

Personal Protective Equipment: A Guide for Supervisors

HIGHLIGHTS:

- Key elements of an effective PPE program
- Assessing hazards with a Job Safety Analysis (JSA)
- Proper PPE selection
- Training
- Inspection, maintenance, and storage

Personal protective equipment (PPE) provides a barrier between the employee and various types of hazards that may cause injury or illness. However, PPE should never be the control method of first choice.

Even though PPE can be implemented quickly and with relatively low initial cost, it is rarely as effective as engineering controls; can be difficult to ensure PPE is worn and used properly; and, can require significant administrative efforts to maintain an effective PPE program. Furthermore, the protective equipment itself can be uncomfortable and may even hinder the employee in performing job tasks.

Safety hazards should be eliminated from the workplace by using engineering controls whenever feasible. The use of PPE is generally the last line of defense after engineering, work practices and administrative controls have been considered. The use of PPE is the least reliable means of controlling hazards. In some situations, however, it may not be possible or feasible to completely eliminate the hazards. In such cases, it is important that appropriate PPE be provided, used and maintained.

Written Policies

Your company should have a written policy governing PPE that includes guidelines for selection, training, use and maintenance of the equipment. The policy may also specify the equipment's limitations and any exceptions concerning its use. PPE use by visitors and outside contractors should also be addressed.

The key elements of an effective PPE program include:

- Performing a hazard assessment to determine potential workplace hazards.
- Implementing engineering controls to eliminate or control as many hazards as possible.
- Identifying and providing affected employees appropriate PPE to protect against hazards.
- Establishing written policies and rules concerning PPE usage and enforcing those policies.
- Monitoring and supervising PPE usage to ensure it is being used and that it is used correctly.
- In cases where certain types of PPE are used, medical evaluation/surveillance may be necessary. PPE that may require medical evaluation/surveillance includes respiratory protection, hearing protection and chemical protective suits.

Hazard Assessment, Elimination and Control

In order to determine what PPE may be necessary, the first step is to determine what hazards exist in your work place. OSHA's general PPE requirements require that employers conduct a hazard assessment of their workplaces to determine what hazards are present that require the use of PPE. To make certain that the hazard assessment is thorough it is helpful to break the assessment down into smaller, more digestible parts. Some find it helpful to use methods such as a job hazard analysis or a job safety analysis (JSA). A JSA can be performed on a particular job, work area or other functional area.

It is appropriate to use PPE when engineering controls are not available or feasible, or if there will be a delay in implementing those controls. There may be cases where certain individuals need PPE to accommodate an injury or a disability, while others performing a similar job do not need PPE.

Note: Remedial devices such as splints and braces are not recognized as PPE and should be fitted only by qualified health professionals.

Initial PPE costs may be minimal, but ongoing costs can be significant. Your Risk Control Representative can provide a computerized cost-effectiveness comparison of PPE vs. engineering controls.

Proper PPE Selection

Actual and potential hazards must be identified before PPE can be selected. If all exposures are not properly determined, individuals may use incorrect or inadequate PPE, possibly resulting in injury or illness. JSAs and Material Safety Data Sheets (MSDS) can provide important information concerning hazards and recommended control measures.

Once the general categories of PPE are determined, equipment manufacturers can provide specific information and specifications. Many forms of PPE require the degree or the specific type of hazard to be determined before proper selection can be made. Examples include foot, eye and respiratory protection.

Some important questions to ask when determining proper PPE selection include:

- What is the hazard?
- Have the types and degrees of the hazards been clearly determined? (e.g., confined spaces may require the use of several different types of PPE)
- What PPE is needed to provide necessary protection?
- Does the equipment meet or exceed the appropriate standards (e.g., ANSI, NIOSH, SEI, etc.)?
- Could the PPE itself create additional hazards? Consider heat stress, limitation of vision/hearing, increased physical burden, etc.
- Are different sizes available to fit all users? PPE that does not properly fit can cause discomfort and may not adequately protect the wearer.
- Might the device hinder or prevent the employee from completing the task? For example, heavy gloves limit manual dexterity.

Training

It is important that the users be thoroughly trained to understand the importance of properly using, wearing, inspecting, cleaning and maintaining their PPE. They should also understand the limitations of the PPE and be given the opportunity to practice using the equipment while on the job.

Initial and periodic follow-up training should include a full explanation of the following:

- The company PPE program, including medical issues
- All of the workplace hazards and present controls
- The design and limitations of PPE
- How to wear, use, clean, maintain and store the equipment
- Company policies concerning cost and replacement of the devices
- What to do and not to do in case of an emergency

If PPE is simply provided to the individuals without any training or instruction, it may be worn improperly and there may be resistance to using it properly. Discussing the benefits of using the equipment and addressing any reluctance of the users will help ensure success of the program.

Supervisors should set a positive example by wearing the appropriate devices whenever devices are required.

Enforcing PPE Use

Individuals are more likely to comply with the PPE program requirements if they understand the reason for its use. If the users are included in the PPE selection process, they are more apt to use it voluntarily.

Program enforcement is necessary to ensure its success. The overall program should include clearly-stated disciplinary policies. It is important that the rules are fair and uniformly enforced. Remember, even the best PPE is worthless if the employee will not use it.

Inspection, Maintenance and Storage

The PPE manufacturer can provide information concerning inspection, maintenance and cleaning of the devices. The type of hazard and duration of exposure can potentially cause equipment degradation and permeation. Chemical reactions, oxidation, ultraviolet light and other such factors can change the original characteristics of the PPE.

Visual inspection, qualitative or quantitative leak testing and other equipment evaluations may be recommended by the manufacturer or required by OSHA. Any equipment that is damaged should be repaired or replaced immediately.

Attention must be given to properly cleaning and storing the devices. OSHA has developed bloodborne pathogen guidelines for safely cleaning, decontaminating and sterilizing items that may contain blood or other potentially infectious body fluids. These items should be treated as if they are known to be contaminated with HIV, Hepatitis B virus and other bloodborne pathogens.

Contact your Risk Control representative for other Liberty Mutual Insurance publications that deal with specific types of PPE.

The following table contains a partial list of potential workplace hazards and corresponding PPE options.

Hazard	Personal Protective Equipment (PPE)
Eyes/Face	
Flying Chips Grinding Chemical Splashes Welding Sparks	Safety Glasses Goggles/Face Shield Goggles/Face Shield Helmet
Respiratory System	
Nuisance Dusts Solvent Vapors Oxygen Deficiencies	Disposable Respirator Cartridge Respirator Self-Contained Breathing Apparatus
Head/Ears	
Falling Objects High Noise Levels Struck Against	Hard Hat Ear Plugs/Muffs Bump Caps
Hands/Arms	
Sharp Objects Hot or Cold Objects Chemicals Electrical Shock Cuts	Leather Gloves Insulated Gloves Rubber/Synthetic Gloves Dielectric Gloves Metal Mesh Gloves
Body/Legs	
Chemical Splashes Cold Work Areas Hot Work Areas/Cuts Falls from Heights	Rubber/Synthetic Aprons Insulated Clothing Aluminized Body Suit/Leg Chaps Harness, Safety Belt, or Lanyard
Feet	
Crushing Injuries Chemicals/Liquids	Safety Shoes/Boots Chemical Resistive/Rubber Boots

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References

ANSI (American National Standards Institute), New York, NY 10018.

OSHA (Occupational Safety and Health Administration), Department of Labor, Washington, DC 20210.

NIOSH (National Institute for Occupational Safety and Health), Cincinnati, OH 45226.

SEI (Safety Equipment Institute), Arlington, VA 22209.

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