

# HAZARD ALERT

CPWR  
THE CENTER FOR CONSTRUCTION  
RESEARCH AND TRAINING

# Hand Tools



## What's the Problem?

Using the wrong hand tool, or the right tool the wrong way, can injure the muscles, tendons, or nerves in your hand, wrist, or arm. These types of injuries develop over time.



Early symptoms may include achy, tired hands and wrists that feel better after rest. It is easy to just write these off to a hard day's work – and in some cases that's true.

If these symptoms become more frequent, or cause you to stop working to rest your hand a lot, you may already be injured.

### Types of Injuries

If a hand tool vibrates, causes you to hold your hand or wrist in an awkward position, or requires a lot of grip strength, you can end up with an injury that might even force you to quit construction work. Types of injuries include:

- ▶ **Tendonitis:** difficulty straightening fingers;
- ▶ **Carpal Tunnel Syndrome:** pain, tingling, and numbness in the wrist and hand;
- ▶ **Hand Arm Vibration Syndrome (white finger):** numbness in hands and fingers, a loss of touch and grip, and pain.



Hand Arm Vibration Syndrome

PHOTO COURTESY OF NIOSH

### Find out more about choosing safer hand tools and protecting your hands:

- ▶ **www.ChooseHandSafety.org:** A one-stop source for information on selecting and using hand tools
- ▶ **OSHA Safety and Health Topics:** Hand and Power Tools – [www.osha.gov/SLTC/handpowertools/index.html](http://www.osha.gov/SLTC/handpowertools/index.html)
- ▶ **NIOSH Easy Ergonomics:** A Guide to Selecting Non-Powered Hand Tools – [www.cdc.gov/niosh/docs/2004-164/pdfs/2004-164.pdf](http://www.cdc.gov/niosh/docs/2004-164/pdfs/2004-164.pdf)
- ▶ **CPWR Construction Solutions:** [www.cpwrconstructionsolutions.org](http://www.cpwrconstructionsolutions.org)



## Protect Your Hands!

### 1 Choose a tool that...

- ▶ Is designed for the job
- ▶ Fits your hand size and is comfortable to hold
- ▶ Keeps your wrist straight
- ▶ Has a handle that extends beyond your palm – no sharp edges
- ▶ Requires a minimum of force to use
- ▶ Provides balance – doesn't tip forward or back when held
- ▶ Doesn't exceed the minimum weight required to do the job



### 2 Use the tool safely...

- ▶ Keep your wrist as straight as possible.
- ▶ If the grip is too small, your gloves may help or add a cushion.
- ▶ If the grip is too big, change the handle or adjust the size.
- ▶ Gloves and anti-vibration wraps will improve grip strength and reduce vibration.
- ▶ Use caps or guards on striking tools to avoid overstrike injuries.
- ▶ Select 2-handled tools with handles that extend beyond your palm, and have a spring return and locking position.



### 3 Remember...

- ▶ Focus on keeping your hands safe –not just at the start of a job.
- ▶ Try to rest your hands during the day.
- ▶ Keep your tools sharp and in good condition.
- ▶ Consider doing exercises to strengthen key muscles.
- ▶ Don't raise or extend your elbow when holding a heavy tool.
- ▶ Use a power tool when you can.

**A hand tool is only ergonomic if it fits YOUR hand AND is right for the work YOU are performing.**

### Using the RIGHT HAND TOOL the RIGHT WAY

can reduce fatigue and increase productivity, improve the quality of your work, and reduce the risk for hand, wrist, and arm injuries.

### Find out more about construction hazards.

To receive copies of this Hazard Alert and cards on other topics call **301-578-8500** or visit **www.cpwr.com**

CPWR  
THE CENTER FOR CONSTRUCTION  
RESEARCH AND TRAINING

8484 Georgia Avenue  
Suite 1000  
Silver Spring, MD 20910  
301-578-8500  
[www.cpwr.com](http://www.cpwr.com)