

# #11576 HAND, WRIST AND FINGER SAFETY

AURORA PICTURES, 1994  
Grade Level: 12-13+  
12 Minutes



## CAPTIONED MEDIA PROGRAM RELATED RESOURCES

- [#9358 PREVENTING FALLS AND OTHER SAFETY TIPS](#)
- [#10014 WORKING SAFELY IN THE OFFICE](#)
- [#11578 SECURITY AWARENESS: AT WORK, TRAVEL, AND HOME](#)
- [#11581 SAFELY ON YOUR FEET](#)
- [#11895 WORKING SAFELY WITH HAND & POWER TOOLS](#)



# **ERI Safety Videos**

*“Videos for Safety Meetings”™*

**9705**

**HAND, WRIST  
& FINGER SAFETY**

**Leader's Guide**

## **HAND, WRIST & FINGER SAFETY**

This easy-to-use Leader's Guide is provided to assist in conducting a successful presentation. Featured are:

**INTRODUCTION:** A brief description of the program and the subject that it addresses.

**PROGRAM OUTLINE:** Summarizes the program content. If the program outline is discussed before the video is presented, the entire program will be more meaningful and successful.

**PREPARING FOR AND CONDUCTING THE PRESENTATION:** These sections will help you set up the training environment, help you relate the program to site-specific incidents, and provide program objectives for focusing your presentation.

**REVIEW QUESTIONS AND ANSWERS:** Questions may be copied and given to participants to document how well they understood the information that was presented. Answers to the review questions are provided separately.

**ATTENDANCE RECORD:** Document the date of your presentation as well as identify the program participants. The attendance record may be copied as needed.

### **INTRODUCTION**

Our hands, wrists and fingers can encounter a variety of on-the-job hazards. Every year thousands of people suffer hand injuries when using machinery, tools and corrosive materials. Many of these injuries require long periods of recuperation and often physical therapy is required. Fortunately, most hand injuries can be avoided.

This video provides the viewer with an understanding of how the hands, wrists and fingers work; how to prevent injuries to the hands; and, the proper use of hand protection and hand tools.

### **PROGRAM OUTLINE**

#### **PHYSIOLOGY OF THE HAND**

- The hand has 27 bones in all that are bound together by muscles, ligaments, tendons and nerves.
- The skin provides the hand with a protective cover and holds the whole system together.
- The nerve system lets us perform tasks by touch alone while the whole system easily adjusts to different positions.

#### **GRIPS**

- The power grip results from wrapping the fingers and thumb around an object. This grip is good for working with heavy objects.
- The power grip spreads an object's weight evenly over the hands, muscles and tendons while allowing the forearm to share the load.
- The precision grip is employed when an object is lifted by bringing the thumb, middle and index fingers together.
- The precision grip is effective for jobs that require accuracy and working close to the job task.

#### **TYPES OF GLOVES**

- Gloves offer protection from a variety of hazards. It is important to pick out the ones that are right for your job.

- Cloth gloves protect from minor hazards that can result in scratches, blisters and rashes.
- Heavy leather gloves are good for working around machinery with rough edges.
- Metal mesh gloves protect against cuts from knives, sharp tools and jagged materials.
- Heat-resistant gloves of aluminized fabric or other materials protect against flames and intense heat.
- Corrosive chemicals can be stopped by rubber, vinyl or neoprene gloves.
- Disposable plastic gloves can protect against bacteria and germs.

#### **OTHER GLOVE CONSIDERATIONS**

- Make sure gloves are long enough to keep hazards off all skin areas.
- Make sure gloves aren't too large for the hands because they can be clumsy or get caught in machinery; gloves that are too small can tire the hands and wear out sooner.
- Wash non-disposable gloves after each use to keep them free of contamination.
- Follow recommended storage procedures.
- Watch for rips and other defects; replace significantly damaged gloves.

#### **SPECIALIZED HAND PROTECTION**

- Barrier creams provide an extra layer of skin protection. Apply directly to clean skin; reapply often.
- Hand pads and guards can be useful in protecting against heat and guarding against splintery or abrasive materials.
- Both fabric and metal finger guards can protect against pinching hazards.

#### **MACHINE GUARDS**

- Machine guards also help protect against hand, wrist and finger injuries.
- Be familiar with the equipment you are using.
- Have guards and shields in place *before* you begin work.
- Adhere to proper operating and maintenance procedures. Don't take short cuts.

#### **ERGONOMIC INJURIES**

- Stressful movements can result in ergonomic injuries, which include strained muscles and tendons.
- They may even cause Carpal Tunnel Syndrome.
- Alternate your work activities to avoid long periods of repetitive motion.
- Vary the motions you make and use both right and left hands; keep tools and materials as close to your body as possible.
- To reduce stress and strain on your wrist, maintain a "neutral" position as much as possible.

- Adjust your work surface to encourage the neutral position.

### **USING TOOLS**

- Be careful when working with tools that have handles that can pinch the hand; they can cause injuries that affect nerves, tendons and blood vessels.
- Avoid handles with sharp edges or grooves.
- Handles should be long enough to extend across the entire palm.
- Power tools have their own ergonomic problems; avoid those with excessive vibration.
- When using vibrating power tools, wear thick, padded gloves.
- Use trigger mechanisms that are activated by more than one finger.

### **SUMMARY**

- It's important to keep hands, wrists and fingers out of harm's way.
- Pay attention; don't allow distractions to get the better of you.
- Always follow proper work procedures and wear the appropriate PPE.
- Use tools and equipment that keep your hands and fingers safe.
- Choose tools that feel comfortable to your hands and fingers.
- Keep wrists in the "neutral" position as much as possible.

## **PREPARE FOR THE SAFETY MEETING OR TRAINING SESSION**

Review each section of this Leader' s Guide as well as the videotape. Here are a few suggestions for using the program:

Make everyone aware of the importance the company places on health and safety and how each person must be an active member of the safety team.

Introduce the videotape program. Play the videotape without interruption. Review the program content by presenting the information in the program outline.

Copy the review questions included in this Leader' s Guide and ask each participant to complete them.

Make an attendance record and have each participant sign the form. Maintain the attendance record and each participant' s test paper as written documentation of the training performed.

### **Here are some suggestions for preparing your videotape equipment and the room or area you use:**

Check the room or area for quietness, adequate ventilation and temperature, lighting and unobstructed access.

Check the seating arrangement and the audiovisual equipment to ensure that all participants will be able to see and hear the videotape program.

Place or secure extension cords to prevent them from becoming a tripping hazard.

## **CONDUCTING THE PRESENTATION**

Begin the meeting by welcoming the participants. Introduce yourself and give each person the opportunity to become acquainted if there are new people joining the training session.

Explain that the primary purpose of the program is to help the viewer understand how the hands work and to prevent injuries to them.

Introduce the videotape program. Play the videotape without interruption. Review the program content by presenting the information in the program outline. Use the review questions to check how well the program participants understood the information.

After watching the videotape program, the viewer will be able to explain the following:

- The physiology of the hands and procedures for preventing injuries to them;
- The proper use of gloves and other hand protection;
- How to safely work with hand tools.

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REVIEW QUESTIONS**

Name \_\_\_\_\_ Date \_\_\_\_\_

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

1. The hand and wrist make up a complex system that contains \_\_\_\_\_ bones.
  - a. 17
  - b. 27
  - c. 47
  - d. 67
  
2. The \_\_\_\_\_ grip is used for lighter tasks that demand accuracy.
  
3. Leather gloves are effective protection against corrosive substances.
  - a. true
  - b. false
  
4. Why is it important to avoid wearing gloves that are too large for the hands?
  - a. hands may get tired
  - b. they may be clumsy
  - c. they can get caught in moving machinery
  - d. both b and c
  
5. Ergonomic injuries are often associated with work activities that require \_\_\_\_\_ motion.
  - a. circular
  - b. intermittent
  - c. repetitive
  - d. pendulant
  
6. The "neutral" position is one in which the wrist is \_\_\_\_\_.
  - a. straight
  - b. slightly bent
  - c. bent at a 45 degree angle
  - d. bent at a 90 degree angle
  
7. Which finger will a well-designed power tool not require to activate the trigger switch?
  - a. middle finger
  - b. index finger
  - c. thumb
  
8. Barrier creams provide good protection against heat and hot surfaces.
  - a. true
  - b. false

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***ANSWERS TO THE REVIEW QUESTIONS***

1. b
2. precision
3. b
4. d
5. c
6. a
7. b
8. b