

A. Lesson Goal:

By the end of the training session, workers will:

- Know how hands and fingers can be injured on the job
- Know how to prevent hand injuries

B. OSHA Regulation:

29 CFR 1910.37; 29 CFR 1910.138; 29 CFR 1910.211-222 (machine guards)

C. Have Handy:

- Different types of protective gloves used in your workplace
- Barrier creams
- Power tools and machinery, for demonstrating how hands can become injured

D. Background for Instructor:

1. Introduction

We use our hands to perform thousands of useful functions every day—tying shoes, buttoning a shirt, punching a keyboard, lifting objects—and the list could go on and on. Now think how difficult life would be if we didn't have the full use of our hands. The sad fact is that more than half a million people suffer hand injuries each year on the job—injuries that in some cases permanently impair their ability to function normally.

2. Types and Causes of Hand Injuries

There are many types of hand injuries that can occur on the job. These include:

- Lacerations—cuts that can range from minor to severe, damaging skin, nerves, and tendons.
- Punctures—like lacerations, these can be minor (such as a splinter) or major—and all can become infected.
- Amputations—the loss of part or all of a hand.
- Burns—resulting from contact with heat, electricity, or chemicals.
- Fractures—broken bones from being struck by a heavy object or trying to break a fall.
- Dermatitis—skin irritation, itching, or swelling from contact with chemicals.
- Carpal tunnel syndrome—inflamed tendons, resulting from repetitive motions, that affect the nerve and cause weakness, numbness, and pain.

Many hand injuries are caused by the misuse of common workplace items, such as hand tools, power tools, chemicals, flammable materials, and heavy objects. In many instances, the *real* problem is carelessness. For example:

- Catching your hand or fingers at the point of operation of a power tool.
- Using the wrong tool for the job (such as using a screwdriver for a chisel), resulting in a slip that causes a cut or puncture.
- Failure to observe proper electrical safety rules.
- Prolonged contact with chemicals without wearing proper protection.
- Dropping an object on your hand.

3. Protecting the Hands

For preventing many injuries, a strong defense is the right kind of work gloves. Remember that different kinds of gloves are best for different situations. For instance, a

cotton glove is fine for keeping your grip, but would be useless for protecting against chemicals or electricity. Choose the right gloves for the job!

Unfortunately, gloves are not always a good form of protection if you are doing delicate or sensitive work. Sometimes, they can be downright dangerous, such as when using power tools that could catch part of a glove—and your hand—at the point of operation.

Besides gloves, other types of hand protection are effective in certain situations:

- Barrier creams to protect against chemical contact if you can't wear gloves for a particular job
- Long cuffs to prevent hazardous liquids from seeping in under gloves.
- Hand pads to protect against heat, roughness, and splinters
- Finger guards to protect against cuts.

Another way to fight hand injuries is to do hand and wrist exercises. Exercising and strengthening your hands and wrists can help to prevent carpal tunnel syndrome, and can also help to improve your grip.

4. Injury Prevention Tips

Here are some basic safety rules—or “do’s and don’ts”—for preventing hand injuries:

Do:

- Use the right tool for the job.
- Know how to use tools—especially power tools—properly and safely.
- Make sure tools are in good condition.
- Wear the right kind of gloves or other hand protection for the job if doing so is possible and safe.
- Protect your hands when working with hazardous chemicals.
- Make sure gloves are clean and in good condition—no holes or tears.
- Give hands a rest when possible.

Don't:

- Use your hands for feeding material into a saw or other machinery.
- Wear gloves, jewelry, or long sleeves around rotating machinery.
- Use your unprotected hands to sweep up wood chips, metal shavings, glass, or other sharp objects.
- Use strong solvents or chemicals to clean your hands.
- Use machinery under the influence of alcohol or drugs.

5. Conclusion

Even though there is personal protective equipment, such as gloves, to help prevent some hand injuries, and even though there are safety rules to follow, the Number One defense against hand injuries is to stay alert and avoid carelessness or fooling around on the job.

Keep in mind that hands and fingers are irreplaceable. Even a seemingly minor injury can turn serious if it becomes infected. Get medical treatment promptly if you have a hand injury.

E. Examples and Practical Exercises:

- Demonstrate the proper kinds of gloves and other hand protection to use for different types of work.
- Demonstrate how to check that gloves are in good condition.
- Demonstrate (with the power turned off) how hands, fingers, gloves, jewelry, etc. can get caught in power tools.
- Have the group practice hand and wrist exercises.