PERSONAL PROTECTIVE EQUIPMENT (PPE)

The Basics of Personal Protective Equipment (PPE)

PPE

- ✓ Personal Protective Equipment (PPE) is any safety equipment workers wear to prevent injury in the workplace when engineering and administrative controls fail to eliminate the hazard.
- ✓ Training is required by OSHA regulations contained in 29CFR 1910.132-140.
- ✓ After going through training you will know:
  - When PPE is necessary
  - What PPE is necessary
  - How to properly don, doff, adjust and wear PPE
  - The limitations of PPE
  - The proper care, maintenance, useful life, and disposal of the PPE

What is this training based on?

- ✓Supervisors and/or safety officers from your specific work unit conducted a hazard assessment to determine any and all jobs that would require the use of PPE.

Common Types of PPE

- ✓Head
- ✓Eyes
- ✓Face
- ✓Hands
- ✓Feet
- ✓Body
- ✓Hearing
- ✓Respiratory

IN OUR CONCERN, WE ARE USING SOME PRESONAL PROTECTIVE EQIPMENTS. THEY ARE,

- ✓EYE PPE
- ✓FACE PPE
- ✓HAND PPE
- ✓FEET PPE
- ✓EAR PPE
- ✓RESPIRATORY








Eye PPE

- Needed when an employee work presents the potential of causing eye injury from physical, chemical, or radiation agents.
- Examples of hazards:
  - Machines
  - Lasers
  - Impacts
  - Heat
  - Tools
  - Flying Particles / Dust
  - Electrical work
  - Chemical handling

Types of Eye Protection

- Non-Prescription safety glasses.
- Prescription safety glasses.

- Employees that wear prescription (Rx) lenses can use nonprescription eye protection worn over prescription lenses as long as it does not compromise the fit of either piece of eyewear.

Types of Eye Protection

- Goggles
- Chemical
- Laser
- Welding

- Chemical goggles protect your eyes, eye sockets, and the facial area immediately surrounding the eyes from impact, dust, and splashes.

- Chemical goggles are generally stronger than safety glasses and are used for higher impact, particle and chemical splash protection.

- Laser and Welding goggles protect the eyes from harmful light.

Care and Maintenance

- Check prior to each use for cracks or damage.
- Replace as necessary.
- Store in a clean area.

Face PPE

- Needed when work presents the potential of causing facial injury from physical, chemical, or radiation agents.
- Examples of hazards:
- Contents under pressure
- Splash hazard
- Flying objects / particles
- Electrical work

Types of Face Protection

- Face Shield
- Welding Shield

Donning Face PPE

- Safety goggles or goggles must always be worn under a face shield.
- Once goggles are in place, position face shield over face and secure on brow with
- headband.
- Adjust to fit comfortably.

Hand PPE

- Needed when work presents the potential of causing hand injury from physical, chemical, or radiation agents.
- Examples of hazards:

➢Absorbing harmful substances
➢Sharp objects capable of causing cuts, abrasions, or punctures
➢Chemical or thermal burns
➢Electrical work
➢High/Low temperatures

Types of Hand Protection

- Chemical Resistant - (check MSDS) or compatibility charts .

- Puncture / cut / abrasion Resistant
- Those with a latex allergy can use vinyl, nitrile, etc. based on the compatibility charts or MSDSs.

Types of Hand Protection

- Voltage Rated
- Temperature Resistant
- Infectious Agent / Biohazard Resistant – Latex, Vinyl, Nitrile, etc)

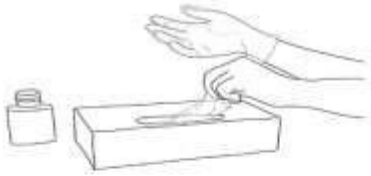
Glove Donning and Doffing

I. HOW TO DON GLOVES:

1. Take out a glove from its original box

2. Touch only a restricted surface of the glove corresponding to the wrist (at the top edge of the cuff)

3. Don the first glove



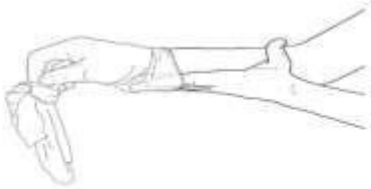
4. Take the second glove with the bare hand and touch only a restricted surface of glove corresponding to the wrist

5. To avoid touching the skin of the forearm with the gloved hand, turn the external surface of the glove to be donned on the folded fingers of the gloved hand, thus permitting to glove the second hand

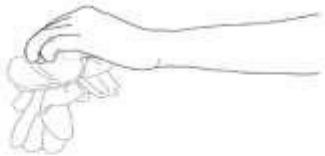
6. Once gloved, hands should not touch anything else that is not defined by indications and conditions for glove use

II. HOW TO REMOVE GLOVES:

1. Pinch one glove at the wrist level to remove it, without touching the skin of the forearm, and peel away from the hand, thus allowing the glove to turn inside out



2. Hold the removed glove in the gloved hand and slide the fingers of the ungloved hand inside between the glove and the wrist. Remove the second glove by rolling it down the hand and fold into the first glove



3. Discard the removed gloves

Care and Maintenance

- Check prior to each use for cuts, cracks or discoloration.
- Replace as necessary.
- Discard single use gloves after use. (Latex, Nitrile, Vinyl, etc)
- Store in a clean area.

Feet PPE

- Needed when work presents hazards that have potential to cause a foot injury:
- Examples of hazards:

➢Falling objects

➢Rolling objects

➢Piercing/cutting injuries

➢Electrical work

➢Chemical exposure

Types of Foot Protection

- Steel toed
- Electrical resistant – (will have the letters "EH" on the tongue)
- Chemical resistant

Care and Maintenance

- Check safety shoes prior to each use for cuts, cracks or other damage. Replace as necessary.
- Keep electrical hazard shoes dry and free from conductive materials. Replace if sole is punctured, cut, or embedded with conductive materials.
- Chemical resistant shoes should be replaced if they are discolored, disfigured, or exhibit any breaks, cracks, or other surface degradations.
- Store all shoes in a clean, dry location.

Hearing PPE

- Needed when the average (over an 8 hour period) noise level of an area reaches 90 decibels.
- Hearing protection must be made available to employees when the average (over an 8 hour period) noise level reaches 85 decibels.
- Examples of high noise areas can be:

➢Mechanical rooms

➢Shops

➢Construction Sites

➢When working with machinery/power tools

Types of Hearing Protection

- Ear Plugs
- Ear Muffs
- Canal Caps

Donning Hearing Plugs

- Follow manufacturers recommendations. The steps below is a commonly used method.

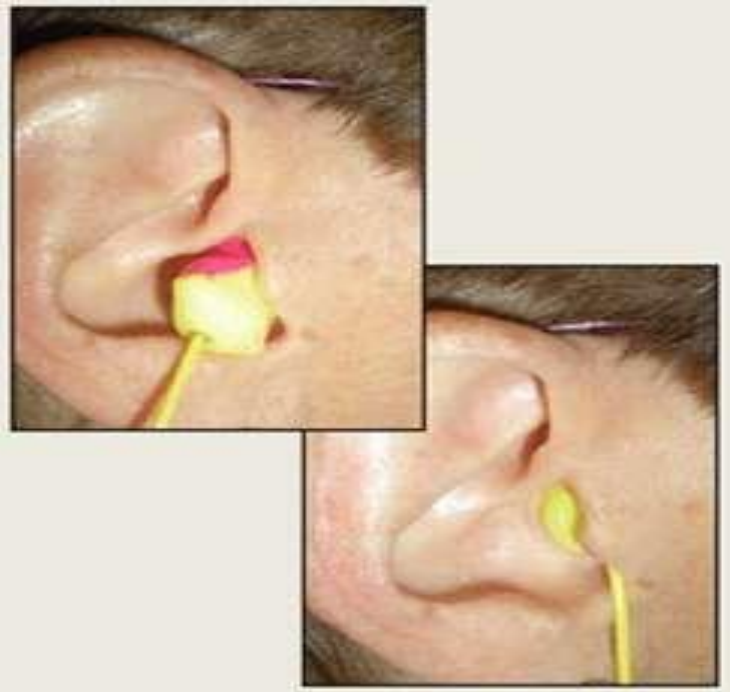
1. Roll the earplug up into a small, thin "snake" with your fingers. You can use one or both hands.

2. Pull the top of your ear up and back with your opposite hand to straighten out your ear canal. The rolled-up earplug should slide right in.

3. Hold the earplug in with your finger. Count to 20 or 30 out loud while waiting for the plug to expand and fill the ear canal. Your voice will sound muffled when the plug has made a good seal.

Ear Plug Fit Check

- **Check the fit** when you're all done. Most of the foam body of the earplug should be within the ear canal. Try cupping your hands tightly over your ears. If sounds are much more muffled with your hands in place, the earplug may not be sealing properly. Take the earplug out and try again.



Comparison of an improper fit of a foam earplug and a proper fit. Although the earplug is in place in both ears, the earplug shown on the left can have significantly lower attenuation (30-40 decibels across most frequencies) when compared to the earplug with a good fit.

Care and Maintenance

- Check hearing protection for damage prior to each use for cuts, cracks or other damage. Replace if damage is found.
- Store all hearing protection in a clean, dry location.
- Replace disposable ear plugs frequently.

Respiratory PPE

- Needed when work presents an inhalation hazard.
- Examples of hazards:
  - Working with uncontained chemicals.
  - Working with highly toxic chemicals.
  - Working in dusty environment.
  - Painting.
  - Welding.

Types of Respiratory Protection

- Dust Mask
- ½ mask
- Full Mask

- Powered Air Purifying respirator (PAPR)
- Supplied Airline Respirator
- Self Contained Breathing Apparatus (SCBA)

PPE Cleaning and Care

- PPE must be kept clean and sanitary. Clean PPE with mild soap and water . Some PPE may require special cleaning, in these cases use the manufacturer's recommendations.

- If PPE is contaminated and cannot be decontaminated safely, it may need disposed of in a special manner to protect other employees from exposure to the hazard. EHS shall be contacted.

- PPE shall be stored in such a way that it will not become contaminated such as plastic bags, lockers, closet, drawers.

PPE Maintenance and Repair

- Do not use PPE if it is damaged and in need of repair.
- It is the responsibility of the employee to make their supervisor aware as soon as PPE becomes damaged so that new PPE can be obtained.
- Do not attempt to repair PPE.

Summary of Work Unit PPE

- Supervisor, safety officer, faculty member, etc. should now hand out and/or review a summary of the PPE required for your particular work unit.

ANY QUESTIONS???..

THANK YOU