This includes being aware of our environment, personal safety, and the safety of co-workers.



SAFETY TOOLBOX TALKS

SLIPS & FALLS



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SLIPS AND FALLS

Once upon a time, not too long ago, a new janitorial helper at an industrial plant started scrubbing some stairs and the nearby floor with water and a cleaning agent. An observant passing worker realized that, soon, dozens of workers would hurry down those steps en route to their coffee break. Alertness and quick action averted a potential disaster.

There were two things "wrong with this picture": **(1)** the stair and floor cleaning should have been done after work hours—or, in a three-shifts-a-day plant, pedestrian traffic should have been detoured during the cleanup (the action that was taken in the instance described); **(2)** workers shouldn't have been in the habit of rushing to their coffee break.

Speaking in broad terms, there are three ways you can suffer a fall on your job—and possibly suffer from the fall. You can lose your balance; you can trip over a floor defect or something improperly left or dropped in a walkway; or you can fall from a position in which you are being supported above the floor or ground.

AVOIDING SLIPS

To avoid slips and resulting falls, be on the lookout for foreign substances on the floor. Watch for deposits of water, food, grease, oil, sawdust, soap, or debris. Even small quantities of these substances, sometimes almost too small to see, can be dangerous.

When you come into the plant from outdoors in rainy or snowy weather, wipe your shoes thoroughly on a doormat—not just to keep the floor clean but to prevent wetness of your shoes from making you slip and, perhaps, fall. Another point about walking safely: Don't turn too sharply when changing your direction.

PREVENTING TRIPS

Now, let's give our attention to tripping hazards. Some that are all too common are trash or unused material left in aisles or other areas intended for pedestrian traffic, extension cords across paths of travel, tools not put away, and holes or unevenness in the floor.

It will help keep passageways clean if you make sure trash or waste goes in the trash barrel. There are enough waste receptacles here that taking this safety step shouldn't take more than a few steps.

Walk where you're supposed to walk. Don't take shortcuts; especially don't take shortcuts through machinery areas. Hold onto the handrails when walking on stairs or traveling on steeper-than-ordinary ramps. If material or equipment is stored on stairways or ramps, move it or report it promptly.

Horseplay—just plain goofing off—can be fraught with danger. It can cause a trip, stumble, or fall by distracting a worker's attention from moving safely.

FOILING THE LONG FALL

To avoid those long falls that can cripple for a lifetime or even prove fatal, you should pay close attention to the rules of ladder and scaffolding safety. We have pamphlets and other information devoted especially to proper use of such equipment.

When you need to climb, use a ladder—the proper length ladder. Don't climb on machinery, stock, crates, or boxes. Be sure that the ladder is in good condition. When using a straight ladder, keep the distance from the ladder's base to the wall at one-fourth the distance from the base to its point of support. Don't reach too far from a ladder. Use a safety belt if both hands are to be occupied. Never stand above the third step from the top.

When using scaffolds, check carefully for defects and proper installation. When metal scaffolding is assembled, the maker's instructions should be accurately followed. The standing and work surfaces should be kept level and clean. Toe boards help prevent tools from falling and lessen the danger of slipping. If possible, work with someone well versed in scaffolding safety.

Falls are one of the major causes of occupational injuries—including fatal ones. We do our best to prevent situations that can lead to falls—and to provide equipment that will protect you in case of a fall. But you must do your part, too, by being aware and careful.



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SLIPS & FALLS



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USE HANDRAILS

Many of the disabling injuries from falls on the job occur on stairs. Statistics show that injuries from these accidents are mostly fractures and sprains. But these statistics refer only to falls that keep people from their jobs. There are plenty of other tumbles that cause painful cuts and bruises, but they don't keep the victim away from work.

Falls down stairs are taking a large toll of lives each year at home as well as on the job. Many of these stairway falls could have been avoided if handrails had been used.

Contrary to the belief of some people, the use of handrails is not a sign of infirmity. It's just good sense. There may be several reasons people hesitate to use handrails. If they have ever used a wooden handrail that was not kept in good repair, they probably have had the painful experience of gathering a handful of slivers.

Obviously, the point should be made here that handrails should be kept in good repair. Be sure to report any rails that are loose or rough.

Another reason for reluctance to use handrails is that they slow your descent. However, the awful speed with which you reach the bottom of the stairs when you fall makes the time lost through handrail use seem unimportant.

Using handrails is important to your safety not only when you are going down stairs but also when you go up stairs. A miscalculation of a fraction of an inch when stepping up can send you sprawling, with painful results.

If you have ever had any hesitation about using handrails, maybe you've noticed how it disappears toward the end of the day. That's when tired bodies often look to handrails for support.

Many stairway accidents are caused when people insist on carrying a load that is too much for them to handle, or the load obscures their vision to the extent that they miss a step.

If you must carry objects up or down a stairway, the load should be small enough to allow one hand to be free to hold the railing.

Good lighting is another factor important to the safe use of stairways. If a light bulb has burned out in the stairway area, it should be reported or replaced right away. Also, lights that are situated at a bad angle can produce blinding glare that could cause a mishap.

Another important safety factor is good housekeeping. Stairways should be kept clear of trash and other tripping hazards. Stairways are not storage areas, and any obstructions should be reported to your supervisor or cleared immediately.

Often, stairways are posted with signs urging pedestrians to be cautious and to use handrails. That's good advice to follow.

Safety standards point out that any flight of stairs with four or more risers should have a handrail. There's a good reason for this, so don't wait to fall to find out what it is. Use handrails!



SAFETY TOOLBOX TALKS



SAFETY TOOLBOX TALKS WELDING & CUTTING



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ARC WELDING SAFETY

Arc welding can be a very hazardous operation unless you are aware of the dangers involved and take them seriously. If you have been a welder for a while, you may not think much about the entire process; if you are new at welding, you may not know about some of the health risks.

For instance, did you know that fumes from many metals can cause a condition known as "metal fume fever"? The symptoms are similar to the flu and also include a metallic taste in the mouth and dryness of the nose and throat.

Silver solders may contain cadmium, which can cause severe lung irritation. Other metal alloys, particularly those containing beryllium, can cause serious lung problems as well. The welding process itself produces ozone and nitrogen oxides, which are toxic gases and intensely irritating.

The coated rods or electrodes can contain fluoride, which is another toxic chemical. It is found in low-hydrogen, stainless, and some hard surfacing electrodes; mild- and low-alloy tubular open arc wires; most nonferrous electrodes and fluxes; and many brazing and soldering fluxes.

Besides the air contaminants, there is also the hazard of infrared or ultraviolet radiation. Eye exposure to ultraviolet light can produce a condition known as "welder's flash" or "arc eye," which is a sandy-feeling irritation of the eye. Repeated exposure may result in permanent eye injury. UV radiation can cause severe skin burns as well. Infrared radiation produces a sensation of burning on the skin that does not cause permanent skin damage.

Electrical shock is always a very real possibility. Even a mild shock can produce involuntary muscle contractions that can cause you to lose your balance and fall. Working in wet conditions or sweaty clothing increases your chances of receiving an electric shock.

The potential of fire ignited by flying sparks is another hazard to consider. Good housekeeping can minimize the danger.

Although arc welding is dangerous, it can be controlled by following established guidelines and safety procedures. It is absolutely essential that you wear the correct personal protective equipment for the job. Welders' helmets and goggles with filter plates and lenses must be worn to protect your face and eyes from harmful rays, flying sparks, and debris. Unless you're performing light work, you should also wear flameproof gauntlet-style gloves.

These guidelines should assist you in preventing many of the hazards we have discussed:

- Follow the safety procedures required for each type of welding.
- Avoid electric shock by checking all connections, grounding the equipment, and avoiding wet conditions.
- Make sure the equipment is in good condition before using it.

- Remove flammable materials from the work area and keep a fire extinguisher nearby.
- Never weld inside confined spaces without adequate ventilation or the use of supplied-air respirators.
- Never weld in an area where degreasing or other cleaning operations using organic solvents are performed.
- When working outdoors, weld upwind of the fumes and vapors produced.
- Always use your personal protective equipment.



SAFETY TOOLBOX TALKS WELDING & CUTTING



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FOCUSING ON LASERS

Working with lasers is like playing with fire—well, actually, a very intense beam of light. But this light can cause serious injury. The word laser is an acronym for “light amplification by stimulated emission of radiation.” To put it simply, the way lasers work is that electrical energy is introduced to some medium, such as gases, liquids, or crystals, which get “excited” and translate that energy into a beam of electromagnetic radiation.

USES

Laser are widely used in:

- Industrial welding
- All types of industrial cutting (metal, plastic, wood, and cloth)
- Grocery and other types of scanners
- Military uses such as range finding and target marking
- Various types of surgery

EYE PROTECTION

In terms of occupational safety, the greatest hazard lasers present is to the eyes, because when the beam focuses, it does so on a small spot in the retina of the eye, causing severe damage and even resulting in blindness.

Workers must avoid looking directly at the laser source or its reflections.

Though eye injuries are rare, they happen quickly and are usually permanent. Protective eyewear specifically designed for use near lasers is available and should protect for a minimum 10-second exposure. Filtering screens are also available for longer exposures, such as during repairs.

Employees not working directly with the laser but in the general area should also wear protective eyewear.

NONBEAM HAZARDS

Some nonbeam hazards from lasers should be considered as well:

- Risk of explosion from the buildup of gases in the flashlamp when it is fired.
- The possibility of skin burns from contact with heated material or material used to cool the laser crystal.
- Leakage of gases in a closed room where they could possibly cause an explosion or an oxygen-deficient atmosphere.
- Fire hazards from high-intensity lasers.
- Higher power lasers can also cause electrical shock.

SKIN PROTECTION

A skin cover, like opaque gloves, should be used when working with higher powered lasers. Clothing made of tightly woven, flame-retardant fabric and a “sunscreen” lotion should be worn on the arms and upper body.

AIR CONTAMINATION

When lasers are used to cut materials such as plastics, hazardous vapors or fumes can be given off. Chemical reactions can also occur during laser processing, such as the formation of oxide and ozone gases.

These gases are called laser-generated air contaminants (LGACs). Process isolation and exhaust ventilation (consisting of hoods, ductwork, appropriate filters, and fans) should be used when LGACs are a potential problem. Some laser operations can be operated in enclosed chambers or by robotics to lessen the danger to workers.

Where these engineering controls are not feasible, the use of respirators must be considered. Check with your supervisor.

Immediately report if you experience headaches, coughing, or nausea when working with or near lasers.

ELECTRICAL SHOCK

Workers should review their knowledge of safety precautions concerning electrical shock and electrocution when working around lasers, especially when the protective covers are removed to allow access to the components. Although many lasers are being used today, their safety records are good. If workers are careful and follow procedures, the dangers from hazardous exposures to lasers are manageable.

SAFETY TOOLBOX TALKS WELDING & CUTTING



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THE THREE F'S OF WELDING

Let's discuss the three Fs of welding: fire, fumes, and face. Always check the area carefully for fire hazards before you start welding. Wood, paper, or other flammable materials should be removed. Don't start welding in any area where there are flammable liquids without checking with your supervisor.

Wood floors should be swept clean before you weld over them, and they should be covered with metal or some other material that won't burn. In some cases, it may be advisable to wet the floor down. But remember that this causes an added shock hazard that you must guard against if you are using electric welding apparatuses. So, always ground welding equipment. Use an insulated platform if you must weld in wet places.

Be sure there are no cracks into which sparks or slag may fall, and never allow this hot stuff to fall into machine pits. Open doorways, broken windows, and similar openings may have to be protected.

If you must weld near combustible materials, a fire extinguisher, pail of water, fire hose, or a pail of sand should be at hand. It may be necessary to have a worker stand by with a fire extinguisher to put out sparks.

If you have to weld or cut any tank or drum that has contained flammable liquids or gas, don't start your operation until an approved test shows that there is no dangerous vapor present. Don't be satisfied with somebody's say-so that the tank or drum was tested previously. Insist on a test before you start work.

Good ventilation is a must for all welding operations. Many of these operations produce fumes that are harmful in heavy concentrations, and good ventilation is the one best method of protecting yourself against this hazard. Screens around your work must not be placed in such a way that they prevent good air circulation. Sometimes, special ventilating equipment is necessary, and we, as your employer, will supply it.

If you have any doubt about the adequacy of the ventilation on a job, ask me or some other supervisor for our opinion. Don't weld in a small room or tank or other closed place without first talking to your supervisor about ventilation.

Eye protection is a must on all welding jobs, and full face protection is needed on many such jobs. You've been informed about the type of protection you must wear when welding. This protection is what experience has shown is necessary.

Besides the actual welding and cutting, welders perform many other operations that require face and eye protection. For instance, electric welders need goggles as well as the regular helmet.

Any welder may have to do a good deal of chipping and cleaning on metal. This work, which may be done with the helmet raised, can still throw particles of metal at the welder's eyes.

Basically, however, eye protection is designed to protect you against sparks, slag, molten metal, and radiation, which causes flash burns. If you follow the rules for protective face and eye covering, you won't have any face and eye injuries from your welding and cutting work.

Remember the three F's of welding: fire, fumes, and face (including eyes). Look out for these three, and you'll be able to weld safely.





WELDING AND CUTTING SAFETY

Welders and cutters are likely to be exposed to a number of common hazards, so they need to know how to protect themselves. Here is a list of harmful substances and conditions and things you need to do to avoid injury.

[Tip: One effective way to handle the next section is to "present the problem" and give trainees the opportunity to come up with the solution. If they don't, you can give it and ask for further comment.]

- **The problem:** Continued or repeated exposure to ultraviolet and infrared rays produced by electric arcs and gas flames can damage eyes and skin.

The solution: Personal protective gear is needed. Eye protection is a must—sometimes full face protection.

[Trainer: A whole range of garments that will protect the skin is covered later in this talk.]

- **The problem:** Welding or cutting on or near combustible or flammable materials, dust, vapors, liquids, or floors can cause a fire.

The solution: Proper fire prevention precautions should be taken, such as making sure a fire extinguisher, fire hose, or bucket of water or sand is handy and "hot work" permits have been issued in particularly hazardous areas.

- **The problem:** Splatters of hot metal, which can occur under certain conditions, is a burn hazard and can also be a fire hazard.

The solution: Again, the appropriate PPE is called for. Also, it's important not to let sparks or metal splatter get into floor cracks, machine pits, or openings to other areas. A fiberglass curtain or cover may be the answer.

[Trainer: Make sure it's your company's own procedure that gets spelled out here.]

- **The problem:** Closed containers that have held flammables or combustibles also present a potential fire hazard.

The solution: Proper cleaning or purging procedures must be followed before work is started.

- **The problem:** Toxic gases, fumes, and dust may be involved in welding and cutting operations.

The solution: Provide adequate ventilation—and respiratory protection as needed.

- **The problem:** Explosion hazards caused by dust and fumes.

The solution: Make sure the work area is adequately ventilated.

- **The problem:** Electric shock.

The solution: Avoid working on wet floors. Do not use bare conductors or damaged regulators, torches, electrode holders, or other defective equipment. Always check electrical connections, and be sure to ground equipment.

- **The problem:** Working in confined spaces—especially for a prolonged period—creates its own difficulties in terms of atmosphere, cramped quarters, fatigue, heat, and difficulty of ventilating.
- *The solution:* Welder or cutter should be equipped with proper respiratory protection and safety harness with attached lifeline tended by a helper outside the space. If the work is halted for some time, entrant should remove the electrode taken from the holder and leave the space. The power on arc welding or cutting units should be disconnected. The torch valves of gas welding or cutting units should be turned off, and the gas supply shut off at a point outside the confined space. If possible, take the torch and hose out of the area.

Protective clothing can go a long way in preventing injury to welders and cutters. Here is a list for you to consider, depending on the job you're doing:

- Flame and shock resistant gauntlet gloves.
- Flame resistant aprons of leather, asbestos, or other material that will protect against radiated heat and sparks.
- Fire-resistant leggings, high boots, or similar protection when on heavy work.
- Safety shoes. (Low-cut shoes with unprotected tops may catch sparks.)
- For overhead work, use a shoulder cover or cape of leather or other protective material. Leather skullcaps or other flame-resistant caps may be worn under helmets. Ear protection of wool or rubber plugs or wire screen is used when appropriate.
- Safety hats or other head gear to protect against sharp or falling objects.
- Operators, welders, and helpers should wear goggles, helmets, and shields that give maximum eye protection for the particular welding or cutting process used. There should be side shields on goggles or spectacles.
- Earplugs or muffs should be worn when you are using a high velocity plasma torch.

Persons working with inert-gas shielded arc welding should protect against ultraviolet and infrared radiation burns by covering all parts of the body that could be exposed. Dark clothing is preferred, to reduce reflection underneath the helmet.

Wool or leather clothing is preferable for arc welders and cutters because it is more resistant to deterioration than cotton. Woolen clothing or cotton clothing that has been chemically treated to reduce flammability is preferred for gas shielded arc welding. However, make sure that the fabric, whether cotton or wool, is thick enough to protect against radiation.

Clothing should be clean and free of oil and grease. Sleeves and collars should be buttoned, and trousers should be free of cuffs and front pockets, which will catch sparks.

If thermal insulated underwear is worn, it should be under other clothing and not exposed to sparks or other ignition sources. It should be made of down-filled or waffle-weave cotton and wool. Although it does not ignite more easily than cotton, quilted nylon-shell polyester-filled underwear will burn, melt, and adhere to skin, causing serious burns.

SAFETY TOOLBOX TALKS





CONTROLLING HIGH BLOOD PRESSURE

High blood pressure, or hypertension, affects more people in the United States than cancer, diabetes, and AIDS combined. One in every four Americans has it.

Whether you have hypertension now or you are concerned that someday you might, you can learn how to keep your blood pressure at a healthy, controlled level.

If left untreated, or if treatment measures are not followed properly, high blood pressure can lead to stroke, heart attack, or kidney damage.

WHAT IS BLOOD PRESSURE?

Your heart is a muscle that constantly pumps blood carrying oxygen and nutrients throughout your body in blood vessels called arteries. Blood pressure is the measurement of the force on the artery walls when blood flows through them.

High blood pressure occurs when the force on the artery walls is too high. Over time, these blood vessels can become damaged. Then, vital organs do not receive the amount of oxygen they need.

A health care professional can measure your blood pressure by putting a cuff around your arm from a device called a sphygmomanometer.

RISK FACTORS FOR HIGH BLOOD PRESSURE

High blood pressure is called "the silent killer" because people who have it rarely show any signs of disease. Sometimes it will cause frequent headaches or nosebleeds, but usually there will be no symptoms at all.

Some risk factors for having high blood pressure include:

- A family history of high blood pressure.
- African American ancestry.
- Diabetes.
- Being overweight.
- Smoking.

Even if you don't have any of these risk factors, there is still a chance that you could have high blood pressure. That's why it's so important to have it checked often.

THE DAMAGE HIGH BLOOD PRESSURE CAUSES

If high blood pressure is left untreated, damage can occur in these places:

- The brain. Arteries can rupture, causing stroke or death.
- The kidneys. Your kidneys cleanse the blood. If blood flow to the kidneys is reduced, impurities in the blood can build up in the body and damage other organs.
- The eyes. Damage to the arteries in the eyes can lead to blindness.
- The heart. High blood pressure is a constant strain on the heart and can result in a heart attack.
- The arteries. Pressure on the artery walls can cause them to thicken in what is called “hardening of the arteries” or arteriosclerosis.

WAYS TO CONTROL HIGH BLOOD PRESSURE

If you do develop high blood pressure, your doctor will advise you to take the following actions:

- Reduce sodium intake. Sodium, found in table salt, increases blood pressure, so read all food labels and put down that salt shaker!
- Maintain a healthy weight. People 20 percent or more over their ideal weight have a greater risk of developing high blood pressure. Sometimes, weight loss alone will bring blood pressure back to normal.
- Exercise. Regular exercise reduces blood pressure and helps in weight loss. Walking for 20 minutes 3 or 4 times a week is a good practice.
- Avoid stress. Prolonged stress constricts the blood vessels and makes the heart work harder. Use relaxation techniques to reduce stress. Don't use alcohol to relax because it can cause high blood pressure or make it harder to control.
- Stop smoking. Not only will it help prevent high blood pressure, but other diseases as well. Smoking and high blood pressure are a dangerous combination.

Luckily, high blood pressure can be controlled, but it is up to you to have it checked regularly so any necessary treatment can be started right away.



COPING WITH STRESS

You're an adult. You can take the frustrations and difficulties of everyday life. Well, sure, but let's admit that sometimes in our complex world troubles pile up and even the most generally capable and confident person becomes keyed up, nervous, and "stressed out."

Being in a tense state never solved anything, though. In fact, it often makes things worse: We may lose our normal resiliency and view ordinary events as potential threats. We may become distracted and have accidents.

How do we escape the gloom and anxiety and return to our more pleasant and productive existence? It's just a matter of throwing off some of the stress that accumulates and learning how to relax rather than remaining a chronic worrier.

Much of what we feel as mental or emotional stress is actually tension in our bodies. Our jaws are clamped, our necks and shoulders are tied in knots, our stomachs may be churning. That's because our thoughts are sending the message throughout the body: "Something is up. Get ready for trouble." Even if things aren't actually so bad, the body is prepared to fight or run for its survival.

How about trying a little experiment with that clenched jaw. All together, now: clench. Now loosen just a little—we're not really clenching a lifeline in our teeth. The first thing we now find happening is that our breathing deepens, just a little bit. And if we don't allow the body to tighten back up, we might start to relax. Our stomachs will relax somewhat while filling up with breath. The intake of air is what's really needed for survival, not a constant, tense state of readiness to flee or do battle.

While there are no miracle methods to make us relax, our breathing is a very significant key. The more we allow our breath to fill the spaces in the body as nature intended, the more relaxed we will be. Try slowing your breath and allowing your stomach and then your chest to expand. That type of breathing is something that children do naturally, but that adults sometimes forget or ignore—unless they're athletes or opera singers!

Inhaling and exhaling properly is a basic, but here are a few more tips that will help you relieve stress and relax.

- **Get enough sleep and rest.** Sleep is a great cure for tension, refreshing your entire body. Make time for sleep. You're not going to miss anything. Lack of sleep will make you cranky and can even cause you to be accident-prone—which could mean missing a lot.
- **Take time out to play.** Schedule a "mental health break" if only for an hour or two once or twice a week. Take a walk around the block, go to the park, or go fishing. Do whatever you find the most fun, preferably an activity that is not competitive.

- **Make an effort to eat sensibly.** Forget the caffeine and junk food. Remember fruits and vegetables? They even make great snacks.
- **Don't bottle up your feelings.** If your feelings have been hurt or you are angry, acknowledge it to yourself and also let a friend you can trust know what's going on with you. Bad feelings that aren't expressed don't just go away; they fester and become hard to manage. Speaking about them when they occur can really help.
- **Don't try to be perfect.** Human beings aren't machines. Perfect is just an idea in your mind; doing your best should be more than enough. Lighten up on yourself.
- **Do something for others.** Stop arguing with life and begin agreeing with it. Give someone a helping hand, some useful advice, or deserved praise. It's amazing how much better you'll feel.





CUTTING DOWN ON CHOLESTEROL

Being healthy in every way improves your odds of being safe on the job. When your mind and body function well, you feel—and function—better. When you feel well, you don't take shortcuts that can cause accidents.

Among other important health issues we should all be working on is lowering our blood cholesterol count to a health-ensuring level.

The average cholesterol count of middle-aged adults in the United States is 215 milligrams per deciliter of blood. But, as cholesterol rises above 180, researchers have found, heart disease deaths increase.

Other factors increase heart disease risk. The more risk factors present, the more important it is for an individual to lower blood cholesterol levels. Factors increasing heart disease dangers include:

High blood pressure. More than half the people who enter treatment for high blood pressure also have high blood cholesterol. High blood pressure damages the walls of the arteries, making them more susceptible to the buildup of cholesterol-containing plaque deposits.

Smoking. Carbon monoxide in the blood of smokers damages artery walls, increasing susceptibility to plaque buildup.

Other heart disease risks. Other risks include a family history of coronary heart disease before age 55, vascular disease, obesity, diabetes, stress, and being male.

A study has shown that for every 1 percent drop in blood cholesterol, there's a 2 percent drop in heart disease risk. Researchers have shown that high blood cholesterol can often be lowered with a low-fat, low-cholesterol diet. Here are some key foods that will help lower cholesterol and some that should be avoided.

FOODS TO EAT:

- Low-fat dairy products—non-fat milk, uncreamed cottage cheese, skim-milk cheese, low-fat yogurt, ice milk, cholesterol-free egg products.
- Fish.
- Beans and lentils—rich in cholesterol-lowering fiber.
- Fruits, vegetables, whole grains—they also protect against other diseases.
- Olive oil—cold-pressed—for cooking, baking, and salads.

FOODS TO AVOID:

- Fatty meats—any meat marbled with fat, regular hamburger, bacon, hot dogs, sausage, duck, goose, chicken or turkey with skin, organ meats such as liver, kidney, heart.
- Egg yolks—eat no more than two eggs a week. Watch out for baked goods.
- High-fat treats—chocolate, commercial baked goods, foods containing coconut or palm oil or hydrogenated fat.
- High-fat dairy products—butter, whole milk, cream, sour cream, ice cream, cream cheese, hard cheeses.

The National Cholesterol Education Program recommends that cholesterol intake should be less than 300 milligrams per day (a small amount by our usual dietary standards) and that total fat intake should be less than 30 percent of the calories consumed (that stands at about 40 percent for today's average American).

Heart attacks and strokes are the leading cause of death in the Western world. But happily, early simple plaque that builds on the walls of the arteries at the beginning stage of coronary heart disease can be reversed. And you are the one who can do it, by cutting down on cholesterol intake. And you do it one day at a time.





EVERYTHING DOESN'T CAUSE CANCER

Cancer is actually many diseases, with many causes. Cancers develop in the body's cells through a series of changes that take place over a number of years. It can take as many as 5 to 40 years to develop the disease after exposure to a cancerous substance.

Many things influence the process that leads to cancer. One is your genetic inheritance, meaning your family tendency to certain weaknesses or strengths. Your personal lifestyle—such as smoking, alcohol use, and diet—will also influence the process, as will cancer-causing agents that may be present in air, food, water, and the workplace.

Sometimes it seems as though virtually everything can be "carcinogenic," meaning cancer-causing. But scientists assure us that this is not the case. In fact, relatively few chemicals that we are exposed to in our work or home lives cause cancer, according to the National Cancer Institute. Most chemicals, even most toxic or otherwise dangerous chemicals, are not carcinogenic.

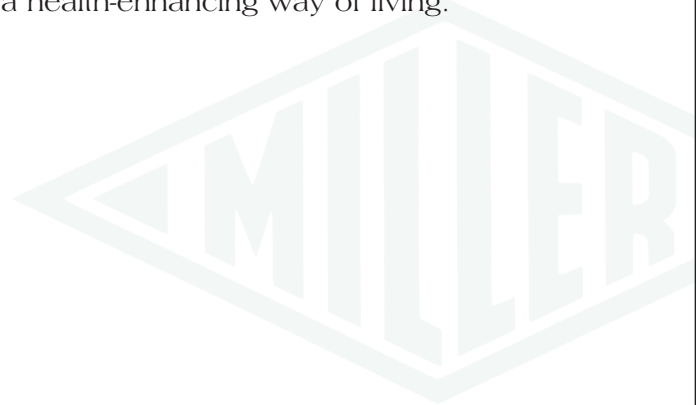
Government agencies, your company, and your labor organization have all developed health and safety measures related to hazardous exposures to cancer-causing agents in your particular workplace. Be sure that you know and follow the health and safety rules that apply to any such agents you may be exposed to on your job. Read the material safety data sheet regarding every chemical you come in contact with and follow guidelines for limiting exposure to those that are cancer-causing.

In addition, you can help yourself stay healthy by following some suggestions from the National Cancer Institute:

- Give up smoking cigarettes, pipes, and cigars. Don't chew tobacco or dip snuff. Tobacco is one of about 30 agents known to cause human cancers, and it has been estimated that it causes about one-third of all cancer deaths. Heart disease and emphysema caused by smoking kill even more people than cancer caused by smoking.
- Vary your diet to include foods that provide the many nutrients that people need to be healthy. Include fresh fruits, vegetables, and whole grains foods in your daily diet.
- Stay at a recommended weight level. Overweight is a risk factor for many diseases, such as heart disease, high blood pressure, diabetes, and even some cancers.
- Avoid too much fat in your diet. A diet low in total fat may reduce the risk for cancers of the breast, prostate, colon, and rectum. Such a diet may also reduce the chance of heart disease.

- Eat a diet that includes plenty of fiber. This will reduce the risk of some cancers, such as colon and rectal cancers. Fiber-rich foods are better than fiber supplements. Pick whole-grain foods and fruits and vegetables. Some vegetables, such as broccoli, cauliflower, kale, turnips, and cabbage, are especially noted for lowering cancer risk because of a nutrient they contain. Foods that are high in vitamins A and C, such as dark green leafy vegetables and red, yellow, and orange vegetables and fruits, are also recommended.
- If you broil, grill, or barbecue, protect foods from contact with smoke, flame, and extremely high temperatures, all of which can produce possible cancer-causing substances.
- Drink no more than one or two alcoholic beverages a day.
- Avoid long periods of exposure to sunlight, especially if you are fair skinned. Wear protective clothing and use sunscreen.
- Don't request X rays if your doctor or dentist doesn't recommend it.

Be reassured that not everything causes cancer—and that you can reduce whatever risk there is by following safe work practices on the job and a health-enhancing way of living.



SAFETY TOOLBOX TALKS WELLNESS



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EXERCISE FOR HEALTH

Occupational safety and health has expanded its scope in recent years. However, a missing ingredient has been the physical preparedness to meet the work requirements.

GENERAL CONDITION

Anyone who is not physically prepared to perform the assigned tasks is more likely to suffer from strains, sprains, backaches, slips, falls, and other injuries than someone who is in condition. People who are not in good physical condition may be excessively overweight and may experience shortness of breath, fatigue, sore or tender muscles and joints, backache, and difficulty in keeping up with other individuals.

Athletic coaches realize the importance of conditioning in reducing the risk of injury. They require their players to be mentally alert during the entire game and to have stamina to execute plays properly.

In the same way, we want to help you make sure you are physically and mentally prepared to work safely.

EXERCISE

Exercise is important in maintaining your health and well-being. While it isn't necessary to build muscles the way bodybuilders do, daily exercise improves muscle tone, helps circulation, and strengthens the cardiovascular system.

Before beginning any extensive exercise program, consult a physician who can recommend how much activity—and of what sort—is best for you. That will take into account your age, your present physical condition, the level of your present activities and the kind of exercise you enjoy.

Start your physical activity program gradually with conditioning exercises, and keep workouts moderate. If you haven't been getting much exercise lately, 15 minutes of simple exercise each day may be enough at the beginning of your program.

Aside from calisthenics or "sitting-up exercises," other activities that promote physical preparedness include walking, bicycling, swimming, and jogging. But no matter what form of exercise you choose, the sessions should start with some slow and easy warm-up movements. More strenuous exercise will take up the main part of the session, and then milder, slower exercises will help cool your body down and slow your pulse rate gradually.

Remember to limit your session to a length of time that feels comfortable to you, increasing the time and the number of reps as you begin to feel stronger. But stay alert to signs that you may be overdoing it. Pain and shortness of breath are definite "slow down" messages.





HINTS FOR PREVENTING HEADACHES

Headache is the most common medical complaint of Americans, affecting over 70 percent of adults and accounting for 57 million missed workdays per year. While most people just take an over-the-counter painkiller for a headache and "tough it out," there are things to do to prevent headaches as well as stop the increase in accidents and decline in productivity caused by them.

TYPES OF HEADACHES

- Stress or tension headaches. These usually are a dull ache on both sides of the head or a feeling of tightening or pressure.
- Migraines. These headaches are moderate to severe and can affect normal work activities. They can be a throbbing or pulsating pain and can cause nausea, vision problems, and sensitivity to light and sound.
- Cluster headaches. These are centered over one eye and can cause that eye to water and become inflamed. These headaches come and go, but usually occur at the same time of day.

HEADACHE TRIGGERS

The way to prevent headaches is to identify what triggers them. Triggers are not the same for everyone, but usually include:

- Hunger or missing a meal. Missing a meal can cause the blood sugar to drop, causing a headache.
- Eating certain foods. Foods, such as hard cheeses, chocolate, citrus fruits, and caffeinated drinks contain certain chemicals that can induce headaches, especially in those prone to migraines.
- Lack of sleep.
- Previous alcohol or drug consumption (or even heavy smoking).
- Anxiety.
- Stress or anger.
- Loud or repetitive noises.

- Strong odors or fumes or poor indoor air quality.
- Eyestrain.
- Poor lighting or flickering lights.

TREATMENT

- Over-the-counter medications. Only take these when necessary and follow the directions on the label. Overuse of aspirin and other pain relievers may actually worsen the symptoms or cause “rebound” headaches and stomach upset.
- Fresh air. Getting outside for a few minutes often helps to clear your head.
- Apply an ice pack to the back of your neck or splash your face with cold water.
- Ask your supervisor if you can go to the first-aid room or nurse’s office to lie down.
- Stress reduction. Stress is the number one trigger for headaches.

PREVENTION

- Work with your supervisor if you think the lighting in your work area is inadequate or if there is headache-causing glare.
- Report any strong odors or suspected fumes in your workplace. Ask your supervisor if the air conditioning or ventilation can be increased in your area or if you can open a window.
- Use hearing protection if noise is causing your headaches.
- Don’t skip meals, keep healthy snacks at your workplace, and avoid foods that trigger headaches.
- If you sit hunched over a desk or workbench, make it a point to get up and stretch periodically.
- Think about what types of stress are causing your headaches and try to lessen or eliminate the source problems. Stretching or breathing exercises can reduce stress and can be done at the workstation.

WARNING

If a headache is sudden or severe, affects only one side of the head, is accompanied by nausea and vomiting, causes weakness in the limbs or face, or if there is mental confusion or loss of consciousness, seek medical help immediately.

If you have previously been headache-free and have started getting consistent headaches, headaches in a definite pattern, or headaches different than you have ever had before, it is wise to see your doctor.

SAFETY TOOLBOX TALKS WELLNESS



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KEEPING FIT AT ANY AGE

Wellness is not just the opposite of sickness; it's a way of life that shows you care enough about yourself to stay healthy. Good living habits can:

- Prevent illnesses
- Reduce medical bills
- Make you feel more energetic so that you can participate in activities after work
- Help you live a longer, happier life

Illness can result from too much smoking, drinking, drugs, junk foods, caffeine, and stress, and not enough exercise, rest, and good nutrition.

A good means of working against bad habits is to start a good habit—exercise! This can be done at any age. Exercise will help you keep your weight down without strict dieting, reduce stress and tension, and lessen your use of cigarettes, alcohol, or drugs.

It will also strengthen your heart, muscles, and bones, increase your energy level, and help you sleep more soundly.

You don't have to be an athlete to exercise. Walking is one of the best exercises you can do. You can walk almost anywhere, and no expensive special equipment is required.

Try to walk outdoors in good weather, as the sunshine and fresh air will add even more benefits to the exercise. Don't think about problems at work or home, and try to find something new during every walk (a plant, a bird, a display in a store window) to keep up your interest even if you always walk the same route. Walking with your spouse or a friend makes the time go by more quickly and pleasantly.

Light weights assist with your toning when used with repetitive motions. There are books and videos available to help you design the best program for you. Start light and work your way up to heavier weights.

You might also enjoy team sports if your company or the local recreation department offers them. There are slow-pitch softball and over-40 basketball and volleyball teams that will allow you to play at an enjoyable level. Or you might prefer more solitary sports like swimming or biking.

To get the greatest benefits and the fewest strains from exercising:

- Consult with your doctor before starting, especially if you have a chronic condition.
- Warm up before each session by stretching slowly.

- Build up your exercise time to at least 20 minutes per session 3 to 5 times per week.
- Don't overdo it. You should be able to feel you have worked your unused muscles but not be in pain or agony.
- Cool down after exercise with more stretching or a less exerting exercise after each session.

While it won't happen overnight, a program of exercise and more healthful living (without those bad habits) will make you look better, perform better at work, feel better, sleep better—and live longer.



SAFETY TOOLBOX TALKS WELLNESS



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NO ONE IS IMMUNE TO STRESS

None of us will go through our lives without feeling the effect of stress—more than once or twice. Stress is a normal part of human experience, a response to the daily happenings in the workplace and elsewhere.

REACTION TO CRITICISM

Stress is often produced by the way we react to events, rather than by the events themselves. For instance, we may have the idea that if someone corrects or criticizes the way we have done something, that means they think we are incompetent or “no good”—or even that we really are. But criticism can actually be valuable feedback that will help us to function in more productive ways.

Of course criticism is a lot easier to take if it's delivered in a supportive way, but cruel or mean-spirited criticism is more of a reflection on the critic than the recipient.

We can't expect approval for every action, because—let's face it—being human, we sometimes are in the wrong or make mistakes. But we can recognize ourselves as basically okay people who are making an effort to get along with others and do a good job. Even in the case of real failures, we can refuse to concentrate on the negative but rather accentuate the positive giving ourselves credit for the things that we do well.

STRESS FROM WORRY

Some of our stress may be caused by worry—over finances, health, or relationships with others. We all have to deal with this kind of stress from time to time. And although we may like the “don't worry; be happy” concept, that's easier said than done. However, there are things we can do to cope with the stress caused by worry.

COPING

First and foremost, try not to keep it all bottled up. Find a person you feel free to confide in and someone who can offer some helpful insights and advice about your particular problem. (These may be the same person or different people.) It's also important to realize that the stress itself can create fresh problems if it so preoccupies your mind that you don't take care of your physical and mental health. Here are some “stressbusters” that may help.

Good nutrition is one of the keystones to good health and a generally low stress level. This means well-balanced meals eaten at regular times and not “bolted down.” Go easy on fats, and don't overdo sugars. Cut down on caffeine beverages such as coffee, tea, and cola drinks, because they imitate and aggravate stress-produced symptoms such as rapid heartbeat, shakiness, and speeding thoughts.

Regular exercise is another key. Under stress, our muscles become tense and ought to be loosened. Various stretches are a great way to start, but don't push tight muscles too far too fast.

The importance of **adequate sleep and rest** can't be overemphasized. You say it's the stress that's keeping you from sleeping well? That may well be a factor, but if you find ways to tempt sleep, you will also find that the stress begins to retreat. Be sure, for example, that your mattress and pillow are comfortable and that you are warm enough (or cool enough, depending on the season). A long bath in lukewarm water is a sleep-inducer many swear by. So is developing a pattern of long, slow, deep breathing.

Although not as basic as food, rest, and exercise, another antidote for stress is meeting new people, making a new friend, finding a new interest or hobby that engages your mind, energy, and time—preferably not competitively.





NUTRITION

Good nutrition is a vital part of good health. Your diet should include all the kinds of food that will properly nourish all parts of your body: your blood, bones, organs, skin, and nervous system.

Although there are many theories about what makes the perfect diet, it is generally agreed that it's a good idea to eat foods from the four basic groups every day. The recommended number of servings for individual foods in the various groups is printed right on the packaging of many products.

- **The meat group** (for proteins, minerals, fats, and vitamin B) includes red meats, fish, poultry, dried peas, beans, lentils, peanut butter, and nuts.
- **The fruit/vegetable group** (for vitamins A and C, minerals, and fiber) includes citrus fruits, melons, tomatoes, strawberries, broccoli, carrots, leafy greens, winter squashes, potatoes, and yams. It is recommended that one green or yellow vegetable and one citrus fruit or juice be included in your daily selections from this group.
- **The bread/cereal group** (for carbohydrates, proteins, vitamins, and minerals) includes grains such as wheat, rye, buckwheat, and rice; bread; and cereals such as oats, grits, cornmeal, and pasta.
- **The dairy group** (for phosphorus, calcium, riboflavin, proteins, and vitamin A) includes milk, yogurt, cheese, and ice cream.

In addition, drink at least four or five cups of other fluids daily—many experts recommend as many as eight 8-ounce glasses of water in addition to any other fluids.

Similarly, you need the proper amounts of various vitamins and minerals. The RDA, or recommended daily allowance, which appears on the packages of vitamins and of many food products is a guideline to the proper amount. There are also many elements found in food or food supplements that have no RDA but that one diet guru or another swears by.

Another part of proper nutrition is knowing what not to eat or drink. Too much saturated fat, for example, can contribute to clogged arteries; excessive alcohol intake can severely damage the liver. Large amounts of caffeine affects some people's nerves, gives some headaches, and is suspected of having a bad effect on the heart. If you have allergies—to dairy products or wheat, for example—then you don't choose those items from the food groups. But if you don't drink milk, you must make sure to get calcium from some other source.

Both the ads and the news seem to be announcing another must-eat (or must-not-eat) every day. So it's a good idea to consult with your doctor about a proper diet to fit your physical condition and lifestyle.



SAFETY TOOLBOX TALKS



SAFETY TOOLBOX TALKS WORKPLACE VIOLENCE



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WORKPLACE VIOLENCE

It's a sad fact that violence in the workplace has become a serious issue for all kinds of businesses. Homicide has become the second leading cause of death on the job, after motor vehicle accidents. For women, workplace homicide is the leading cause of workplace death.

Employees and employers can prevent situations that can result in violence by recognizing the circumstances and people most likely to pose a danger and by being alert to personal safety precautions.

CAUSES OF WORKPLACE VIOLENCE

Anger and frustration are normal feelings, but when people lose control of their feelings, the results can be deadly. As we know from the news, workplace violence can have work-related or personal causes. Sometimes job stress can make people desperate to get even for:

- Loss of a job or fear of losing a job
- A warning or reprimand from a supervisor
- Not receiving a raise or promotion
- Acts or words considered unfair or hostile
- Tension with co-workers or supervisors that are not resolved

Don't ignore signs of violence in others such as vowing revenge, intimidating others, talking about weapons, holding grudges, blaming others for problems, and having angry outbursts.

Sometimes personal problems can spill over into the workplace. An abusive partner or one unable to accept the breakup of a romance or marriage may track an employee to work and trigger a physical attack. If there is a grudge or romantic obsession, the employee may be stalked or threatened at work. Alcohol or drug abuse can make a person who is upset become violent.

REDUCING TENSION

One of the most important ways to avoid violence is to know how to respond if you are faced with an attacker or someone who frightens you. If a co-worker or outsider confronts you, you should not argue, respond with a threat, or do anything else to increase the person's anger. Remain calm.

If the person remains angry or if the situation gets worse, get help. Members of your department should decide on a warning signal for this purpose. Scream to alert if you have to. Do anything you can to avoid going somewhere with the attacker.

Co-workers should report any violence no matter who is involved. Don't protect an attacker you know; it will leave the opportunity for future violence or implicate you in a crime.

PREVENTING VIOLENCE

Be responsible for your own safety by taking sensible, everyday precautions to prevent violence in your workplace.

- Cooperate with security guards, and know how to contact them (extension numbers, silent alarms, etc.).
- Pay attention to the emergency training your employer offers. Be familiar with ways to exit the building.
- Take any personal or work-related threatening or violent behavior seriously and report it. Don't wait for things to get out of hand.
- Alert security to strangers or anyone who should not be in the workplace, such as a former employee. If there is a particular person you do not want let in to see you at work, tell your supervisor.
- Let someone know when you are working overtime, and try not to work alone.
- Leave the workplace with other co-workers.















