

# PPE



**P**ersonal  
**P**rotective  
**E**quipment



# PPE - Personal Protective Equipment

- n Your last line of defense!
- n PPE is NOT a substitute for good engineering or administrative controls!





# Supervisor Responsibilities

- n Provide PPE to employees
- n Ensure employees are trained
- n Ensure program is being followed
- n Evaluate hazards
- n Notify management when workplace changes are made
- n Replace defective equipment



# Employee Responsibility

- n Wear equipment as required
- n Attend training
- n Care for equipment
- n Inform management of defective equipment and other problems related to the program

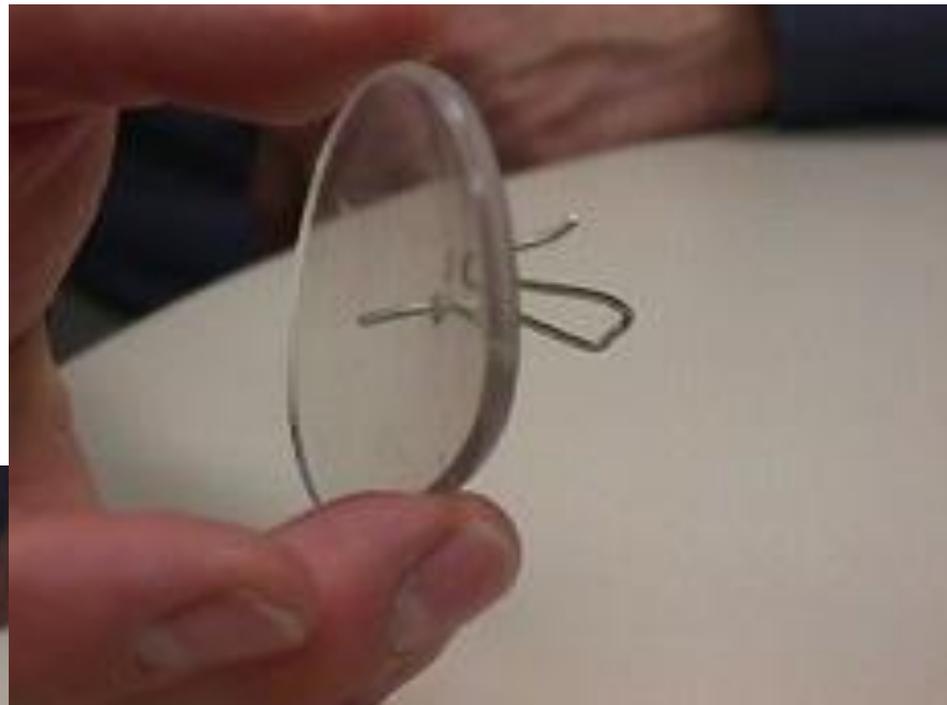
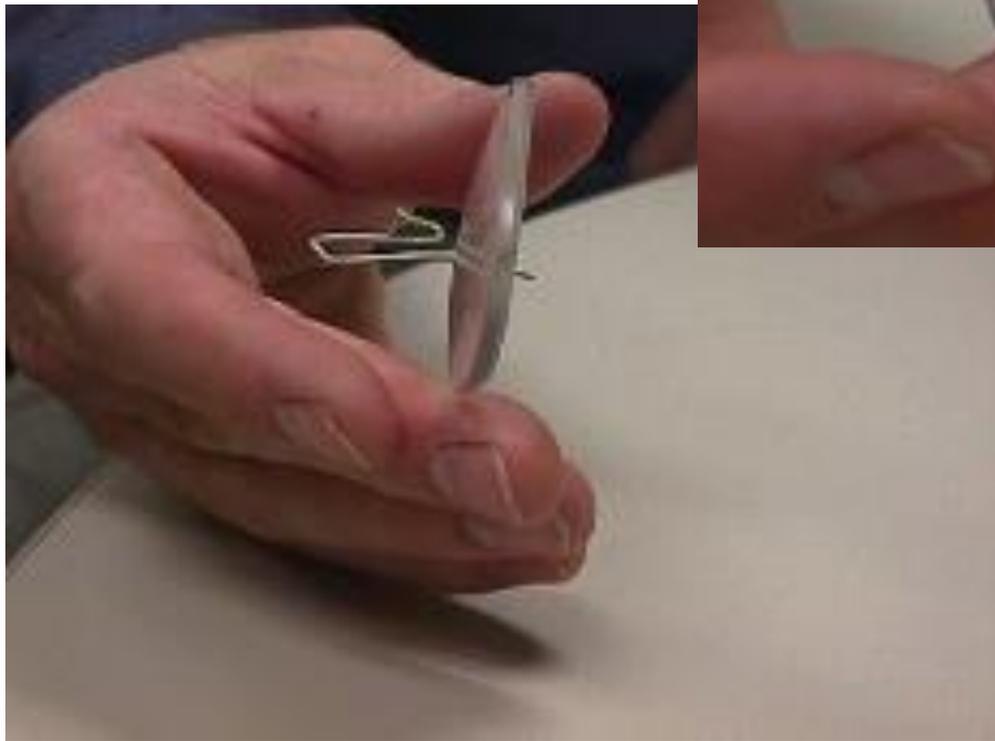
# Eye/Face Protection

## n Eye Protection

- Glasses
  - side shields
  - Z-87
- Goggles
  - dust, chemicals
- Face shield
  - splash hazards
- Eyewash stations



Actual penetration of  
stainless steel clip into  
an eyeglass lense



**WHAT IF?**



**This Pipefitter Escaped Serious Facial  
Injury By Wearing His  
Personal Protective Equipment**

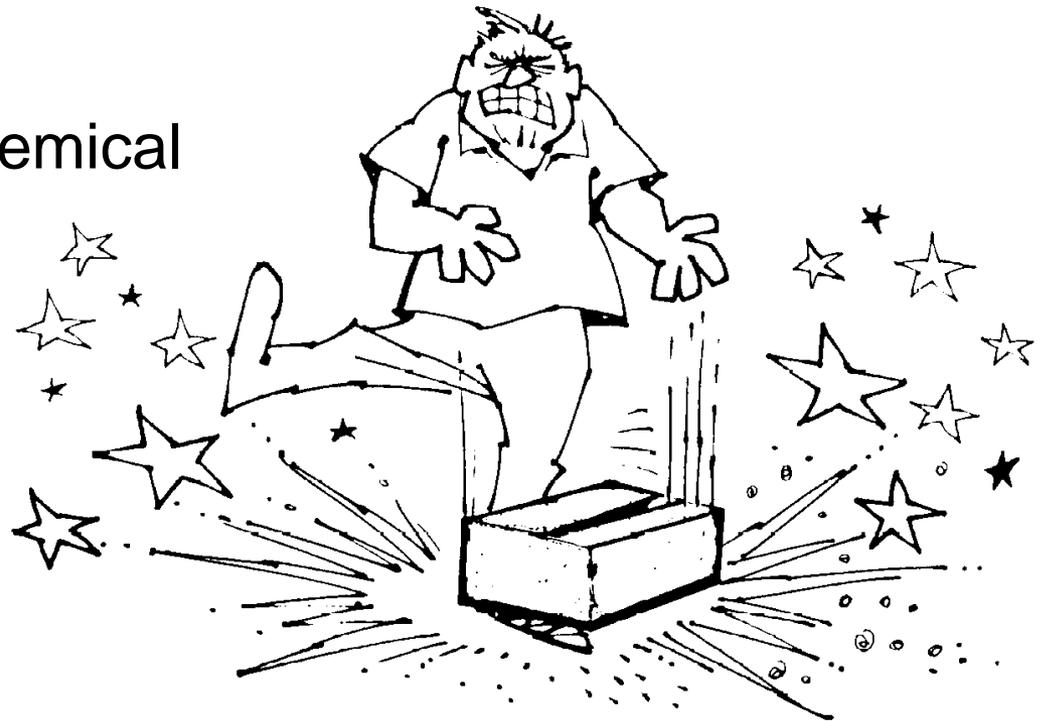


# Safety Foot Wear



n Required when crushing injuries to feet are probable or when harmful chemicals could contact the feet.

- Steel Toe
- Rubber or Chemical





# Hearing Protection

- n Use when hearing protection is deemed necessary by management
- n Types of protection:
  - Plugs
  - Muffs
    - Regular
    - Custom-fit



# Hand Protection

- n Gloves provided are required to be worn when working in the washbay
- n Water temperatures can reach 200+ degrees
- n Precaution must be taken to avoid severe burns.
  - NEVER spray any body part to clean; this includes: gloves, boots, clothing etc.
  - NEVER reach into the water sink without gloves; ensure gloves are higher on the arm than the depth of the water
  - NEVER horseplay with hot water hoses and wands.

# Respirator Types

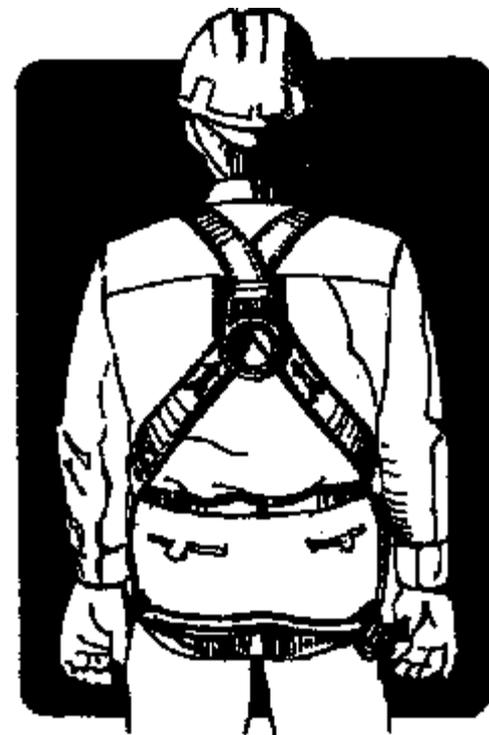
- n Escape
  - 1 use or 1 year
- n Filtering Facepiece
  - $\frac{1}{4}$
  - $\frac{1}{2}$
  - full-face
- n Supplied Air
  - SCBA



# Fall Protection

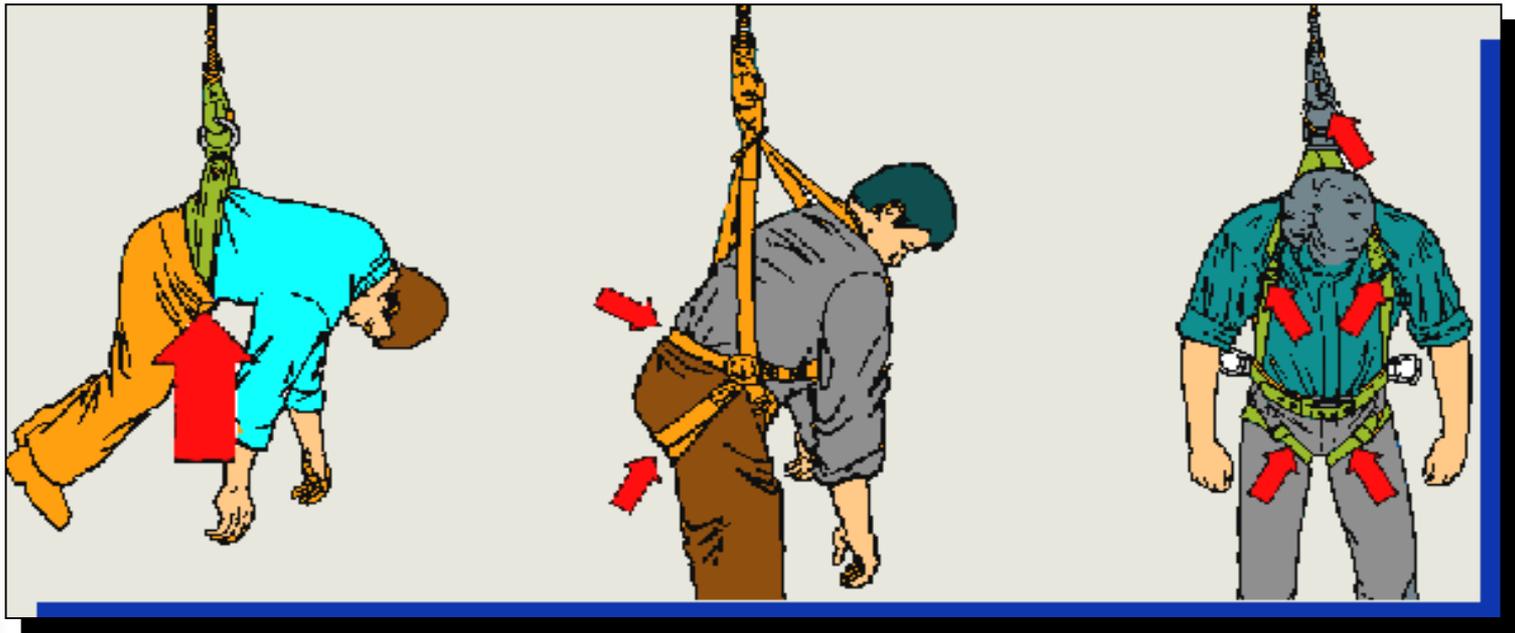


Fall Arrest  
Fall Restraint  
Barriers  
Rails



# Fall Arrest Equipment

## Why Waist Belts Are Not Safe



If you fall, the high force of the fall is concentrated at your waist rather than the 6 points of a full body harness.

# What this presentation covers

- The costs of slip, trip, and fall events
- Definitions
- Causes of slips and trips
- Factors increasing the risk of slips and trips:
  - Work environment
  - Human factors

*Note: These “Slips, Trips, and Falls” modules mainly cover falls caused by slips and trips, i.e., falls at the same level. Falls from elevation will be covered further in other modules, coming soon.*



# Slips, Trips, and Falls Are Costly

Slips and trips can happen in any part of the workplace, inside or outdoors. Slips and trips often result in falls and more serious outcomes, including disabling injuries and even death. The costs to both worker and employer can be great.

## To Worker:



- pain
- lost wages
- temporary or permanent disability
- reduced quality of life
- depression

## To Employer:



- loss in productivity and business
- increased industrial insurance premiums
- costs associated with training replacement worker

# Slip, Trip, and Fall Incidents Occur Frequently

According to the U. S. Department of Labor, slips, trips, and falls make up the majority of general industry accidents.

n 15 percent of all accidental deaths (≈12,000/year), second leading cause behind motor vehicles

n one of the most frequent types of reported injuries – about 25% of reported claims per fiscal year

n over 17% of all disabling work injuries are the result of falls



**MANY OF THESE COULD  
HAVE BEEN PREVENTED**

# Injuries from Slips, Trips, and Falls

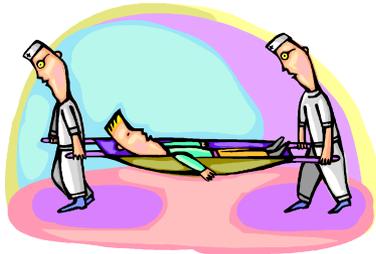
Common types of injuries:

Sprains, strains

Bruises, contusions

Fractures

Abrasions, lacerations



Commonly affected body parts:

- Knee, Ankle, Foot
- Wrist, Elbow
- Back
- Shoulder
- Hip
- Head

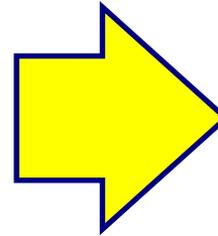
# Definitions

## Slip

When there is too little friction or traction between your feet (footwear) and the walking or working surface, and you lose your balance.

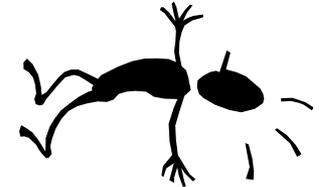


Friction: The resistance encountered when an object (foot) is moved in contact with another (ground). Friction is necessary in order to walk without slipping.



## Fall

Occurs when you are too far off your center of balance.



## Trip

When your foot (or lower leg) hits an object and your upper body continues moving, throwing you off balance.



or

When you step down unexpectedly to a lower surface (**Misstep**) and lose your balance, e.g., stepping off a curb.



# Definitions

Two types of Falls:

- Fall-at-the-same-level

When you fall to the surface you are walking or standing on, or fall into or against objects at or above the surface.



- Fall-to-lower-level

When you fall to a level below the one on which you are walking, working, or standing.



For example:

- Step or stairs
- Ladder
- Platform
- Loading dock
- Equipment
- Etc.

# Causes of Slips

Some common causes of slips include the following:

- “wet” contamination/spills on smooth floors or surfaces: water, fluids, mud, grease, oil, food, etc.
- “dry” contamination making surfaces slippery: dusts, powders, granules, wood, lint, plastic wrapping, etc.



Water on floor of PVC pipe manufacturing plant



Wood dust and debris on shop floor

# Causes of Slips

- sloped walking surfaces
- loose, unanchored rugs or mats
- loose floorboards or tiles that can shift
- shoes with wet, muddy, greasy, or oily soles



Sloping driveway into the lower level of a garage, which had no safe designated pedestrian walkways

# Human Factors Increasing the Risk of Slips And Trips

Inattentive walking, distractions (e.g., using cell phone, talking and not watching where you're going, etc.)

n Taking shortcuts; not using walkways or designated, cleared pathways

n Being in a hurry, rushing around



# Human Factors Increasing the Risk of Slips And Trips



Messy work space



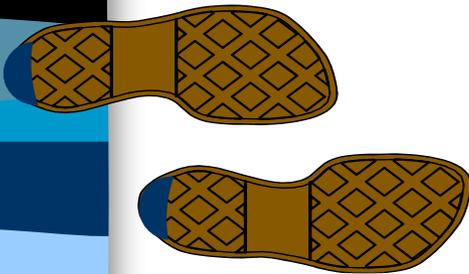
Water leakage from ice machines not mopped up; no wet floor warning signs

- n Poor housekeeping (allowing clutter to accumulate, not maintaining clean dry floors, etc.)
- n Using improper cleaning methods (e.g., incorrectly using wax or polish; or trying to clean up grease spill with water)
- n Not using signage when slip or trip hazards exist

# Human Factors Increasing the Risk of Slips And Trips

## Footwear

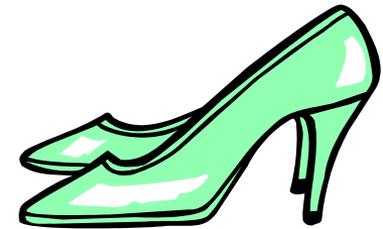
- Wearing improper footwear not suitable for the environment  
(Reduced traction)



Taps on heels



Leather or smooth-surfaced soles



High heels

*Thank you for taking the time to learn  
about safety and health and how to  
prevent future injuries and illnesses.*

