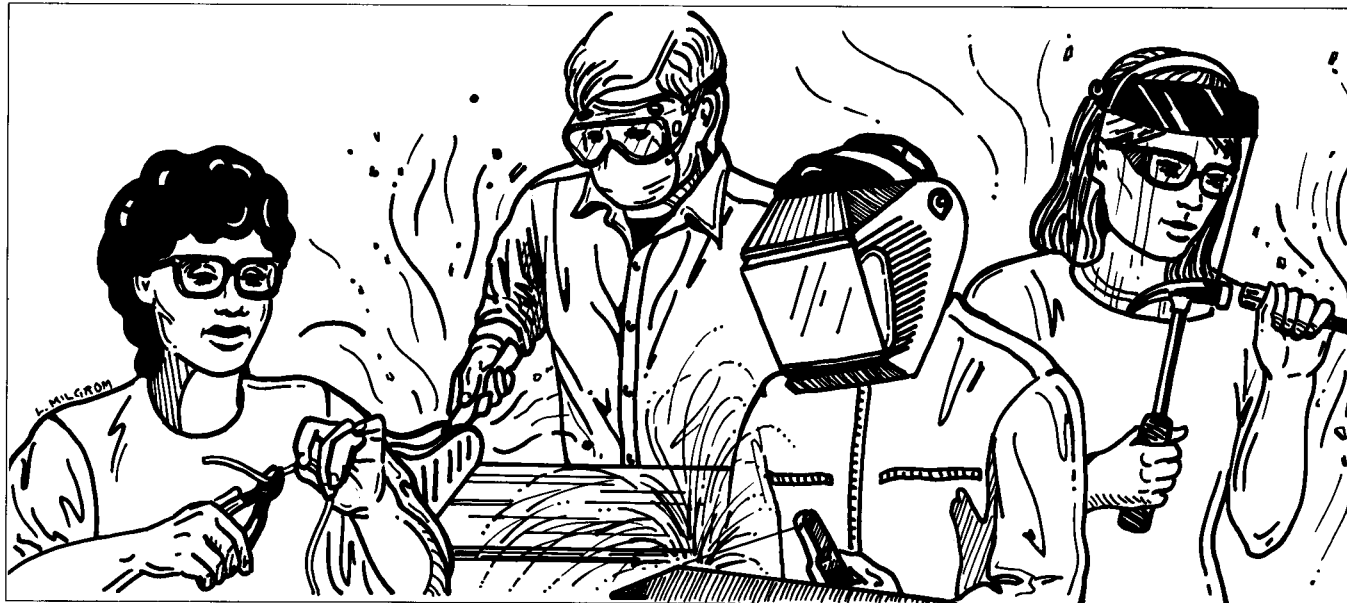


EYE SAFETY

Avoiding Eye Injuries



Wear the appropriate protective eyewear for the specific hazards you face.

Of all of our senses, the one most precious perhaps is our sense of sight. Yet each year, thousands of us suffer eye injuries that impair our vision or deprive us of our sight altogether. These injuries are, to a large extent, avoidable. In fact, over 90% of all eye injuries can be prevented by following established safety guidelines and using the appropriate protective eyewear for the tasks we perform.

Recognizing Eye Hazards

Among the most common eye hazards are flying particles, a hazard typical of many machine operations such as grinding, sawing, etching, and so on. Dusts (such as wood, metal, and other airborne particles), sparks (common in welding), and fumes and splashes (from molten materials or chemicals) can all cause eye injury unless the appropriate protective eyewear is used. Harmful light rays (common in arc and electrical welding, furnace operations, and work using acetylene equipment) can cause painful eye burns unless your eyes are adequately protected. The following guidelines for on-the-job eye safety can help you save your sight—for life.

Eye Safety Checklist

- Be alert to the eye hazards present at your worksite.
- Wear* the appropriate protective eyewear—glasses, goggles, and/or hoods, face shields and welding helmets—provided by your employer for the specific hazards you face.
- Remember that regular eyeglasses or contact lenses *will not* protect you from eye hazards—if you must wear corrective lenses, you'll need to wear protective eyewear over them.
- Check to see that your protective eyewear meets ANSI (American National Standards Institute) standards.
- Make sure that your protective eyewear fits properly and is clean and in good condition before and after each use.
- Replace faulty eyewear immediately.
- Follow established safety guidelines.
- Learn basic first-aid for eye injuries.
- Know where all eyewash stations and emergency equipment are located.
- In the event of eye injury, get medical attention immediately.



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**ACCIDENT &
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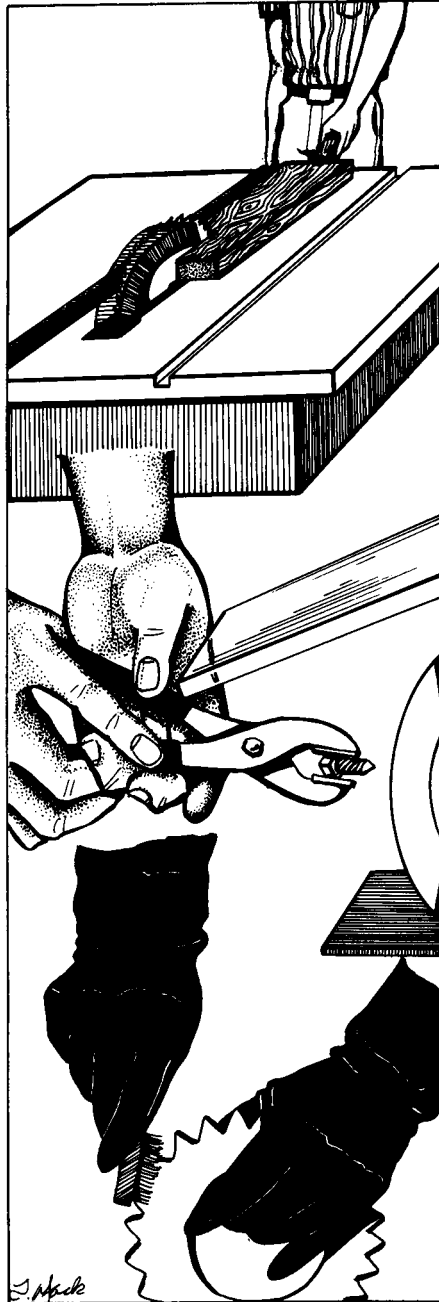
HAND SAFETY

Avoiding Finger, Hand, and Wrist Injuries

Whether you're a machine operator, a lab technician, an office worker—any kind of worker, for that matter—your hands are one of your most important “instruments.” Yet, over a quarter of a million people suffer serious (and often disabling) hand injuries each year. By recognizing hand hazards, following established safety guidelines, and using protective guards, shields, gloves and other personal protective devices as needed, you can save your hands from injury and yourself from unnecessary disability.

Recognizing Hand Hazards

One of the most serious yet common causes of hand injury is the use of unprotected or faulty machinery or equipment. Failure to use push-sticks, guards, kill-switches, or to follow appropriate lock-out procedures are among the leading industrial hand hazards. Wearing jewelry, gloves, or loose-fitting clothing around moving parts can also lead to injury. Chemicals, corrosives, and other irritating substances can cause burns and skin inflammation unless appropriate hand protection is used. Temperature extremes and electrical hazards are other common causes of hand injuries. In addition, constant, repetitive motion (as in assembly-line work or painting) can cause undue stress on the wrists and hands unless protective measures are taken. The following list provides a guideline for hand safety that can help you protect your hands from injury and disability.



Always use push-sticks, guards, shields, and other protective devices when appropriate.

Hand Protection Checklist

- ✓ Be alert to potential hand hazards *before* an accident can happen.
- ✓ Be alert to possible unguarded pinch points.
- ✓ Always use push-sticks, guards, shields, and other protective devices when appropriate. Do not remove guards.
- ✓ Use brushes to wipe away debris.
- ✓ Inspect equipment and machinery before and after tasks to make sure that it is in good operating condition.
- ✓ Disconnect power and follow established lock-out procedures before repairing or cleaning machinery.
- ✓ Never wear gloves, jewelry, or loose clothing when working with moving machine parts.
- ✓ Use the *appropriate* personal protective equipment—gloves, guards, forearm cuffs, barrier creams—for the specific task you are performing.
- ✓ When wearing gloves, be sure they fit properly and are rated for the specific task you are performing.
- ✓ Select tools designed to keep wrists straight to help avoid repetitive motion/overuse problems.



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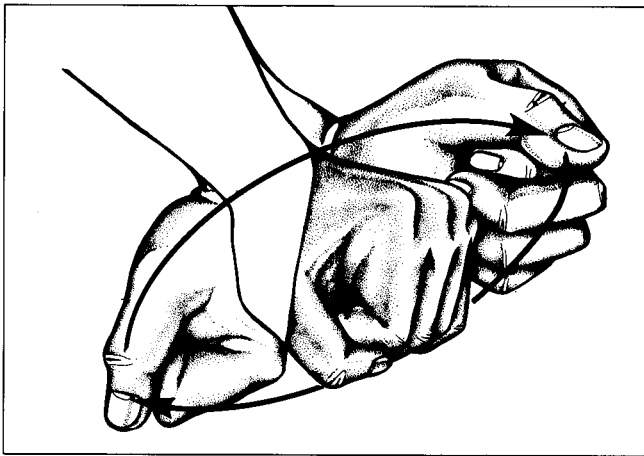
CARPAL TUNNEL SYNDROME

Preventing Repetitive Motion Problems

Your wrist aches, your fingers feel numb, you have difficulty doing even the most simple tasks like opening a juice jar. What's going on? It may be that you suffer from carpal tunnel syndrome—a hand disorder resulting from repetitious, forceful motion of the hands and wrists. Carpal tunnel syndrome is common and affects those of us who use the same hand motions over and over again at work or at home—painters, textile workers, word processors, cashiers, electronics assemblers, and many others. Fortunately, you don't need to “grin and bear it.” Carpal tunnel syndrome is often preventable through proper hand positioning and hand exercises.

Why Your Hand Hurts

The carpal tunnel is the bony cavity in your wrist through which your nerves and tendons extend to the hand. When you repeat the same hand and wrist movements day in and day out, the excess strain causes tendons to swell and press on the main nerve of the hand. This persistent irritation of the nerve can result in pain, numbness, and dysfunction not only in the hands and wrists, but may extend up to the forearm and elbow as well.



Wrist Rotation

Make a fist and rotate your entire hand (from the wrist) in one direction. Repeat 15 times. Switch directions and repeat 15 times. Then, release your hands, and with fingers extended, do the same rotations.


What You Can Do About It

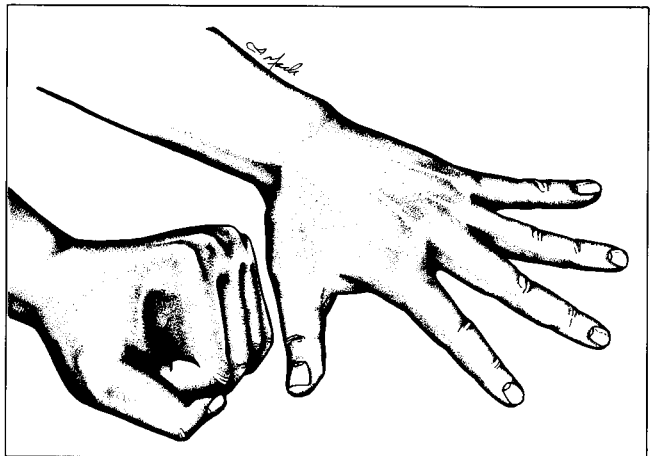
If you are at risk for developing carpal tunnel syndrome, why not try to prevent the condition before it occurs? By learning how to position your hands properly and by exercising your hands regularly, you can relieve excess pressure on your tendons and nerves and prevent unnecessary pain and disability.

Hand Positioning

When you keep your wrists and elbows straight, you place less pressure on the tendons and nerves in your hands. Try adjusting your work so that you can keep your forearm and hand straight. Use hand tools with the appropriate width, size, and shape—that is, make sure that you can grip the tool comfortably, that the tool can absorb vibration, and that handles are positioned to keep your wrists and hands in alignment.

Hand Exercises

The following exercises, when done daily, can help strengthen wrist and hand muscles and can help relieve strain caused by tasks requiring repetitive motions. 



Hand Stretch

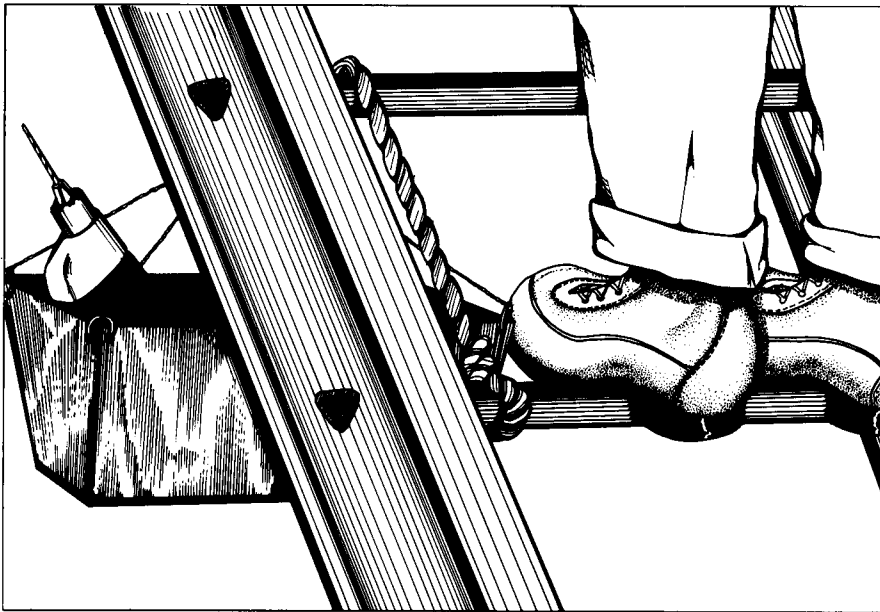
Make a fist, then extend your fingers as far apart as possible. Hold for about 10 seconds. Relax. Repeat the entire sequence 5-10 times until hands and fingers feel relaxed.

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BASIC RULES FOR HAND TOOLS

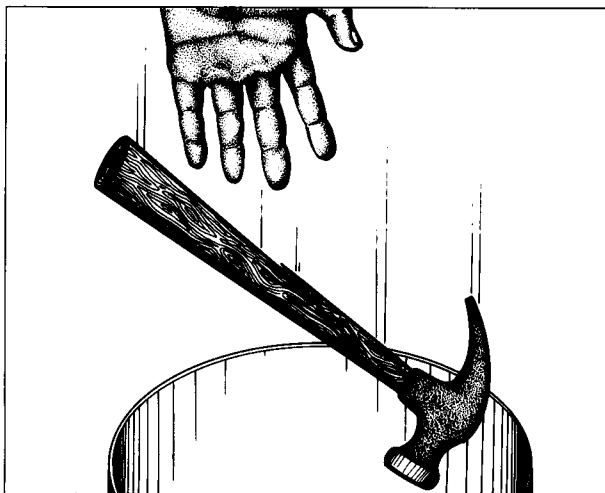
Safety Tips For Hand Tool Users

Almost all of us use hand tools—at work and at home. It's estimated that about 8% of industrial accidents involve the unsafe use of hand tools (both manual and power). These accidents result from using the wrong tool for the job (or using the right tool incorrectly), failing to wear personal protective equipment, or failing to follow approved safety guidelines. The following checklist provides some basic rules for the safe use of hand tools. Take a moment to review this list, and use the tips here whenever you use a hand tool—on *or* off the job.




When working on ladders or scaffolding, secure yourself and your tools.

Inspect tools before each use and replace or repair if worn or damaged.



Hand Tool Rules

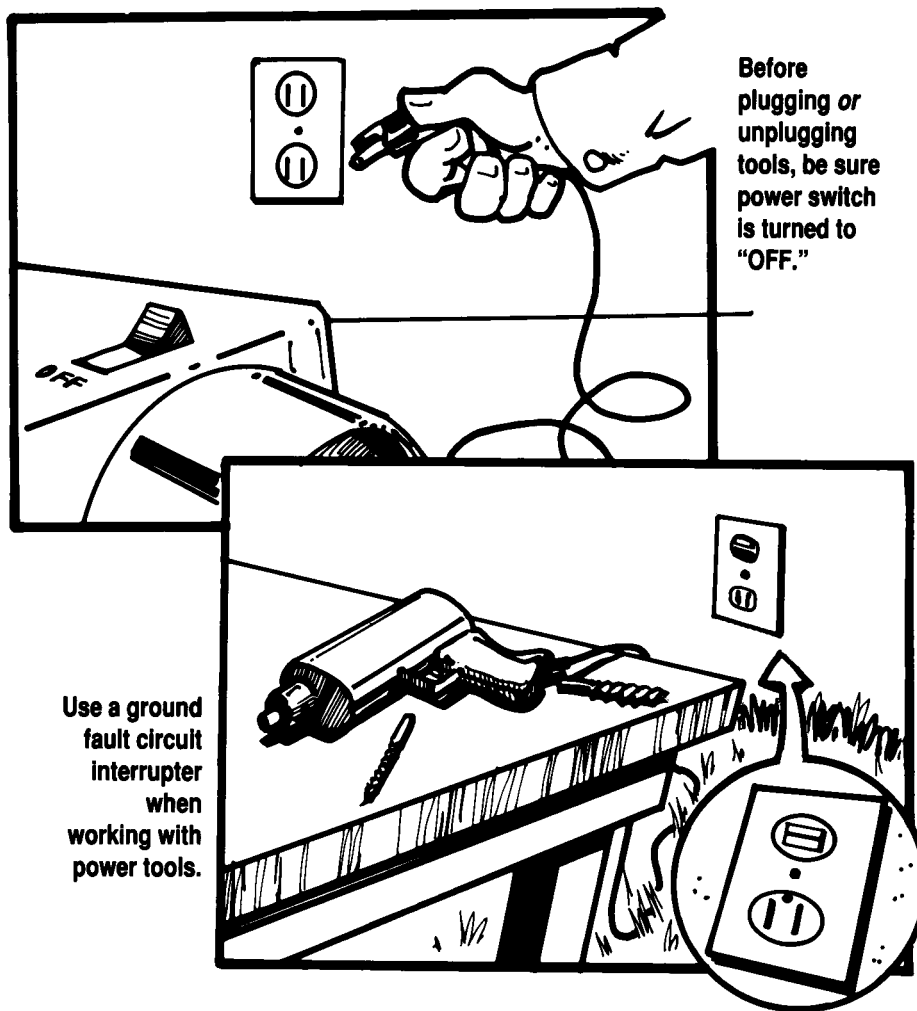
- Know the purpose of each tool in your toolbox, and use each for the specific task it was designed to do.
- Never use any tool—hand or power—unless you are trained to do so.
- Inspect tools before each use and replace or repair if worn or damaged.
- Clean tools after every use.
- Keep cutting edges sharp.
- Never test a cutting edge with your fingers—test on scrap material instead.
- Select the right *size* tool for the job—don't use cheaters.
- When working on ladders or scaffolding, be sure that you *and* your tools are secure. (A falling tool can seriously injure a coworker or bystander.)
- Carry tools correctly—never put sharp or pointed tools in your pockets.
- When hand-carrying tools, point cutting edges away from you, toward the ground.
- Lightly oil metal tools and store in clean, dry place to prevent rust.
- Wear Personal Protective Equipment (PPE), such as safety goggles, face shields, gloves, etc. as required. 

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BASIC RULES FOR POWER TOOLS

Portable Power Tool Safety

If you've spent your day operating a drill press, your hand drill may not seem like a particularly dangerous tool. Not true. It's estimated that about 8% of industrial accidents involve the unsafe use of hand tools (both manual and power). These accidents result from using the wrong tool for the job (or using the right tool incorrectly), failing to wear personal protective equipment, or failing to follow approved safety guidelines. The following checklist provides some basic rules for the safe use of portable power tools. Take a moment to review this list, and use the tips here whenever you use a portable power tool—on *or* off the job.



Power Tool Rules

- Use your tool only for the specific task it was designed to do.
- Read the owner's manual before using your tool.
- Never use any tool—power or manual—unless you are trained to do so.
- Inspect before each use and replace or repair if parts are worn or damaged.
- Inspect screws, nuts, bolts and moveable parts to make sure they are tightened.
- Before plugging *or* unplugging tools, be sure power switch is turned to "OFF."
- Never disconnect power by pulling on the cord—remove the plug from the outlet.
- Never clean or repair a tool unless power is disconnected. (Repair tools only if you are trained to do so.)
- When working on ladders or scaffolding, rest power tools on a flat surface or in a bin secured to the ladder itself. (A falling tool can seriously injure a coworker or bystander.)
- Use a ground fault circuit interrupter when working with power tools.
- Do not wear rings, jewelry, or loose clothing when operating power tools.
- Wear Personal Protective Equipment (PPE), such as face shields, safety goggles, disposable masks, etc. as required. 

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WORKING SAFELY WITH LADDERS

Step And Straight Ladder Guidelines

Most of us use ladders from time to time—at our worksites, in the office, or at home. Yet few of us stop to review the basic rules for working safely with ladders. The following safety guidelines can help anyone who works with ladders prevent accidental falls, injuries, and disability.

Step Ladders

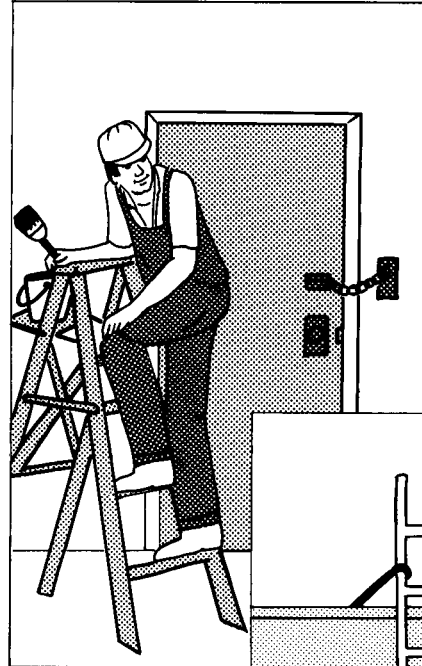
When working on step ladders, remember never to climb past the second rung from the top. Make sure that the spreaders are functional and locked in place before climbing the ladder. If the ladder is positioned by a door or walkway, make sure that the door is locked or the walkway barricaded to prevent collisions. Do not overreach while working on a step-ladder—reposition the ladder to avoid leaning over the base of support.

Straight Ladders

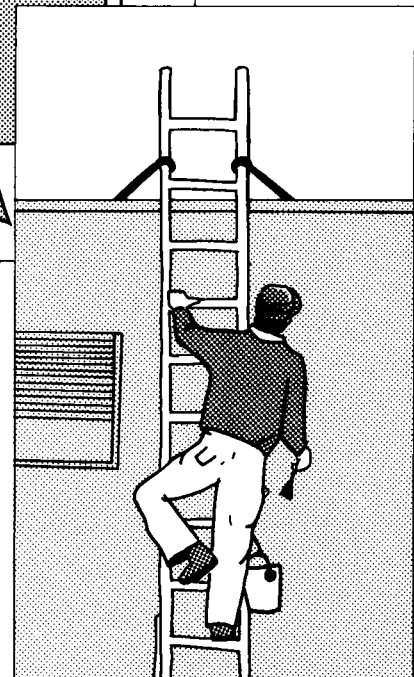
When working on straight ladders, use the four-to-one rule: position the ladder base one foot away from the wall for every four feet of ladder height (up to the support point). Never climb past the third rung from the top on a straight ladder. A straight ladder should extend at least 3 feet past its support point. Tie down your ladder as close to the support point as possible. Make sure that straight ladders have safety feet. To avoid overreaching, do not let the trunk of your body extend past the side of the ladder.

General Guidelines

Persons who work on ladders should wear slip-resistant footwear, and make sure that ladder rungs are free of oil, grease, or other slippery substances. Before climbing any ladder, check its condition. Are nuts and bolts tightened? Are rungs secure? Do spreaders work? Are safety feet functional? If the ladder is in good condition, climb and descend it facing the ladder itself, and holding on with both hands. If you must carry tools, use a tool belt or a bucket attached to a hand line to pull tools up and down. When working on ladders, hold onto the ladder with



If the ladder is positioned by a door or walkway, make sure that the door is locked or the walkway barricaded to prevent collisions.



A straight ladder should extend at least 3 feet past its support point. Tie down your ladder as close to the support point as possible.

one hand at all times. And remember, *never* use a metal ladder when working with electrical current.

Prevent A Fall

By using these tips for ladder safety, you can help prevent accidental falls, injuries, and disability. All of us use ladders from time to time, so ladder safety should be everyone's concern.



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