

# Hand safety

By Warren K. Brown

## Before you begin

Review the history of hand incidents at your facility and any action plans in place. In addition, review this discussion guide and be prepared to associate elements of the guide with your work environment.



## Introduction

Approximately 20 percent of disabling workplace incidents are hand related. Your hands are important because you use them all the time - both on and off the job. Just imagine how you would suffer if you disabled your hand or hands in some manner. Injuries can run from minor cuts, scratches, burns, chemical exposures and abrasions to amputations.

Many incident reports list uncommon work tasks, distractions, malfunctioning machinery and increased work pace as reasons for hand injuries. Not paying attention to the work task and not thinking of what can go wrong before it happens are more reasons for hand incidents. Most people don't think of safety enough or think they won't or can't hurt themselves.

## Main section

Start the session by asking if anyone has had a hand incident. Then discuss with the group what factors led to the incident. Ask if anyone else has had a similar incident and what actions could have prevented it and future incidents from occurring. Potential sources of hand incidents could include:

- Mechanical hazards;
- Chemical hazards;
- Abrasions;
- Burns;
- Electrical contact.

Ask the group members what kinds of activities they perform that could result in a hand incident. Examples could include:

- Improper use of a tool;
- Use of the incorrect tool for the task at hand;
- Not using correct personnel protective equipment (PPE);
- Missing or inadequate machine guarding;
- Exposure to chemical agents without PPE;
- Job not ergonomically correct;
- Lack of training in proper completion of the job task.

Ask the group members what countermeasures they could put in place to correct these activities. Examples of safer approaches to the activities could include:

- Learn the correct use of hand tools;
- Know which tool to select to get the job done safely;
- Select the proper PPE for the task being performed and use it;
- Replace missing machine guards;
- Upgrade inadequate guarding;
- Wear the proper PPE to protect against chemical agents in the workplace;
- Report any symptoms resulting from ergonomically incorrect conditions to your supervisor;
- Ask for training on any tasks where needed.

Ask the group about glove use — where using gloves is appropriate and what kind of gloves to wear for particular activities. Issues to consider are degree of dexterity required, the duration of use, the frequency and degree of exposure to hazards, and the physical stresses the job tasks require.

You should study the work environment to determine the types of exposures present and then the type of glove that best fits the circumstances. Communicate this information to the work force and ensure the appropriate glove types are available when and where needed.

Types of gloves available are:

- Plain cloth gloves;
- Cloth gloves with grip coatings to the fingers and palm area;
- Cut-resistant gloves based on the hazard (these could range from wire mesh to cut-resistant synthetic compounds available);
- Leather gloves;
- Chemical-resistant gloves matched to the chemicals encountered in the work environment;
- Rubber electrical-rated gloves.

### Conclusion

The American Conference of Governmental Industrial Hygienists has established a threshold limit value for hand activity. You can predict the likelihood of a hand injury for job tasks by considering strength requirement, repetition and amount of recovery time within the task cycle. There are also methods to determine the two key factors in hand activity: hand-activity level and peak-hand force.

These processes are available to organizations that choose to take advantage of a scientific approach to reducing and/or eliminating hand incidents. Organizations that want a more traditional approach to hand-incident reduction should become aware of the dangers in their workplaces, use training to make the work force more aware of the dangers and make sure their workers use appropriate PPE. One of the most important considerations is to ensure workers think about tasks prior to beginning them so they can take appropriate action to avoid hand injuries.

### Group activity

Have group members determine the proper protective gloves needed for the tasks they normally encounter in their work activities. Make a poster showing the proper glove for the tasks identified. Display the poster in a common area to help workers make the proper glove selection for future tasks.

Quiz (Circle “T” for true or “F” for false.)

1. About 20 percent of disabling injuries are hand related. T F
2. Improper use of hand tools can result in hand injuries. T F
3. Since ergonomic incidents cannot be prevented you need not report them. T F
4. Training is an important element in hand injury prevention. T F
5. You must match chemical-resistant gloves to the chemicals encountered. T F

Answers: 1.T; 2.T; 3.F; 4.T; 5.T.

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### References

- OSHA 3077 *Personal Protective Equipment* pamphlet
- United Auto Workers Occupational Health & Safety No. 1, 2003, “Designing Safe Handwork”
- *BWC Safety Leader’s Discussion Guide 2004*
- Washington State Department of Labor & Industries employee training kits, “Hand Protection”