



Electrical Transmission & Distribution Partnership

Continuing Education Training

-Cuts and Punctures

Presenter
Guide

-3rd Quarter 2019

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Introduction

The Cuts and Punctures continuing education course is a facilitator led process. The facilitator may choose to augment the material with videos, handouts or other media to enhance the learning experience. The facilitator may want to incorporate visual aids to enhance the presentation.

Using this material combined with practical experience, good presentation skills, and knowledge of adult learning techniques, the facilitator has a greater opportunity to deliver the information effectively.

Microsoft® PowerPoint® combined with good instructional skills and instructor/student dialogue help with information retention and understanding. PowerPoint® presents the information to the attendee and the facilitator summarizes the content of the slides. It is critical to engage and involve the attendee in the process. Ask open-ended questions that will elicit conversation and discussion, but be cautious to maintain control of the discussion.

Conversation and scenarios are good, but can cause the discussion to run long. If it seems like the group is losing focus during the course, the facilitator can direct the group back on track by using comments like “This is a great discussion, but let’s get back to the subject at hand”.

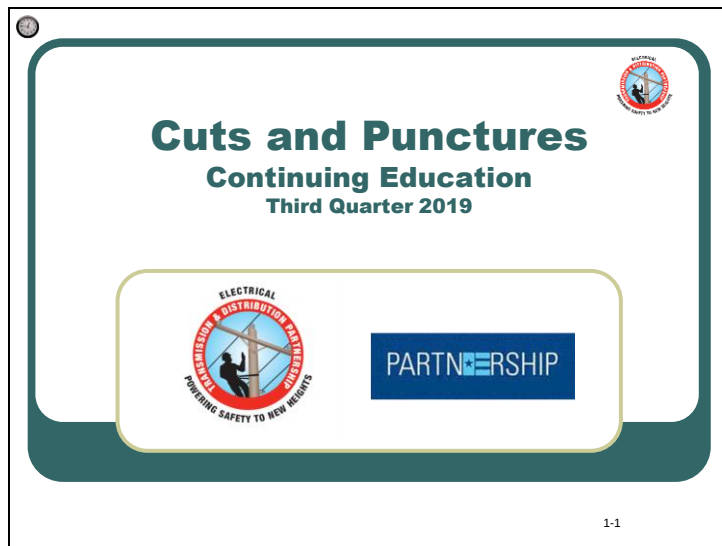
Another tool is the “Parking Lot” which is simply a newsprint chart or dry erase board or note pad where the facilitator records unanswered questions during the meeting and that may require more research. It is vital to capture any ongoing discussions or questions on the “Parking Lot” and follow up when the information is known.

Deliver this continuing education module in the third quarter of 2019. Delivery time is approximately 1 to 1.5 hours in one setting, or divided-up into three, twenty to thirty minute settings. There is text animation on most of the slides. Text will appear by varying levels on mouse clicks. It is critical that the facilitator makes him or herself familiar with the material prior to delivery.

Included in this package are numerous handouts related to Cut and Puncture safety. The presenter can use these documents and relevant examples in conjunction with the PowerPoint® presentation to augment the materials. The handouts may serve as a stand-alone documents.

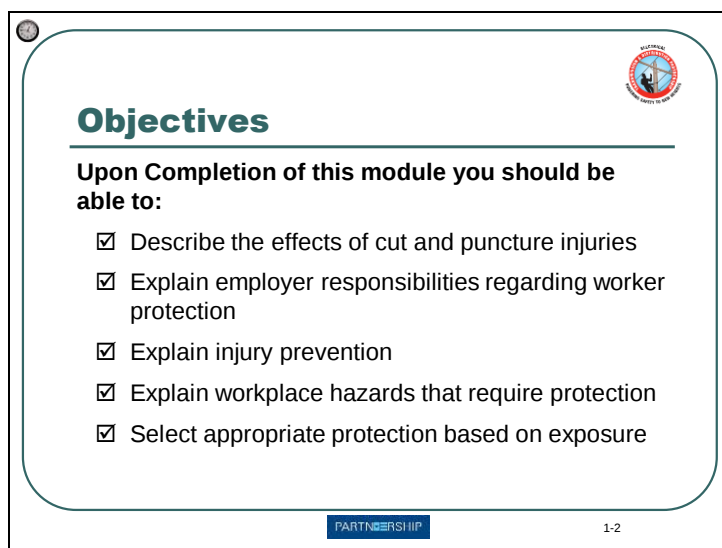
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Slide 1-1



Introduce the module. Introduce the module. Explain that the intent of this presentation is as a continuing education training topic related to certain aspects from the ET&D 10-Hour OSHA training class, the OSHA Partnership Best Practices, and/or incident trending analysis. This training focuses on cuts and puncture hazards and how to prevent and protect against them.

Slide 1-2



Slide has text animation

Explain the module objectives and explain why this topic is important. Say that lacerations can occur anywhere and with any number of pieces of equipment. When it comes to protecting different parts of the body from lacerations, hands are the most important. This is because just over 40 percent of hand injuries are lacerations. That is huge. Imagine the difference removing those injuries would make.

How can we prevent these injuries, by targeting the two main casual factors, which are machinery and hand tools? More than 26% of machinery injuries are lacerations. When it comes to hand tools, more than 55% of injuries are lacerations. In both cases, gloves can help, but innovative cutting tools designed for safety, and proper training and oversite may drastically reduce injuries. The key takeaway is that it is unlikely that large specialized machinery has a big enough market to encourage the development of safer alternatives, so PPE is a company's best friend here. Safer versions of cutting hand tools reduce injuries to one of the most delicate, complex and crucial parts of a worker's body.

Slide 1-3



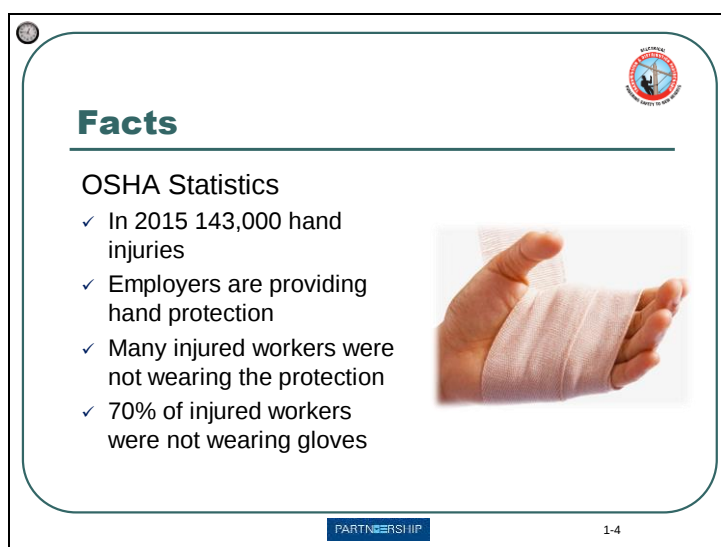
Cuts and Punctures
Continuing Education
Third Quarter 2019

ELECTRICAL DISTRIBUTION PARTNERSHIP
POWERING SAFETY TO NEW HEIGHTS

PARTNERSHIP

Session One 1-3

Slide 1-4



Facts

OSHA Statistics

- ✓ In 2015 143,000 hand injuries
- ✓ Employers are providing hand protection
- ✓ Many injured workers were not wearing the protection
- ✓ 70% of injured workers were not wearing gloves

PARTNERSHIP 1-4

Say that in 2015, there were 143,000 reported workplace hand injuries. The fact is that employers are providing hand protection like gloves available for employees. However, a quick look at OSHA's hand injury stats reveals that workers were not wearing hand protection when injured. Actually over 70% of hand injuries in the United States occur to people not wearing gloves.

Slide has text animation

Slide 1-5

Facts

Overall injuries go down on the weekends

- ✓ However, laceration injuries account for a higher proportion of weekend injuries

Safe at Work ■ Safe at Home

PARTNERSHIP 1-5

Slide has text animation

Another interesting fact is that although overall injuries go down on the weekends, laceration injuries account for a higher proportion of weekend injuries. We can speculate that workers are less likely to wear safety gloves on the weekend, but this is really just speculation.

Slide 1-6

70%
OF HAND INJURIES RESULT FROM NOT WEARING ANY TYPE OF HAND PROTECTION

COST OF AVERAGE PUNCTURE
\$53K

HAND SAFETY STATS

COST OF AVERAGE FRACTURE
\$106K

30%
OF HAND INJURIES CAUSED BY WEARING THE WRONG GLOVE

Handout

Say that hand injury statistics reveal how costly and painful on-the-job injuries can be. These injuries do not just hurt workers; companies suffer costs due to injuries, compounded by the loss of productivity. The question becomes what is the true cost of an injury. Whether you are searching for safety information to present to your company, or if you are looking to learn more about hand injury statistics, check out our selection of surprising safety statistics that reveal the true cost of an injury.

Clearly, the associated costs are linked to injury type. Next, let us break down incidents by injury type using data from The Bureau of Labor Statistics.

- There were 186,830 nonfatal occupational injuries to hands and wrists that involved days away from work
- Wrist injuries led to 15 median days away from work and hand injuries led to 5 median days away from work

Number of injuries to hands and wrists by nature of injury are broken down as follows:

- 30,400 sprains, strains, and tears
- 17,000 fractures
- 12,300 pain and soreness
- 6,790 bruises and contusions

Information courtesy of Ringer Gloves. <https://blog.ringersgloves.com/hand-injury-statistics>

Slide 1-7



Results

- ✓ Average five lost work days
- ✓ Modified duty
- ✓ Income loss
- ✓ Possible loss of lively hood



Hard to do with an injured hand

PARTNERSHIP

1-7

Slide has text animation

Explain that in moderate to serious cases, hand injuries mean modified work duties and, in many situations, a loss in income because of the time off work. In more severe cases the worker could possible lose their lively hood.

Slide 1-8



Statistics

Hand injuries may not be deadly
They can make your daily life harder

- ✓ Injuries to the hand are difficult to heal
- ✓ Because of the way the hand moves



Hard to do with an injured hand

PARTNERSHIP

1-8

Slide has text animation

Explain that while hand injuries may not be the deadliest, they can certainly make your day-to-day work much harder. Injuries to the hand can also be more difficult to heal because of the way the hand moves. Hand movement can cause a wound to reopen.

Slide 1-9



Young Workers

Twice as likely to be hurt

- ✓ 2016 13% of the total workforce is less than 24 years old
- ✓ Effective training can benefit in injury reduction



In 2014, emergency room treatment for workers 15 to 19, was over 2 times greater than for workers 25 and older

PARTNERSHIP

1-9

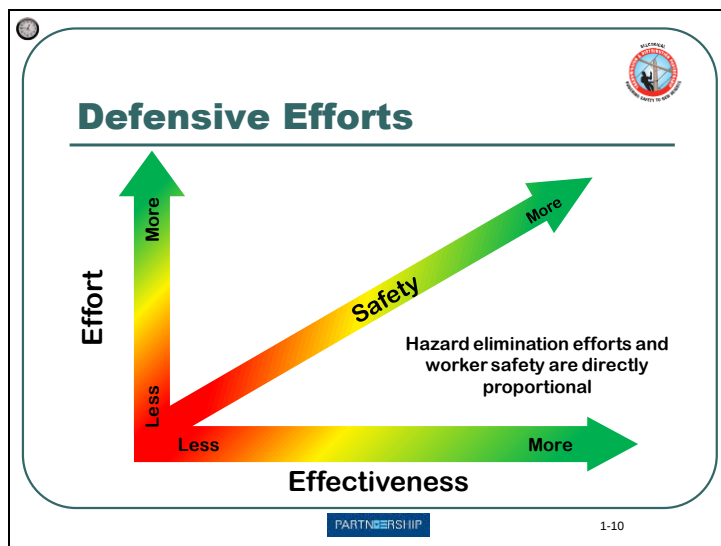
Slide has text animation

State that according to the Center for Disease Control (CDC) young workers have high rates of job-related injury. These injuries are often the result of the many hazards present in the places they typically work, such as sharp knives and slippery floors. Limited or no prior work experience and a lack of safety training also contribute to high injury rates. Middle and high school workers may be at increased risk for injury since they may not have the strength or cognitive ability needed to perform certain job duties.

Fast Stats:

- In 2016, there were about 19.3 million workers under the age of 24. These workers represented 13% of the total workforce.
- In 2015, 403 workers under the age of 24 died from work-related injuries.
- In 2015, there were 24 deaths to workers fewer than 18 years of age.
- In 2014, the rate of work-related injuries treated in emergency departments for workers, ages 15–19, was 2.18 times greater than the rate for workers 25 years of age and older. In the same year, the rate of work-related injuries treated in emergency departments for workers, ages 20–24, was 1.76 times greater than the rate for workers 25 years of age and older.

Slide 1-10



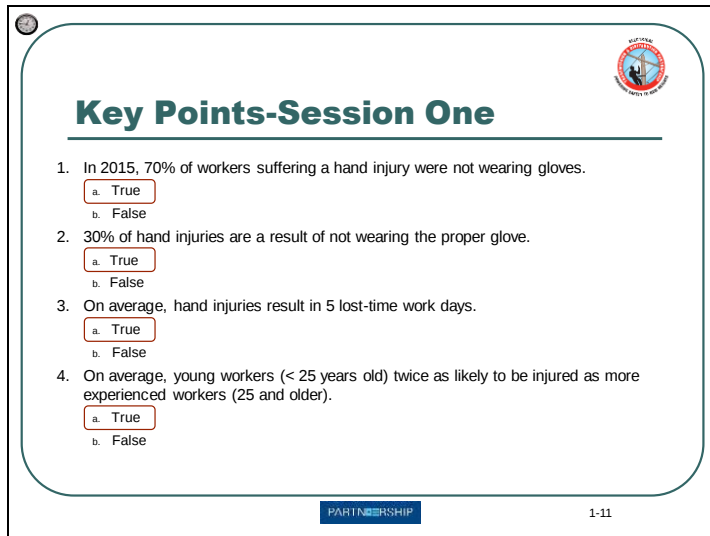
Slide has text & graphic animation

Explain that the greater the effort toward hazard elimination, the greater the benefit to the worker, the company, the public, and their families. Undoubtedly, more effort takes more time, more planning, and more expense. The bottom line is it takes more effort to work safely. However, the gains far outweigh the costs.

End Session One

Key Points Session One

Slide 1-11



Key Points-Session One

1. In 2015, 70% of workers suffering a hand injury were not wearing gloves.
a. True
b. False
2. 30% of hand injuries are a result of not wearing the proper glove.
a. True
b. False
3. On average, hand injuries result in 5 lost-time work days.
a. True
b. False
4. On average, young workers (< 25 years old) twice as likely to be injured as more experienced workers (25 and older).
a. True
b. False

PARTNERSHIP 1-11

Slide has text animation

The presenter should have touched on the following items when explaining session one:

1. In 2015, 70% of workers suffering a hand injury were not wearing gloves.
a. True
b. False
2. 30% of hand injuries are a result of not wearing the proper glove.
a. True
b. False
3. On average, hand injuries result in 5 lost-time workdays.
a. True
b. False
4. On average, young workers (< 25 years old) are twice as likely to be injured as more experienced workers (25 and older).
a. True
b. False

Begin session two

Slide 2-1



Explain that this section will discuss hazard identification, control, and prevention.

Slide 2-2

Slide has text animation

Explain that to help minimize cuts and lacerations, employers should establish safe work processes to identify the hazards. Once identified, the employer must train the worker on the hazards and on the expected behavior. Then the employer develops controls and provides the tools, equipment, and support to enable the worker to accomplish the desired outcome.



Injuries

Possible causes

- ✓ Improper training
- ✓ No established procedures
- ✓ Rushing
- ✓ Shortcuts
- ✓ Improper protection
- ✓ Not using PPE
- ✓ Guards missing or misadjusted



2-3

Slide has text animation

Explain that there are many typical hazards and possible causes of cuts and lacerations in the workplace which may include:

- Improper training
- Lack of established safety procedures
- Employees rushing or taking shortcuts
- Failure to wear proper hand protection
- Missing or improperly adjusted guarding equipment

When looking for high-risk exposures it is easy to overlook some of the more common injuries and mistakenly categorize them as minor in nature. Hand injuries (cuts, lacerations) are often ignored because they are so common. Under certain circumstances, they can be severe and pose a serious concern.



Levels of Defense

Consider the “two-level” approach

- ✓ **Primary** defense (*Plan A*)
 - Eliminate the hazard
- ✓ **Secondary** defenses (*Plan B*)
 - Substitute
 - Engineering controls
 - Administrative controls
 - Personal Protective Equipment



PARTNERSHIP2-4

Slide has text animation

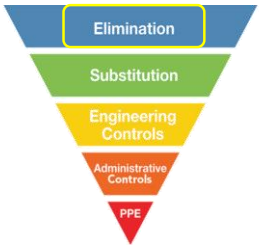
Explain that primary levels of defense include proper planning for each job task, checking material/equipment being handled for rough or sharp edges before handling, and making sure moving parts are guarded. In essence, how is the hazard eliminated? Explain that secondary defenses may be used when elimination is not possible, or in conjunction with primary defenses. Examples of secondary levels of defense are proper use of hand protection and understanding the limitations of the equipment. When using secondary levels of defense the hazard still exists but is being controlled. The worker is protected from the hazard but the hazard still is present. The worker is still at risk, just at a reduced level.

Slide 2-5

Primary Defense-Plan A

Once identified

- ✓ Take steps to eliminate the Hazard(s)



Elimination of the Hazard should always be the **First Consideration**

PARTNERSHIP 2-5

Slide has text animation

Explain that there are conditions in the workplace that can cause a hand injury. The longer we are exposed to a hazard and suffer no negative consequences the less we respect a hazard's ability to do us harm. The best way to avoid hand injury events is to eliminate the hazards that cause these incidents whenever possible. By eliminating the hazards there is no chance that you or anyone else in the work area may be injured by that hazard.

Slide 2-6

Levels of Defense

Primary defenses are always the most effective

- ✓ Not always an option
- ✓ Hazard elimination may not always be practical or feasible



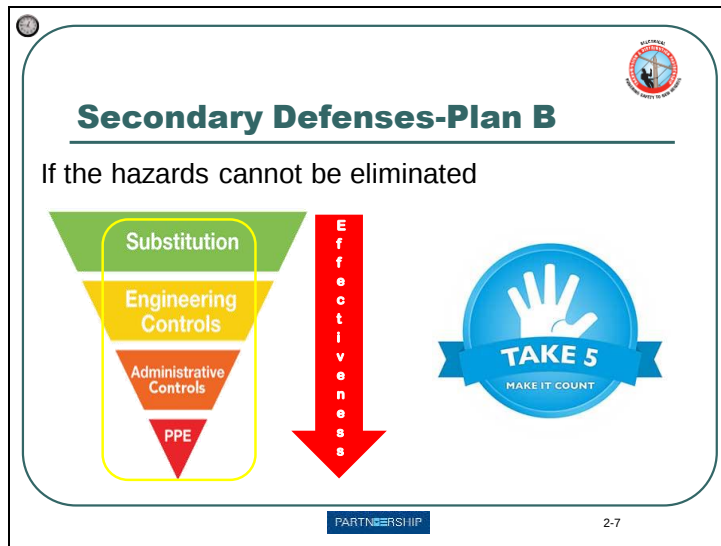
PARTNERSHIP 2-6

Slide has text animation

State that it is obvious that the elimination of any identified hazard is the best option. However, because we must go out into the world to perform our jobs and simply to live our everyday lives, we must accept the fact that we are going to be exposed to certain hazards.

It is a thought process where we identify the hazard then ask ourselves if the hazards exposure can be avoided. If the answer is “No” then we employ secondary levels of defense.

Slide 2-7



Slide has graphic animation

State that if it is not possible to remove the hazards, we must mitigate them. Explain the hierarchy of controls. State that elimination is the most effective. For example, use proper personal protective equipment to avoid exposure. Explain that PPE is the last line of defense. Do not rely just on your PPE to avoid injury. Think about the conditions that can cause hand injuries and how to mitigate them. State that some great topics to be identified and discussed during the pre-task meeting are:

- Pinch points
- Sharp objects
- Extremes in temperature
- Punctures

Explain that some good questions to ask ourselves are:

- ✓ Where is my body located in relation to the hazard?"
- ✓ What is the worst-case scenario of my task?
- ✓ How can I protect myself from the hazard?

When elimination is not possible, engineering controls are the next best choice in protecting yourself from line of fire incidents. Some engineering controls that could protect you from line of fire incidents include physical barriers, guarding around moving parts, and toe boards on elevated work platforms to prevent objects from falling to the area below. Many other possible engineering controls could be used depending on the specific hazard. Total elimination of hazards is not always possible and engineering controls may not be feasible or they can fail.

Slide 2-8

Combination Defenses

- Primary** defense
 - ✓ No collision
 - ✓ No roll-over
- Secondary** defense
 - ✓ Seatbelt
 - ✓ Safe operation



Primary defenses are Plan "A"
Secondary defenses are in place if Plan "A" is not an option or Plan "A" fails!

PARTNERSHIP

2-8

Slide has text animation

State that it is obvious that the elimination of any identified hazard is the best option. However, because we must go out into the world to perform our jobs and simply to live our everyday lives, we must accept the fact that we are going to be exposed to certain hazards. It is a thought process where we identify the hazard then ask ourselves if the hazards exposure can be avoided. If the answer is "No" then we employ secondary levels of defense.

Slide 2-9

Time Allocation

Invest time considering what could go wrong



Remember Mr. Murphy and his Law

2-9

Slide has graphic animation

State than when looking at any job task, plan the task, and then spend ample time asking, "What can go wrong?" Remember Murphy's Quantum Law states that anything that can, could have, or will go wrong, is going to go wrong, and probably all at once. If there are two or more ways to do something, and one of those ways can result in a catastrophe then it will!



Knives

If using a knife or blade during work tasks

- ✓ Wear proper PPE
- ✓ Use the proper tool
- ✓ Keep the work area clear
- ✓ Use a sharp blade
- ✓ Replace dull blades
- ✓ Never leave an exposed blade unattended



PARTNERSHIP

2-10

Slide has text animation

Discuss some common safety tips for preventing cuts:

- Use the right knife for the job and make sure it is sharp. A dull knife requires more pressure to cut, so you are more likely to cut yourself
- Handle knives and other sharp utensils with care. Dry your hands before using a knife
- Use a cutting board or flat surface. Put a damp cloth under cutting boards to prevent it from sliding
- Wear cut-resistant gloves where possible
- Curl your fingers and cut away from your body when trimming or deboning
- If you are interrupted when using a knife, place the knife down, do not continue cutting while distracted
- Don't use knives for other purposes like to open bags, boxes, and/or cans
- When carrying a knife, keep it to your side with the point down and cutting edge away from you
- When passing a knife to someone, put the knife down on a clean work surface and let them pick it up
- Don't try to catch a knife if it falls
- Don't leave knives near the edges of tables
- Store knives securely, blade down, in designated areas

In regards to knife safety at home:

- Do not drop knives into dishwater in the sink
- Hand wash knives immediately after use, or place in a container labeled "knives only" near the sink to ensure that another person washing dishes does not accidentally get cut
- Do not run knives through the dishwasher – it can ruin the blade, loosen rivets, and cause cracks in the handles



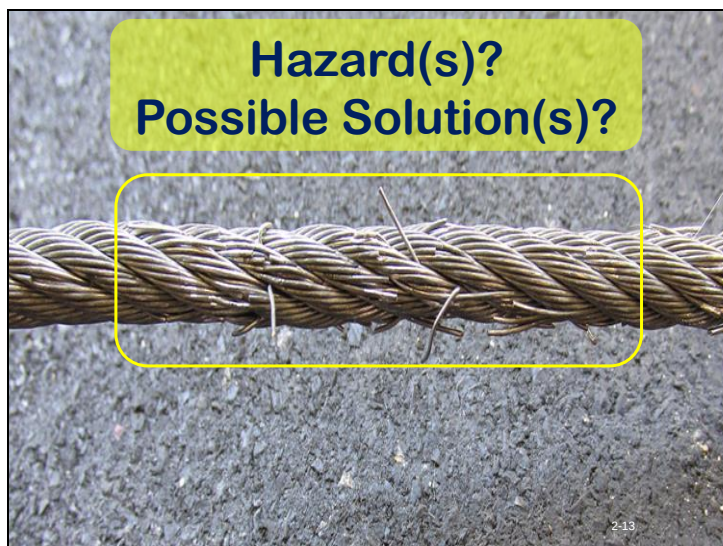
Use this picture as an involvement activity. Explain that the key question to ask in regards to this picture is “Is a knife the correct tool for this job?” The desired responses here are that there may be a stripper for the job, the worker should be wearing PPE regardless of the tool type being used, and if the only alternative is a knife, then proper use of the knife and ensuring the knife is in good condition is paramount. For almost all applications of this type there are manufactured wire stripping tools designed for the job task. Wire strippers are a tool that anyone can use to remove the insulation covering wires in order to plug them into terminals or splice loose wires together. The most important part is to take precaution by wearing protective gear when working with wires connected to an electrical source. Then, all you need to do is fit the strippers snugly around the wire. By removing the casing, you will have a wire you can use to plug into a terminal to operate an electronic device or splice a damaged wire into a new one.

Slide 2-12



Use this slide as an involvement activity. Ask the group if the defenses listed are primary or secondary defenses (controls). Wearing cut resistant gloves is a “PPE” control, keep hands away from sharp edges is an “administrative control”, and use a tool is a “substitution control”. All are secondary controls. A primary defense or control would be to not handle the broken insulator.

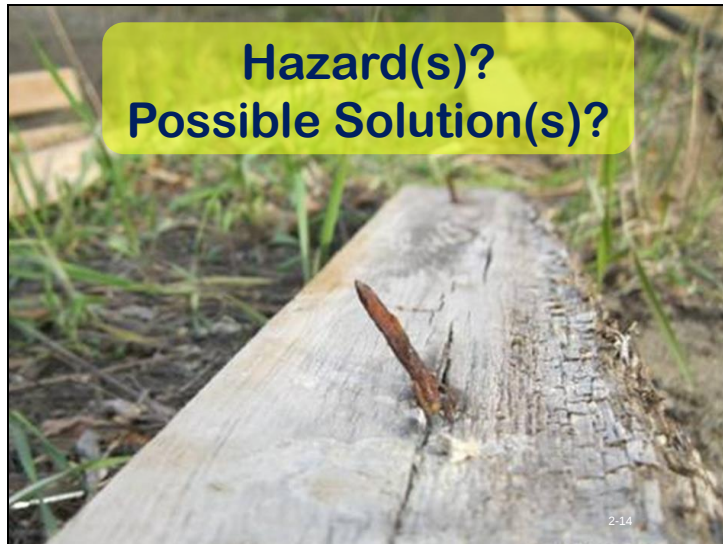
Slide 2-13



Use this slide as an involvement activity. Discuss the fact that wire rope can have broken wires, which create a cut and puncture hazard. State the need to use appropriate protective gloves when handling wire rope. Primary defense is number one. Ask the group if this wire rope sling meets the “out of service” criteria listed in the OSHA requirements?

The desired answer is “yes”. The out-of-service criteria states that a wire rope shall be removed from service if there are ten randomly distributed broken wires in one rope lay or five broken wires in one strand in one lay.

Slide 2-14

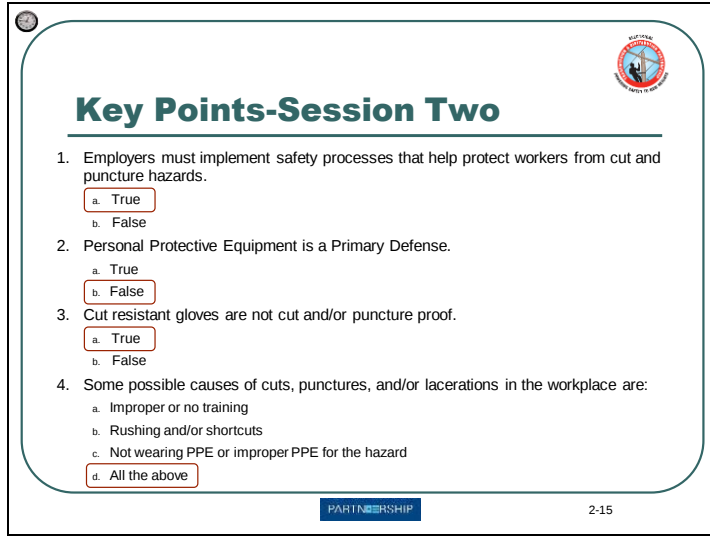


Use this slide as an involvement activity. Explain that the simplest way to render this a non-hazard is to bend the nail over with a hammer. Eliminate the possibility of a puncture altogether. Ask the group if bending the nail over is a primary or secondary defense? The desired answer is “a primary defense” because the hazard is eliminated. However, remind the group that when striking the nail to bend it over, we must wear safety glasses.

End session two

Key point's session two

Slide 2-15



Key Points-Session Two

- Employers must implement safety processes that help protect workers from cut and puncture hazards.
a. True
b. False
- Personal Protective Equipment is a Primary Defense.
a. True
b. False
- Cut resistant gloves are not cut and/or puncture proof.
a. True
b. False
- Some possible causes of cuts, punctures, and/or lacerations in the workplace are:
a. Improper or no training
b. Rushing and/or shortcuts
c. Not wearing PPE or improper PPE for the hazard
d. All the above

PARTNERSHIP 2-15

Slide has text animation

The presenter should have touched on the following items when explaining session two:

- Employers must implement safety processes that help protect workers from cut and puncture hazards.
a. **True**
b. False
- Personal Protective Equipment is a Primary Defense.
a. **True**
b. **False**
- Cut resistant gloves are not cut and/or puncture proof.
a. **True**
b. False
c.
- Some possible causes of cuts, punctures, and/or lacerations in the workplace are:
a. Improper or no training
b. Rushing and/or shortcuts
c. Not wearing PPE or improper PPE for the hazard
d. **All the above**

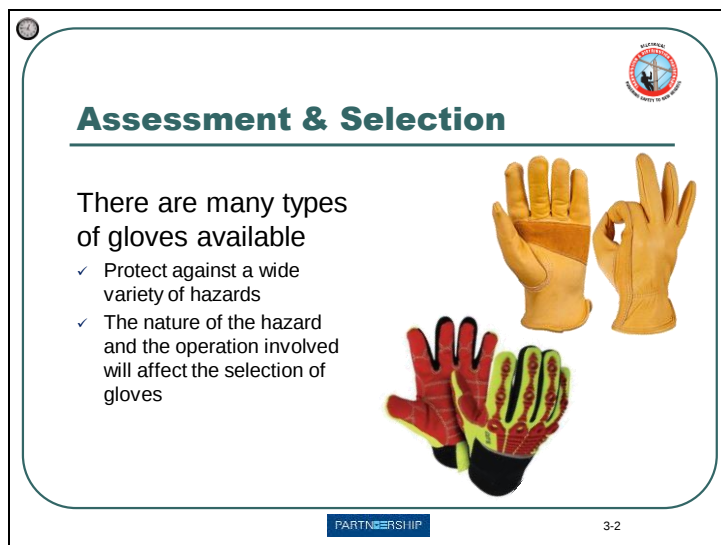
Begin session three

Slide 3-1



State that the following section will discuss selecting the appropriate glove for the hazard. Say that the nature of hazards and the operation to be performed will determine the type of glove to be worn. A variety of potential hand injuries may make selecting the appropriate pair of gloves more difficult than choosing other PPE. Take care to choose gloves designed for the specific hazard. Manufacturers can provide more information relating to your specific needs and requirements.

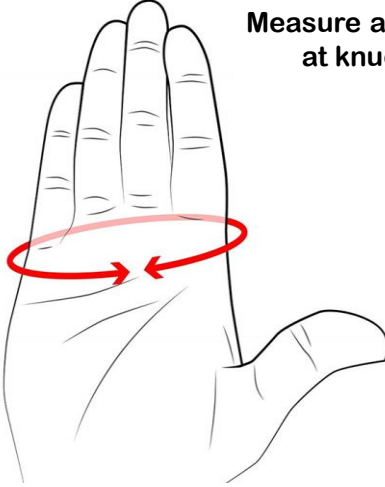
Slide 3-2



The variety of potential occupational hand injuries makes selecting the right pair of gloves challenging. It is essential that employees use gloves specifically designed for the hazards and tasks found in their workplace because gloves designed for one function may not protect against a different function even though they may appear to be an appropriate protective device.

Slide has text animation

Slide 3-3



Measure around dominant hand at knuckles with fingers extended

Male		
Size	Inch	CM
XS	7 ³ / ₈	18.5
S	7 ³ / ₄	19.5
M	8 ¹ / ₈	20.5
L	8 ¹ / ₂	21.5
XL	8 ⁷ / ₈	22.5
2XL	9 ¹ / ₄	23.5
3XL	9 ⁵ / ₈	24.5
4XL	10	25.5

For general use. Check with your glove provider.

Slide has graphic animation

Explain that it is important that gloves fit properly. Gloves that are too large will slide around on the hands and will not provide protection where it is needed. Gloves that are too snug can decrease a worker's dexterity and may become so uncomfortable that workers will remove them. Keep in mind that men and women have different requirements relative to glove sizes and shapes.

Slide 3-4

Myth

Cut-Proof gloves are like unicorns

- ✓ They do not exist

Cut-Resistant gloves help protect against

- ✓ Cuts
- ✓ Abrasions
- ✓ Heat
- ✓ Cold



PARTNERSHIP
3-4

Ask the group: “Where are the cut-proof gloves?” The true and correct answer is that cut proof gloves are the unicorns of the safety world. No, we do not mean that cut-proof gloves are the national animal of Scotland (look it up), we mean they are entirely mythical. There are now 9 levels of cut resistant gloves. In the United States and Canada, we generally follow the ANSI 105 standard.

Slide has text animation

Slide 3-5



Cut Resistant Gloves

Prevent or reduce cuts from knives or sharp edges

- ✓ Cut RESISTANT, not Cut PROOF!
- ✓ Offer little protection from pinch points or punctures
- ✓ Available in cut levels 1-9
- ✓ Level 9 offers best protection





PARTNERSHIP 3-5

Slide has text animation

Explain that cut resistant gloves help prevent or reduce cuts from knives or sharp edges. The key point here is that these gloves are cut RESISTANT, not cut PROOF! Additionally, these gloves offer little to no protection from pinch points or punctures. These gloves are available in cut levels 1 through 9 with level 9 offering the best protection.

Slide 3-6



Puncture Resistant

Many gloves are designed to protect from slashes

- ✓ Few provide high levels of puncture resistance
- ✓ Results depend on the nature of puncture
- ✓ Performance based on point sharpness and force





PARTNERSHIP 3-6

Slide has text animation

Explain that “Puncture Resistance” denotes the relative ability of a material or object to inhibit the intrusion of a foreign object. This is defined by a test method, regulation, or a technical specification. The puncture resistance will depend on the nature of puncture attempt, with the two most important features being point sharpness and force.

Puncture resistance in fabrics can be obtained through very tight woven fabrics, small ceramic plates in fabric coating or tight woven fabrics with a coating of hard crystals. All described methods significantly reduce the softness and flexibility of the fabric. A fine sharp point such as a hypodermic needle will require a high ability to absorb and distribute the force to avoid penetration, but the total forces applied are still limited. Explain that many gloves are designed to protect from slashes caused by sharp objects, but few provide high levels of puncture resistance from objects such as the ragged edges of a piece of metal or glass.

Slide 3-7



Leather Gloves

- Provides protection from rough surfaces
- ✓ Many styles
- ✓ May be thermally insulated for cold conditions
- ✓ Very cost effective
- ✓ Good for most abrasion hazards
- ✓ May **not** provide adequate cut protection





PARTNERSHIP

3-7

Slide has text animation

Explain that leather gloves offer some protection from rough and abrasive surfaces. They are comfortable and usually easy to put on and take off. There are many styles to pick from that have varying gauntlet lengths. They are generally available insulated styles for cold conditions and can be very cost effective and affordable. These gloves are good for most hand hazards but offer little to no cut protection.

Slide 3-8

Chemical Resistant

Prevent direct contact

- ✓ No glove will protect from all chemicals
- ✓ Will break down over time
- ✓ The thicker the glove, the more resistant



PARTNERSHIP 3-8

Slide has text animation

Explain that chemical resistant gloves help to prevent direct contact with chemicals. It is critical to mention that no glove will protect from ALL chemicals and all chemicals will break down the glove material over time. It is important to mention that the thicker the glove, the more resistant it is to chemicals. Workers must reference the SDS sheet to determine what glove is appropriate for a given chemical.

Slide 3-9

Anti-Vibration Gloves

Reduce the effects of excessive vibration

- ✓ Have padding in palms and fingers
- ✓ Help absorb the vibration
- ✓ Reduces but does not eliminate
- ✓ Bulky



PARTNERSHIP 3-9

Slide has text animation

Explain that anti-vibration gloves will reduce the effects of excessive vibration from hand tools and machinery. These gloves have padding in palms and fingers to help absorb the vibration. These gloves reduce but not eliminate the exposure from vibration. These gloves may be too bulky for regular work.

Slide 3-10

Impact Resistant Gloves

Provide added protection from crushing injuries

- ✓ Impact absorbing rubber ribs and padding designed into gloves
- ✓ Usually have a cut resistant rating as well
- ✓ Provides good dexterity and grip
- ✓ Best overall option in a glove

PARTNERSHIP
3-10

Slide has text animation

Explain that impact resistant gloves are impact resistant not impact proof. The key here is to keep your hands out of the line-of-fire. These gloves provide added protection from crushing injuries. They are equipped with impact absorbing rubber ribs and padding designed into gloves. Usually have a cut resistant rating as well. They provide good dexterity and grip. They are generally best overall option in a glove.

Slide 3-11

Insulated Rubber Gloves

Voltage rated

- ✓ Must be electrically tested and stamped
- ✓ Inspected before use
- ✓ Used in conjunction with leather protective covers

PARTNERSHIP
3-11

Slide has text animation

Explain that rubber-insulating gloves protect only from the voltages for which they are rated. The voltage rating for rubber gloves range from 00 to class 4. These gloves must be electrically tested regularly according to local standards and date stamped.

The maximum test interval allowed by OSHA is 6 months. Prior to use, these gloves must be inspected for leaks, holes, tears, cuts, and/or ozone damage. These gloves should be used with leather protective covers to help prevent damage.

Slide 3-12

Class	AC proof test Voltage	Maximum AC Use Voltage
00	2,500	500
0	5,000	1,000
1	10,000	7,500
2	20,000	17,000
3	30,000	26,000
4	40,000	36,000

PARTNERSHIP
3-12

Slide has animation

Explain that according to OSHA, all electrical gloves have a test voltage and safe use voltage requirement. All glove manufacturers incorporate some form of production code or date coding to indicate the date of initial testing. In accordance with OSHA, gloves must be tested before first issue and at least every six months thereafter. Gloves must also be tested upon indication that the insulating value is suspect. In addition, if the insulating equipment has been electrically tested but not issued for service, the insulating equipment may not be placed into service unless it has been electrically tested within the previous 12 months. These testing requirements can sometimes be a little confusing to interpret. Here is an example: You are considering using your electrical gloves for the first time on March 1, 2017, and notice the date stamp is February 27, 2016. Would you need to get the gloves retested before use? Yes, because you have not put the gloves into service within the allowable 12-month window. However, if the date stamp read March 2, 2016, you could use them and would not need to retest them until six months after you put them into service on March 1, 2017.

Length

One inch of rubber past the top of protector for each kV class rating

Class	Distance
1	1 inch
2	2 inches
3	3 inches
4	4 inches



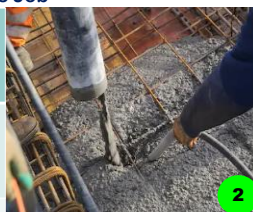
PARTNERSHIP

3-13

Slide has graphic animation

Explain that there is a required amount of rubber cuff that extend past the leather protector. The standard distance is one-inch of rubber for each class rating. For example, class 3 gloves must have 3 inches of rubber extending past the leather protector.

Match the Glove for the Job

	Glove Type	Match	
	Chemical	2	
	Leather	4	
	Anti-Vibration	1	
	Cut Resistant	3	

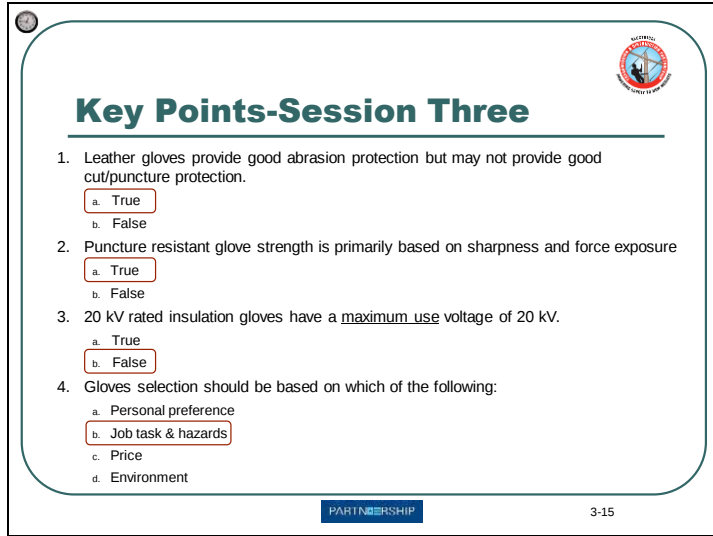
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This is an involvement activity. Begin with picture number 1. Ask the group which glove in the “Glove Type” list would be appropriate for the job task shown in picture 1. The answer is “Anti-Vibration”. Trigger the animation and a number 1 will appear beside the word “Anti-Vibration” in the “Match” column. Progress likewise through the entire series.

End session three

Key point's session three

Slide 3-15



Key Points-Session Three

1. Leather gloves provide good abrasion protection but may not provide good cut/puncture protection.
a. True
b. False
2. Puncture resistant glove strength is primarily based on sharpness and force exposure
a. True
b. False
3. 20 kV rated insulation gloves have a maximum use voltage of 20 kV.
a. True
b. False
4. Gloves selection should be based on which of the following:
a. Personal preference
b. Job task & hazards
c. Price
d. Environment

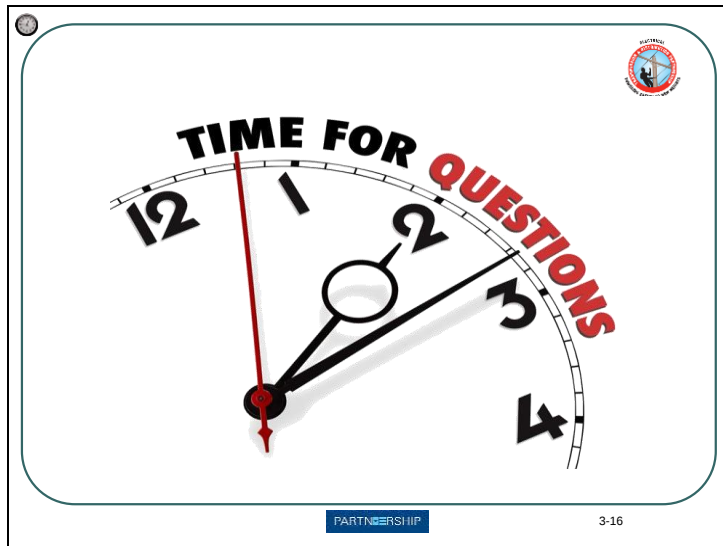
PARTNERSHIP 3-15

Slide has text animation

The presenter should have touched on the following items when explaining session two:

1. Leather gloves provide good abrasion protection but may not provide good cut/puncture protection.
a. True
b. False
2. Puncture resistant glove strength is primarily based on sharpness and force exposure
a. True
b. False
3. 20 kV rated insulation gloves have a maximum use voltage of 20 kV.
a. True
b. False
4. Gloves selection should be based on which of the following:
a. Personal preference
b. Job task & hazards
c. Price
d. Environment

Slide 3-16



THANK YOU!

The "Thank You" graphic appears on
next mouse click

Ask for questions. Once complete thank the attendees and close the session.