

Preventing Cuts and Puncture Wounds

A cut, also known as a laceration, is an injury that results in a break or opening in the skin. A puncture wound is a forceful injury caused by a pointed object that penetrates the skin.

Cuts and punctures can:

- Damage organs, nerves, blood vessels, muscles, tendons, ligaments, bones or joints
- Increase the risk of infection
- Result in exposure to bloodborne pathogens for the victim and others

Machine Tools

Machine tool hazards exist primarily at the point of operation and unguarded power transmission. This is where body parts can come into contact with the moving parts of the machine or be exposed to debris, such as chips or splinters from turning and boring operations. When working around machine tools, make sure all guards are in place and adjusted properly. Any pinch points created by power transmission apparatus such as chains and sprockets or belts and pulleys should be guarded.

Another hazard associated with machine tools is handling the parts and by-products of the machining operation. Some parts and by-products aren't always visible. Any contact can cause injury. Kevlar sleeves can protect against cuts and abrasions on the arms and are often required in metal machining shops. Turnings and metal shavings, also called metal hay or chips, are by-products of the machining process and can cause severe cuts and puncture wounds. **NEVER USE YOUR BARE HANDS TO HANDLE METAL HAY OR TURNINGS.** Wear gloves and sleeves that are cut-resistant and are woven in a manner that protects your skin from punctures. Whenever possible, use devices such as a hook or pliers, to remove turnings or metal hay.

Powered Hand Tools

Do not operate powered hand tools unless you are familiar with their use and associated risks. When using powered hand tools, always:

- Ensure the guards and safety devices are in place and working properly
- Request the proper tool if you don't have it
- Operate according to the manufacturer's specifications
- Keep your body clear of the point of operation

Extreme care and caution must be exercised when using pneumatic tools that shoot fasteners. These tools are capable of firing a projectile, much like a bullet from a firearm. The pressure setting of the gun must not exceed what's needed for the density and thickness of the material being nailed, otherwise the fastener can shoot through. Powered tools should only discharge a nail or staple when in contact with a solid object. Take note of what you are attempting to fasten and what is beyond the work area.

Hand Tools

Most hand tool injuries are caused by improper use, damaged tools or not using personal protective equipment (PPE).

To reduce your risk potential when using a **knife**, utility knife or box cutter, you should:

- Ensure the blade is loaded properly and the knife is assembled correctly
- Expose just one segment of snap-off knife blades to prevent breakage
- Use a self-retracting or covered box cutter
- Keep your thumb off of the blade while making the cut
- Keep body parts out of the line of the cut by cutting away from your body
- Replace blades whenever they become dull or start to tear rather than cut
- Dispose of used blades properly
- Make several passes when cutting thick material rather than attempting to cut the material with one heavy cut
- Retract blades and re-sheath knives after use
- Avoid using a personal pocketknife at work

To reduce your risk potential when using a **hand saw**, you should:

- Use a holding device to secure the material to be cut
- Keep your hand and body parts clear of the blade
- Cut using strong, steady strokes
- Maintain a balanced, stable position
- Wear eye protection

To reduce your risk potential when using a **screwdriver**, you should:

- Position your hands to avoid injury if the screwdriver slips
- Use a holding device to secure the part, if possible
- Never use a screwdriver for prying, punching, chiseling or scraping

Hazardous Objects

Objects such as screws, nails, splinters, construction debris and broken glass often have sharp edges and pointed ends that pose a cut or puncture risk.

- **Wooden crates:** always use PPE and the proper tools, use a prybar or similar tool to safely pry the boards apart, and never place fingers in areas where there is a risk of pinch points
- **Boards with splinters:** wear the proper gloves and cut-resistant sleeves to avoid a possible puncture wound
- **Materials with exposed fasteners:** take the time to remove the fasteners or bend them over to eliminate the hazard and discard the waste in a safe location
- **Construction materials:** make sure you wear the proper PPE and be extremely cautious of splinters, protruding fasteners and sharp edges
- **Broken glass:** use a broom to sweep the glass pieces into a dustpan, wear hand protection when picking up pieces, and place the pieces in a protective container or wrapping with cardboard before depositing them into a waste receptacle
- **Sheet metal:** wear cut-resistant gloves and sleeves when handling sheet metal, file down the sharp or rough edge on finished installations and cover as needed, safely store bulk sheet materials by addressing protruding ends

Wire Rope and Metal Banding

Never use your bare hand to check wire rope or cables for frayed strands. Gently pull a rag or paper towel down the wire.

- Wear cut-resistant gloves, face shield, and arm protection when banding and when disposing of banding material
- Use the correct tools to cut the bands and keep your body off to the side and out of the recoil path of the banding
- Cut straight across the band but recognize that even flat cuts can have sharp points
- Consider plastic banding as a replacement for steel banding material

Safe Practices

Be alert to potential hazards before an accident happens. Perform a risk assessment and take steps to eliminate or minimize risks.

- Recognize unguarded pinch points
- Use the proper tool for the job, the proper way every time
- Inspect tools and equipment to confirm good operating condition
- Follow lockout procedures before repairing or cleaning machinery
- Follow all safety precautions even if you are in a hurry
- Use the appropriate personal protective equipment (PPE)

Injury Response

Should a minor injury occur, here are some simple steps to follow until your injury can be evaluated:

- First, check to see if the object that caused the wound is intact. If a piece is missing, it may be stuck in the wound
- Then, wash the wound with soap and water to prevent infection
- Allow the wound to bleed freely, unless the bleeding is too heavy to stop on its own. If this is the case, apply pressure until the bleeding stops
- Apply antibacterial ointment and cover the wound with a bandage
- Monitor a healing wound for increasing redness, warmth, tenderness and swelling that might indicate the presence of an infection; seek medical attention early if you might have an infection
- Report all cuts and punctures, no matter how minor, to your employer

Whenever you receive a cut or puncture wound, assume the puncture is contaminated and get a tetanus shot as soon as possible if your tetanus shots are not up-to-date. You need to have had a tetanus shot within the last 5 years.

For serious injuries, seconds count, so be sure to know how to summon medical assistance, including emergency phone numbers. Remain calm and be prepared to provide emergency responders with information such as your location and the nature of the injury. Only properly trained personnel should provide first aid.