

Hand Laceration Awareness

Injuries to the hand can have a significant impact to the affected worker, their family, and the employer. Hand lacerations and abrasions are two common injuries to public employees. It is important for employers and employees to work together to control hazards to the hand. This Bulletin discusses several control measures that can help reduce lacerations to the hand.

Employers should first identify tasks that present a cut hazards. It may be helpful to group them into two categories: hazards caused by tool or equipment and hazards caused by material being handled during the task. Some examples of each include:

Tools and Equipment Related

Knives; buck, razor, carpet, kitchen
Powered Hand Tools: saws, drills, shears
Powered Equipment;

Material Related

Sheet metal
Glass
Trash and bulk waste

Once a list of tasks is compiled, employers can look for opportunities to eliminate or reduce the hazard. For example, knife manufacturers have created a number of safety knives for a variety of tasks. Some of the many models include:



With so many options, department supervisors should consider prohibiting unprotected knife blades whenever a safety knife is available.

When was the last time knife training was provided to employees? Supervisors cannot assume workers know how to safely use a knife. Knife safety rules include:

- Do not run with a knife (your mother was right)
- Cut away from your body
- If you drop a knife, do not attempt to catch it. Let it fall
- Hand a knife to another person with the handle first
- Do not use a knife to pry
- Use knives in a well-lit area

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The last line of defense against hand lacerations are gloves. There is a wide range of cut resistant gloves designed to improve safety and performance in many different industries. Employers must select appropriate hand protection when employees' hands are exposed to hazards such as those from severe cuts or lacerations, severe abrasions, or punctures. Employers should base the selection of the glove on an evaluation of the performance characteristics of the hand protection relative to the task(s) to be performed, conditions present, duration of use, and the hazards and potential hazards identified.

Glove selection can be difficult. When one considers the many glove materials, cuff style and length, shapes, sizes, warranties, and other factors, there are literally hundreds of options for supervisors.

The glove supplier Grainger provides the following summary of some common cut resistant glove materials:

- **Spectra Fiber:** Ultrahigh molecular-weight polyethylene fiber that offers high cut and abrasion-resistance, even when wet. It's 10 times stronger than steel. Lightweight and flexible, they are used in food service, appliance assembly, and vehicle assembly.
- **Dyneema:** A super strong polyethylene fiber that offers maximum strength combined with minimum weight. It is up to 15 times stronger than quality steel and up to 40% stronger than aramid fibers. Dyneema is extremely durable and resistant to moisture, UV light and chemicals.
- **Kevlar® Aramid Fiber:** Five times stronger than steel and inherently flame resistant. Typically a lightweight flexible material that is used for many applications relating to automotive assembly, sheet metal handling and glass handling.
- **Fiber-Metal Blends:** Many durable, abrasion-resistant gloves are made of a woven fabric blend of Spectra, Kevlar and stainless steel.
- **Metal Mesh:** Interlocked stainless steel mesh offers superior cut and puncture protection.
- **SuperFabric:** Combinations of the number of layers, thickness, substrates, surface coatings, etc., lead to fabrics which have varying levels of puncture, cut and abrasion resistance, and flexibility. Tactile surface offers improved grip of wet and oily surfaces.

Many workers fail to wear the proper cut resistant gloves due to bulky fit and uncomfortable materials, which can reduce productivity and present distractions to workers. Beyond selecting the best glove material, there are other considerations to improve fit and comfort:

- Gloves are not one-size-fits-all. To find the correct glove size, measure the circumference of the palm. Many glove suppliers can assist with a sizing diagram and chart. There are both men and women size charts.
- Fitted gloves, rather than flat gloves, create less stress on the hands of workers. At rest, the human hand has a slight curvature. If the glove also has a natural curvature, there is less hand fatigue
- The correct cuff style and length can extend the protection over the wrist and fore arm.

Department heads should work with glove suppliers to investigate and evaluate glove options. New materials and models are always being introduced. Glove suppliers can keep managers abreast of the latest developments. Glove suppliers can also be a great resource to educate workers. Invite the representative to bring samples. Have employees test various models and report on comfort and other performance criteria. This can help create buy-in on the part of employees on the gloves selected.
