



# Personal Protective Equipment (PPE)

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September 2024

# Housekeeping



**Muster Point**



# Presenter & Introductions



**Safety begins with me!**



Why am I here?

**You are the KEY to SAFETY!**



# Training Objectives

- Describe the hierarchy of controls as it relates to personal protective equipment.
- Identify types of personal protective equipment utilized in General Industry.
- Understand personal protective equipment training requirements.
- Understand the responsibilities of the employer regarding personal protective equipment.
- Understand the responsibilities of the employee regarding personal protective equipment.

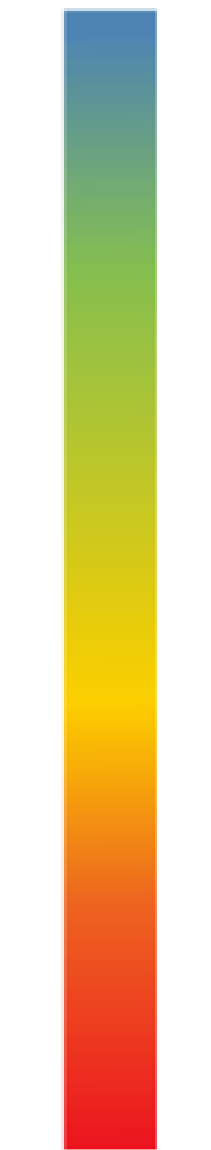


# Responsibilities

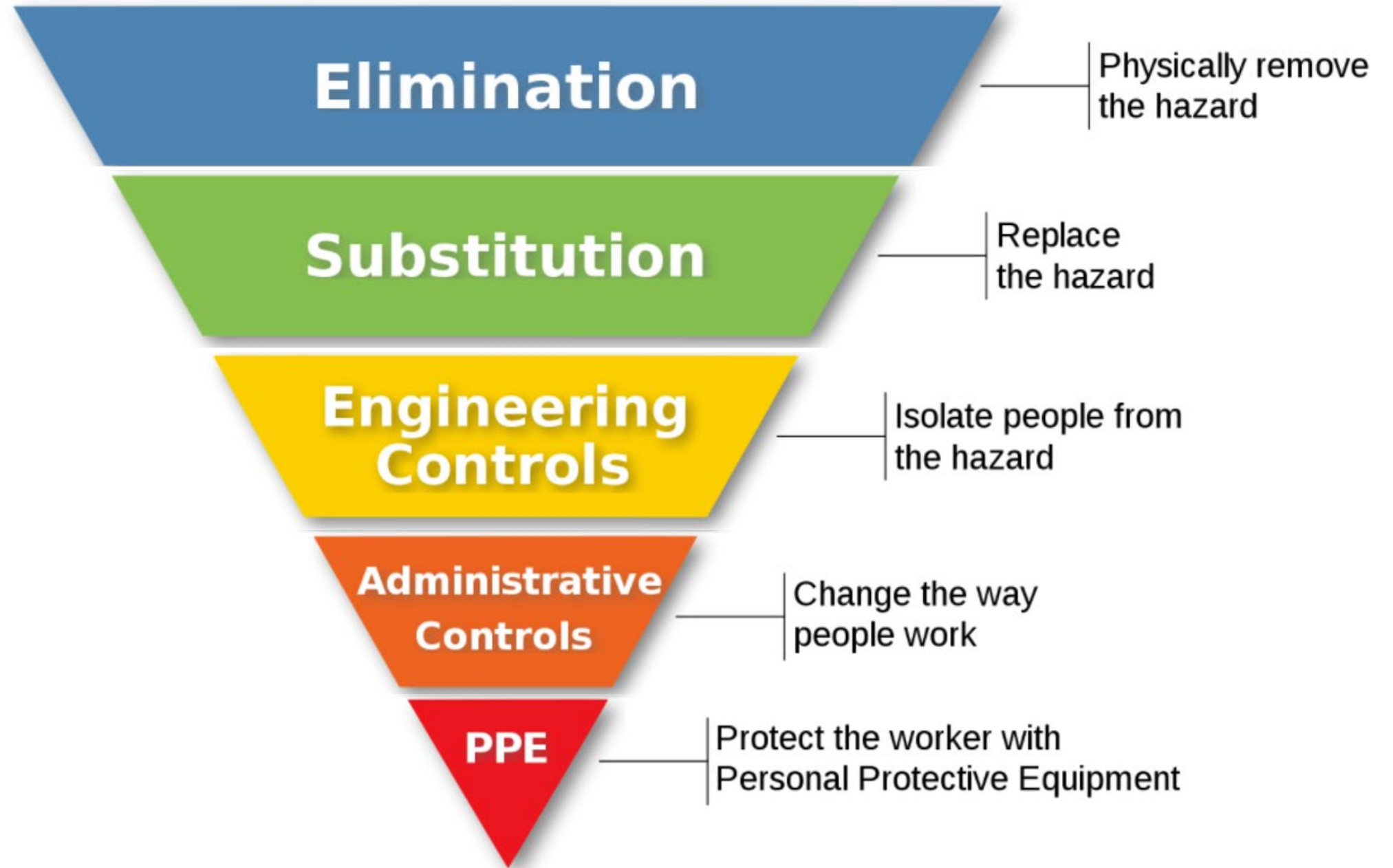


# Hierarchy of Controls

Most effective



Least effective



# Personal Protective Equipment (PPE)

After all the engineering and administrative controls have been exhausted, PPE is left to be the last line of defense against injuries. Choosing the correct Personal Protection Equipment (PPE) and wearing it properly can go a long way towards preventing injury to yourself and to others.







# Types of PPE: Head Protection

Frequent causes of head injuries include:

- Falling objects from above striking on the head;
- Bump head against fixed objects, such as exposed pipes or beams; or
- Accidental head contact with electrical hazards.



# Types of PPE: Head Protection

## CLASS G (General)

- Protect against impact, penetration
- Low-voltage electrical protection (proof-tested to 2,200 volts)

## CLASS E (Electrical)

- Designed for electrical/utility work
- Protect against falling objects, impact
- Electrical protection against high-voltage (proof-tested to 20,000 volts)

## CLASS C (Conductive)

- Designed for comfort; offers limited protection
- Protects heads that may bump against fixed objects
- Does not protect against falling objects or electrical hazards



# Types of PPE: Head Protection

Type I: provides protection from objects fall directly on top of the helmet, but not from objects that strike the side, front, or back of the head.

Type II: provides protection from strikes to the top of the head and also provides protection from blows to the sides, front, and back of the head. More suitable for workers who are not always in a standing position

The background of the slide is a collection of various hard hats in different colors including white, orange, yellow, blue, and pink, arranged in rows. A dark horizontal bar at the top contains the title text.

# Types of PPE: Head Protection

Frequent causes of head injuries:

- Falling objects from above striking on the head;

- Bump head against fixed objects, such as exposed pipes or beams; or

- Accidental head contact with electrical hazards.



# Hard Hat Impact Test - Video



A pair of safety glasses with orange-tinted lenses and a black frame is resting on a white, textured work glove. The background is a blurred image of a person wearing a white protective suit and a respirator mask, suggesting a hazardous work environment.

# Types of PPE: Eye and Face Protection

- Safety Glasses
- Safety Goggles
- Face Shield
- Welding Face Shield

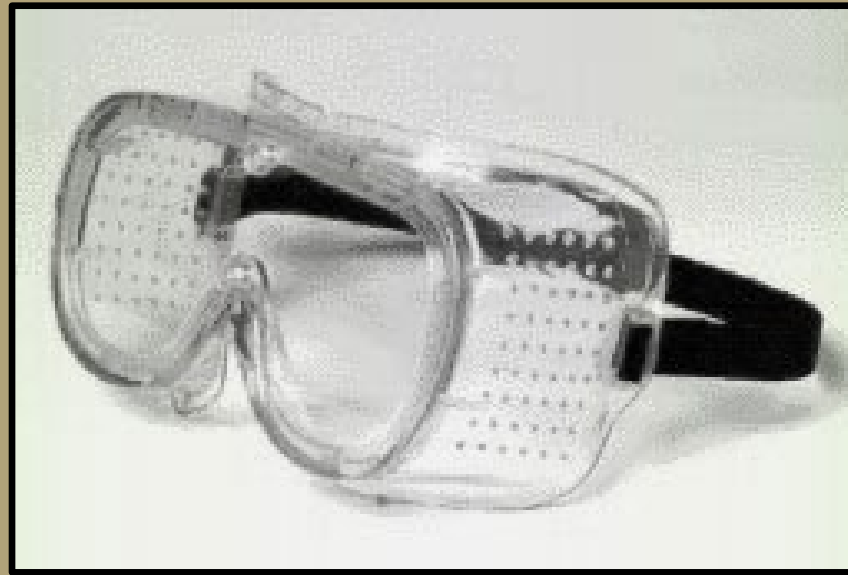
# Types of PPE: Safety Glasses

Employees who use prescription glasses while performing operations with potential eye hazards must use eye protection that:

- Incorporates the prescription in its design, or
- Can be used over your prescription glasses without interfering with the proper positioning of the prescription glasses or goggles.



# Types of PPE: Safety Goggles



## ***Direct-ventilated***

- Resist direct passage of large particles into the goggle
- Prevents fogging by allowing air circulation



## ***Indirect-ventilated***

- Prevents fogging by allowing air circulation
- Protects against liquid or chemical splash entry



## ***Non-ventilated***

- Does not allow the passage of air into the goggle
- Prevents splash entry
- May fog and require frequent lens cleaning



# Types of PPE: Face Shields

Protect face from nuisance dusts and potential splashes or sprays of hazardous liquids

- Shields do **not** protect from impact hazards unless so rated
- Shields are for face protection, **not** eye protection.

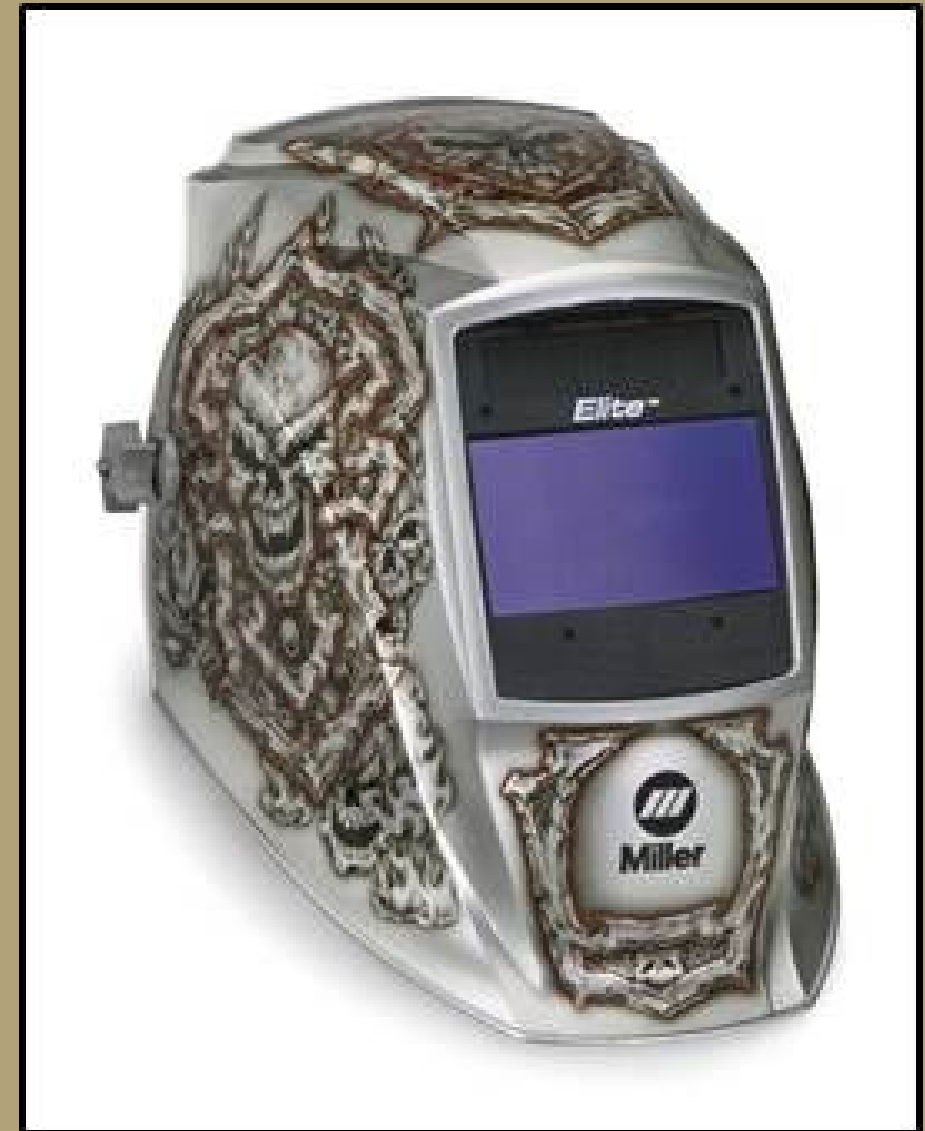


# Types of PPE: Welding Shields

Protect eyes and face from flying sparks, metal spatter, and slag chips.

Protect eyes from burns caused by:

- Infrared light
- Intense radiant light



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# Safety Glasses vs. Non-Safety Glasses - Video



# Types of PPE: Respiratory Protection

Air-Purifying Respirators (APR) remove contaminants from the air.

- Particulate respirators
- Chemical cartridge/ gas mask respirator
- Powered Air-Purifying Respirator (PAPR)

Powered Air-Purifying Respirators (PAPR) are atmosphere-supplying respirators, which provide the wearer with clean, breathable air.

- Self-Contained Breathing Apparatus (SCBA)
- Supplied-Air Respirator (SAR)

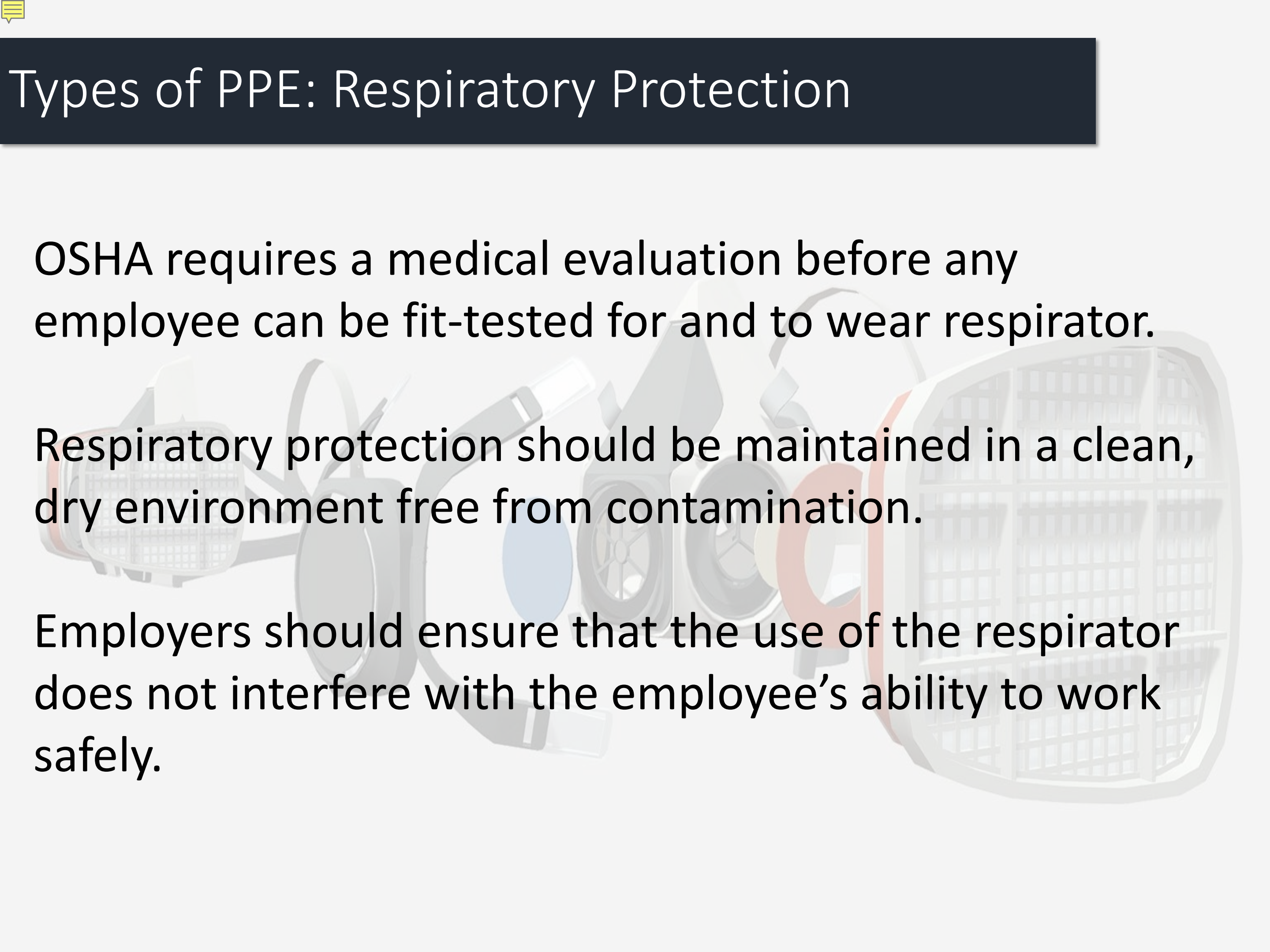


# Types of PPE: Respiratory Protection

OSHA requires a medical evaluation before any employee can be fit-tested for and to wear respirator.

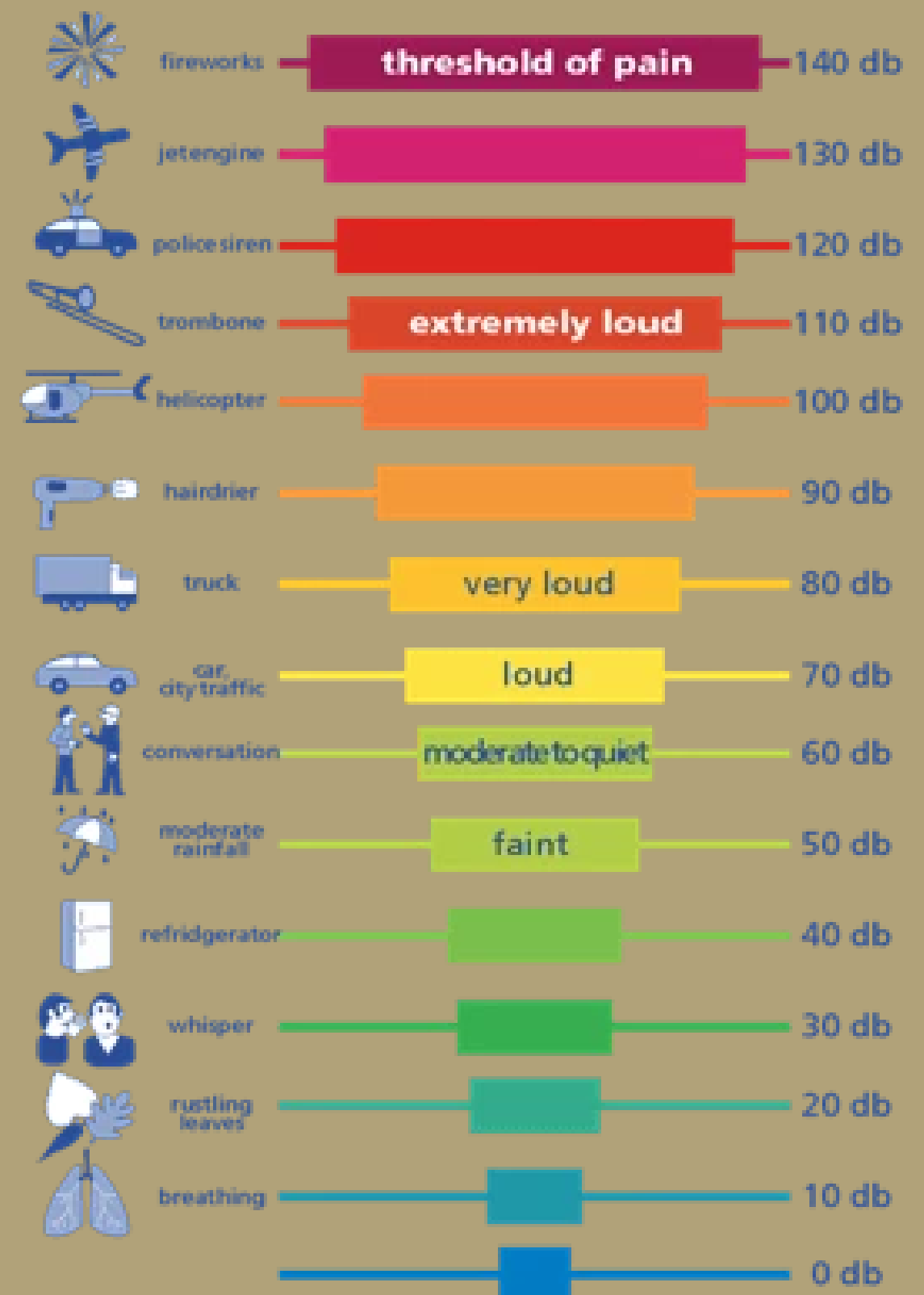
Respiratory protection should be maintained in a clean, dry environment free from contamination.

Employers should ensure that the use of the respirator does not interfere with the employee's ability to work safely.



# Types of PPE: Hearing Protection

- Exposure to noise levels over 85 dB can cause hearing loss
- Hearing protection required at 90 dB
- Implement effective Hearing Conservation Program



# Types of PPE: Hearing Protection

<b>Permissible Noise Exposure</b> 29 CFR 1910.95(b)(1)	
Duration per Day (hours)	Sound Level (dBA)
8	90
6	92
4	95
3	97
2	100
1	105
1/2	110
1/4	115

**Impact noise should not exceed 140 dB**

# Types of PPE: Hearing Protection



Disposabile foam plugs

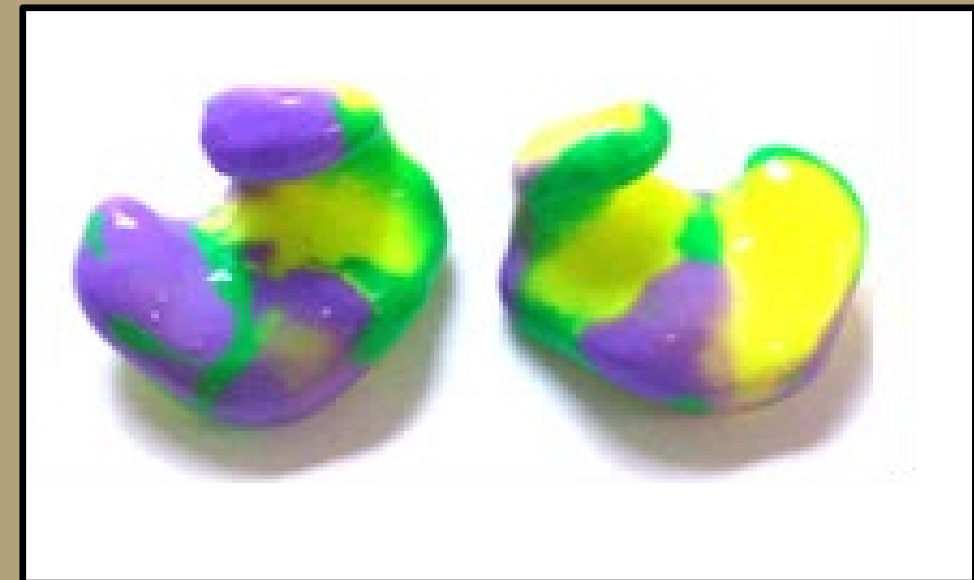


Earmuffs



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Noise-Canceling Ear Plugs



Molded Ear Plugs





# Types of PPE: Hand Protection

Potential hazards for hands are:

- Skin absorption of hazardous substances
- Lacerations or severe cuts
- Punctures
- Chemical burns
- Thermal burns
- Extreme temperatures

# Types of PPE: Hand Protection



Anti-vibration



Chemical-resistant



Leather Palm



Permeation-resistant



Heat-resistant



Cut-resistant



# Types of PPE: Foot and Leg Protection

## Causes of foot injuries:

- Falling or rolling of heavy objects
- Crushing or penetrating materials
- Sharp objects that can penetrate the sole
- Exposure to molten metal
- Working on, or around, hot, wet, or slippery surfaces
- Working when electrical hazards are present



# Types of PPE: Foot and Leg Protection

Conditions requiring foot protection include:

- Impacts
- Compressions
- Cuts/punctures
- Chemicals
- Temperatures



# Types of PPE: Foot and Leg Protection

Examples of foot and leg protection are:

- Impact-resistant toe and/or instep
  - Steel
  - Composite
- Heat-resistant soles
- Metal shanks

Specialty footwear may be needed, such as:

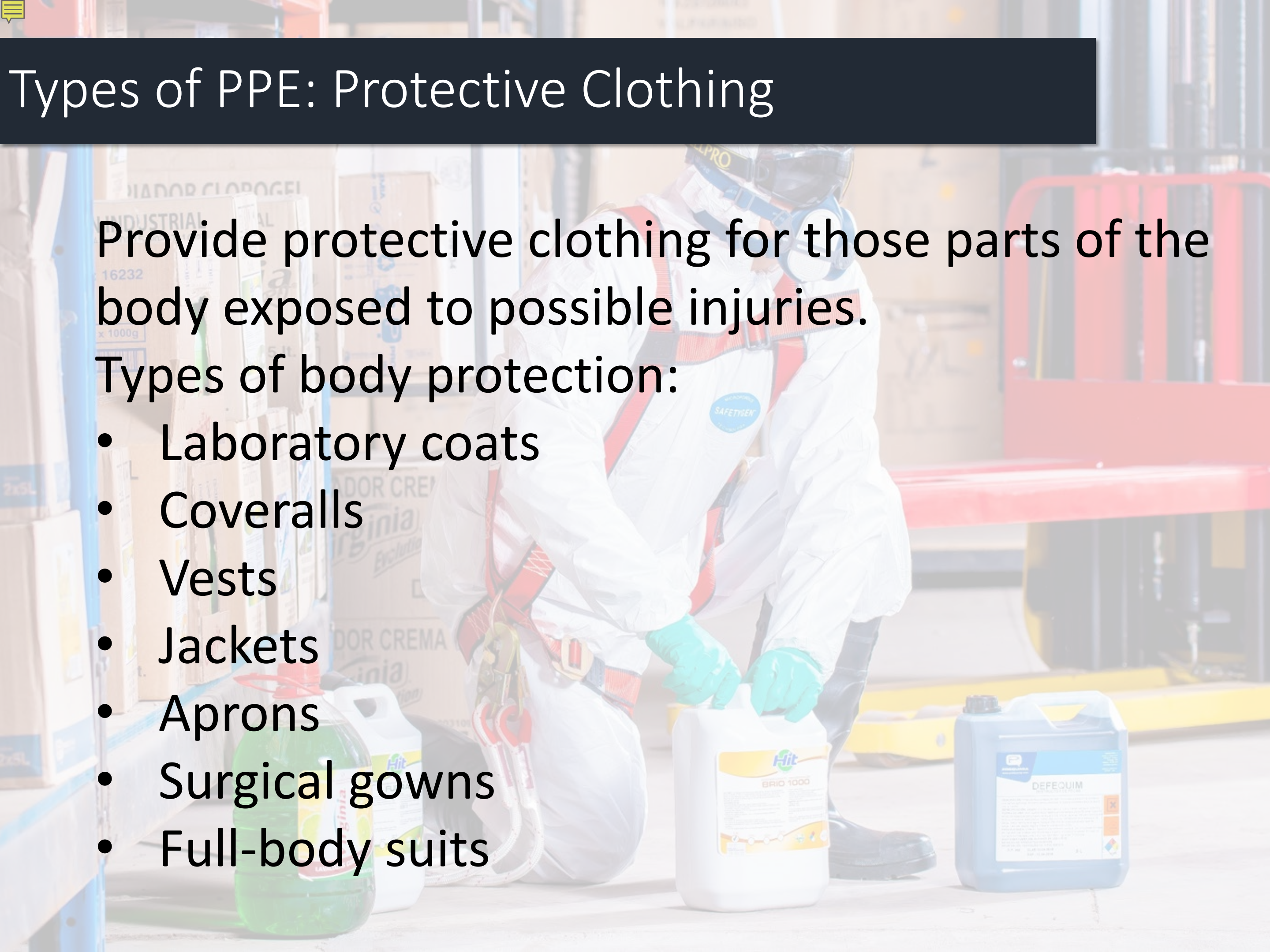
- Metatarsal guards
- Liquid- or chemical-resistant
- Conductive or nonconductive

# Types of PPE: Protective Clothing

Provide protective clothing for those parts of the body exposed to possible injuries.

Types of body protection:

- Laboratory coats
- Coveralls
- Vests
- Jackets
- Aprons
- Surgical gowns
- Full-body suits



One Team

**QUESTIONS?**

A group of diverse business professionals in a huddle, with their hands stacked in the center, symbolizing teamwork and collaboration. The image is a low-angle shot looking up at the group, with their faces and hands filling the frame. The lighting is bright and warm, creating a positive and energetic atmosphere. The text 'QUESTIONS?' is overlaid in the center of the image in a bold, black, sans-serif font.