

2021 OVERVIEW SERIES: PREVENTING HAND, WRIST AND FINGER INJURIES FACT SHEET

LENGTH: 13 MINUTES

PROGRAM SYNOPSIS:

Our hands are exposed to countless workplace hazards that can cause severe injuries: machinery that can pinch or crush, knives and sharp tools that can cut or puncture, corrosive or irritating chemicals, extreme heat or cold and ergonomic-related hazards. Hand, wrist and finger injuries often have severe consequences such as extended time away from work and physical rehabilitation. Fortunately, most hand injuries can be prevented by following safe work practices and wearing appropriate PPE. That's the purpose of this program—to review the basic safety precautions that can be followed and the various protective gloves that can be worn to prevent workplace hand injuries.

Topics include maintaining an awareness of where we place our hands, types of protective gloves, nip points and pinch points, preventing entanglement injuries, using tools safely and preventing ergonomic disorders.

PROGRAM OBJECTIVES:

After watching the program, the participant should be able to explain the following:

- Why we must maintain an awareness of where we are placing our hands at all times;
- What types of protective gloves are available and the hazards they protect against;
- Why gloves must fit properly and comfortably;
- How to inspect and maintain gloves;
- What precautions to follow when working around moving machinery with nip points;
- What measures to take to prevent entanglement injuries;
- How to avoid hand injuries by using tools safely;
- What basic safe work practices to follow to prevent ergonomic disorders.

INSTRUCTIONAL CONTENT:

PREVENTING HAND, WRIST AND FINGER INJURIES OVERVIEW

- There are a variety of workplace hazards to which our hands may be exposed: machinery that can pinch or crush, knives and sharp tools that can cut or puncture, corrosive or irritating chemicals, extreme heat or cold and ergonomic-related hazards.
- Preventing hand injuries begins with maintaining an awareness of where we are placing our hands at all times. To do this, we must avoid distractions while we work, becoming complacent about the hazards around us or rushing to finish your work at a pace faster than normal.
- We must always stay alert for “pinch points.” A pinch point, also called a nip point, is a serious hand hazard created by a moving object that is near a fixed surface or two moving objects that are close together.
- An “in-running” nip point is an even more serious hazard created by two parts that move towards each other or when one part moves inwards past a fixed object. This creates a hazard that can easily grab or pinch a finger, hand or arm while also pulling it deeper into the hazard, leading to severe injuries or death.
- Our hands can be protected from many hazards by wearing gloves, but you must select the proper glove for the job. Cut-resistant gloves, chemical gloves, welding gloves and medical gloves are just a few examples of the types of hand protection available.
- Gloves must be selected to fit properly, be comfortable and provide enough dexterity to perform your work.

- How we work also impacts the safety of our hands. For example, selecting the correct tool for the job can prevent a tool from slipping, a common cause of hand injuries. Positioning your hands clear of the path of cutting and drilling tools keeps them out of harm's way.
- While keyboarding or using digital devices, make a point to keep your hands and wrists in a neutral posture and avoid prolonged repetitive movements or overstretching.
- Take periodic breaks and frequently change positions or the device's orientation to reduce ergonomic strain on your fingers, hands and wrists.

MAINTAINING AWARENESS PREVENTS HAND INJURIES

- Hand, wrist and finger injuries account for one out of every four workplace injuries and more than half a million missed workdays each year.
- Our hands are exposed to countless workplace hazards that can cause severe injuries. Hand injuries often have severe consequences such as extended time away from work and physical rehabilitation.
- Most hand injuries can be prevented by following safe work practices and wearing appropriate PPE.
- Preventing hand injuries begins with maintaining an awareness of where we are placing our hands at all times. To do this, we must avoid distractions while we work, becoming complacent about the hazards around us or rushing to finish our work at a pace faster than normal.
- Distractions, complacency and rushing contribute to many hand injuries each year.
- Before beginning any task, make sure you understand all of the hazards that are present and take the necessary precautions to control them. This may require performing a lockout/tagout if machine guarding is to be removed, donning a specific type of glove or repositioning your work to allow your hands to be clear from the path of a cutting tool.
- When performing your work, concentrate on what you are doing; always be mindful of where you place your hands at all times.
- If you become distracted or are interrupted, stop working until you are able to regain focus on the task at hand.

TYPES OF PROTECTIVE GLOVES

- Protective gloves can protect our hands against various workplace hazards, but it's important to wear the proper glove for the job because there is no one glove that provides effective protection for all tasks.
- Cloth gloves can protect our hands from minor hazards and help prevent scrapes, scratches, blisters and rashes.
- Heavy leather gloves are good for handling materials with sharp edges, burrs, splintering wood and similar objects that present both cutting and puncture hazards.
- Various types of cut-resistant gloves and cut-resistant sleeves are available for handling sharp objects such as sheet metal and also provide protection while cutting with knives.
- When working with chemicals, you can refer to section eight of the substance's Safety Data Sheet to see which type of rubber, vinyl or neoprene glove is required to protect against the chemical's hazards.
- Other types of specialized gloves include aluminized gloves to protect against intense heat, di-electric voltage rated gloves to prevent electric shock and disposable rubber, latex or plastic gloves used to protect against exposure to bloodborne pathogens or other contagions.
- It's important to select the correct glove for the job, inspect gloves before use, change gloves as the type of work changes and understand that no gloves should be worn at all when working near rotating parts or in-running nip points.

PROPER FIT, INSPECTION & MAINTENANCE OF GLOVES

- Protective gloves must fit properly and comfortably to provide adequate protection and avoid becoming a hazard themselves.

- Uncomfortable gloves are frequently removed, leaving hands unprotected. Gloves that are too big make it hard to hold and grip objects and may pose a hazard around moving machinery. Gloves that are too small cause our hands to work harder, increasing fatigue and risk of injury.
- Be sure to inspect your gloves before you put them on each time. Look for rips, holes and other defects in your gloves. If you notice any damage that compromises their protective qualities, replace them.
- Follow the manufacturer's recommendations for cleaning and storing your gloves.
- Select gloves that are long enough to protect against the hazards for your job. For example, the cuff of medical gloves should overlap the wrist material of isolation gowns and chemical gloves should overlap the sleeves of a protective suit.
- Depending on the hazards, the glove's cuffs may need to be sealed for additional protection and cut-resistant sleeves may also need to be worn when handling sheet metal or other large, sharp items.
- Dispose of your gloves and get new ones when they are damaged, contaminated or heavily soiled.

NIP POINTS & PINCH POINTS

- A nip point is any place in which a body part can fit between a moving object and a fixed surface or fit between two moving solid objects. Nip points, also called pinch points, can cause severe, crushing injuries or amputations.
- An "in-running" nip point is an even more serious hazard created by two parts that move towards each other or when one part moves inwards past a fixed object. This creates a hazard that can easily grab or pinch a finger, hand or arm while also pulling it deeper into the hazard, leading to severe injuries or death.
- In-running nip points are often located where belts or chains approach pulleys or gears, material feed points, powered rollers on conveyors or where rotating parts approach stationary components.
- You need to always be on the lookout for pinch points and in-running nip points when working around moving machinery and material handling operations.
- Many traumatic injuries occur when workers reach into a nip point to clear a jam or feed stock into a machine. Never remove, bypass, cheat or reach around any machine guard or other safety device.
- During normal operations, employees are protected from these types of hand hazards by machine guarding or protective light curtains. When guards or safety devices are removed, such as during maintenance operations, a lockout/tagout must be performed.

PREVENTING ENTANGLEMENT INJURIES

- An entanglement injury is an injury that occurs when clothing, hair, jewelry, gloves or similar items become entangled or "caught in" the moving parts of equipment or machinery.
- Measures must be taken to prevent entanglement when working near in-running nip points, rotating shafts and similar hazards.
- Gloves can easily get caught in rotating parts and other machine actions, resulting in your hand being pulled into the moving equipment. For this reason, wearing gloves is not recommended when working near rotating shafts and other equipment in motion.
- The cuffs of long sleeve shirts can also get snagged on moving parts. You can prevent this by wearing a short sleeve shirt when allowed; otherwise, make sure to button the cuffs on long sleeves. Shirts should always remain tucked in when working near machinery.
- Jewelry such as rings and watches can also become entangled in moving machinery and should not be worn.
- Also, be aware that our fingers cannot support our body weight. If we slip, fall or trip and our jewelry catches on a solid object, a severe injury such as a ring finger amputation may occur. This is why many organizations prohibit the wearing of rings in the workplace.
- Finally, long hair should be placed in a hair net, tied back or otherwise secured in a manner that prevents it from becoming entangled in moving parts.

USING TOOLS SAFELY

- Choosing the correct tool for the specific task to be performed can help prevent the tool from slipping, a common cause of hand injuries.
- If possible, select tools that have smooth or padded handles to reduce hand strain. Also, the tool's handle should be long enough to extend fully across the palm to avoid pinching or compressing the nerves in the palm while trying to exert pressure on the tool.
- Make sure you know how to properly use the tool you have chosen and always inspect its condition before use. If you discover any defects, remove the tool from service and get another one.
- When using leverage tools like wrenches or sockets, never apply additional force by using a "cheater bar" or pipe to force a bound part. This is very dangerous and leads to many injuries each year.
- During use, always keep your hands clear of the path of cutting and drilling tools. This requires pre-job planning and careful consideration of how you arrange your tools and materials as well as your body position and posture.
- Never remove or tie back the guard on any power tool. Circular saws, side grinders and similar tools are designed to be used with the protective guard in place.
- Before using a cutting blade, saw or drill, make sure it is designed for the type of material you plan to cut.
- Make sure the blade or drill is sharp. Dull blades lead to far more injuries than sharp ones.
- Finally, always unplug any power tool before servicing or changing blades.

PREVENTING ERGONOMIC DISORDERS

- To prevent carpal tunnel syndrome and other ergonomic disorders, keep your wrists in the neutral position whenever possible.
- Neutral posture for the wrist is 10 to 15 percent extension in any direction with the thumb to the side while typing or with the thumb up while using tools.
- When gripping a tool, use a firm grip that allows you to control the tool, but don't grip it too tight. This puts unnecessary strain on your fingers, hand and wrist.
- Prolonged use of power tools that vibrate can cause damage to the muscles, joints and nerves of the hands, fingers and arms. Avoid using tools with excessive vibration.
- If you must use a tool that vibrates a great deal, take frequent breaks or alternate work tasks to decrease the duration of exposure.
- Also, anti-vibration gloves are available that can reduce the stress on the hands and arms.
- Gloves can also keep your hands warm and dry. Cold, wet hands can make the effects of vibration and other ergonomic hazards even worse.

ANSWERS TO THE REVIEW QUIZ

1. a

2. b

3. b

4. b

5. a

6. a

7. a

8. a

9. b

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REVIEW QUIZ

Name _____ Date _____

The following questions are provided to determine how well you understand the information presented in this program.

1. Hand, wrist and finger injuries account for 1 out of every _____ workplace injuries.
 - a. 4
 - b. 5
 - c. 10

2. When working with chemicals, you can refer to _____ of the substance's Safety Data Sheet to see which type of glove is required.
 - a. Section 4
 - b. Section 8
 - c. Section 12

3. Only tight-fitting gloves should be worn when working near rotating parts or in-running nip points.
 - a. True
 - b. False

4. You should only remove, bypass, cheat or reach around a machine guard or other safety device when the power to a machine has been cut off.
 - a. True
 - b. False

5. Wearing gloves is NOT recommended when working near rotating shafts and other equipment in motion.
 - a. True
 - b. False

6. Shirts should always remain _____ when working near machinery.
 - a. Tucked in
 - b. Untucked

7. Dull blades on saws and other cutting tools lead to far _____ injuries than sharp ones.
 - a. More
 - b. Less

8. Neutral position for the wrist is _____ percent extension in any direction.
 - a. 10 to 15
 - b. 20 to 25
 - c. 40 to 45

9. When gripping a tool, you should hold it as tightly as possible.
 - a. True
 - b. False