



Safety in Manufacturing: A Discussion Guide

WORK SAFE BC

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Introduction

The *Safety in Manufacturing* DVD and this accompanying booklet are meant to bring attention to the high-risk activities that cause injuries in the manufacturing industry. More importantly, the DVD and booklet are designed to promote discussion about what employers and workers can do to reduce risks in their workplaces.

The manufacturing industry in British Columbia had an average of 11,359 injury claims per year during the five-year period from 2003 to 2007. That's the equivalent of 229,595 person years of lost time on average each year.

Males accounted for 88% of all injury claims in manufacturing during this five-year period. When it comes to “matter in eye” claims (eye injuries), the number is even more dramatic — 95% of those claims involved males during the same five years. Of those injured, 50% of the males were less than 34 years old.

Safeguarding machinery is another major concern. Injuries related to safeguarding accounted for 22% of the total claims in manufacturing from 2003 to 2007. These accidents often result in life-altering injuries such as disfigurement or loss of limbs.

Who are the videos for?

Owners, employers, supervisors, workers, and anyone else involved with the manufacturing industry can learn from this material. Trainers and educators may also find this material useful for orientations and other training. The videos may be of particular interest to male workers because they make up the majority of the manufacturing workforce and are injured so frequently.

What's on the DVD

The *Safety in Manufacturing* DVD includes two short videos that highlight the importance of working safely in the manufacturing industry.

Look at Me is a four-minute video that depicts a serious eye injury when a young worker operates a grinder without using eye protection.

In *Too Much to Lose*, an experienced worker's fingers are cut off when he operates a treadle guillotine shear (a machine used to cut sheet metal) without a guard. This three-minute video raises a number of issues that are relevant to manufacturing and other industries.

Graphic material

Viewers should be aware that both videos include graphic scenes involving machinery-related accidents. Some viewers may find these scenes difficult to watch, but it's important to note that they are filmed using special effects. *These are not actual incidents.*



Discussion — Look at Me

The following are a few suggested points for discussion after viewing the video. These questions are only meant to start a discussion — there is no one correct answer, and you may want to discuss additional topics that are not included here.

1. What are the key safety messages of this video?

Examples:

- Always wear protective eyewear and other personal protective equipment (PPE).
- Always follow your safety training.

2. What are some employer responsibilities when it comes to health and safety?

Examples:

- Provide orientation, education, and training to workers.
- Provide workers with any necessary PPE, and ensure that they use it.

3. What could the employer have done differently?

Example:

- Remind workers to wear protective eyewear at all times. (Workers are more likely to use safety eyewear if it offers the right look and fit.)

4. What are some other things the worker could have done to protect himself?

Examples:

- Wear a face shield.
- Use a guard on the grinder.

5. Would you do anything differently after watching this video? If so, what would you do?

6. What other situations in your workplace require the use of PPE (for example, a hard hat, gloves, vest, steel-toe shoes, hearing protection, or fall protection)?

Prevention tips for workers

- Always wear the right safety eyewear and other PPE for the job and the worksite. Types of protection include safety glasses, goggles, and face shields.
- Always follow your safety training — accidents can happen in an instant.
- Always use safeguards. Use guards on grinders.
- Ensure that your employer provides you with proper orientation, education, and training before starting work.
- If you're unsure about how to do something, ask for help or ask your supervisor to explain it to you.

Safety eyewear tips

- To determine the most appropriate eyewear solution for you, your employer should conduct a thorough assessment of your workplace, your job, and any related hazards.
- Each worker should be properly fitted and assigned a personal set of protective eyewear, and then instructed on its care and maintenance.
- Safety glasses should have side shields.
- A face shield is considered a secondary safeguard to protective eyewear. It should never be worn without safety glasses or goggles.
- Workers should not remove safety eyewear while on a worksite — it can't protect you if you're not wearing it.
- When visiting a workplace where safety eyewear is required, wearing safety goggles over prescription street glasses is generally acceptable.
- Workers who wear contact lenses can wear non-prescription (or “plano”) safety glasses; however, contacts may not be suitable in dusty, dry, or chemically charged environments.

Discussion — *Too Much to Lose*

The following are a few suggested points for discussion at the end of the video. These questions are only meant to start a discussion — there is no one correct answer, and you may want to discuss some topics that are not included here.

1. What are the key safety messages of this video?

- Examples:**
- Always ensure that guards are in place when operating dangerous machinery or equipment.
 - Always work according to your safety training and follow safe work procedures.

2. What are some employer responsibilities when it comes to health and safety?

- Examples:**
- Provide equipment that is effectively safeguarded.
 - Ensure the health and safety of workers. Correct any hazardous workplace conditions.

3. What could the worker have done differently?

- Example:**
- Refused to carry out the work because he felt it was unsafe.

4. Would you do anything differently after watching this video? If so, what would you do?

5. Can you think of any machinery or equipment in your workplace that would be safer if it was safeguarded?

“Never work without safeguards—
you’ve got too much to lose.”

Prevention tips for workers

- Always work according to your safety training and follow safe work procedures. If you're unsure about how to do something, talk to your supervisor or your health and safety committee.
- Always ensure that safeguards are in place when operating dangerous machinery or equipment.
- Never remove a safeguard unless the machine has been turned off and locked out.
- Wear appropriate personal protective equipment at all times.
- Speak up if you think a task being assigned to you may be dangerous to you or somebody else.
- If you see a safety problem, correct it immediately (if possible) or report it to your supervisor.
- Know your rights. Remember, a worker's refusal to carry out unsafe work is not only a *right*; it's also a *responsibility*.

Safeguarding and guarding

The terms *safeguarding* and *guarding* tend to be used interchangeably, but they have precise meanings in the language of machinery and equipment safety.

Safeguard is the umbrella term for measures that protect workers against contact with hazardous moving parts or other harmful conditions. Safeguards include barrier guards, safety devices, shields, awareness barriers, warning signs, and other appropriate means, used individually or in combination.

Guard and *barrier guard* refer to a specific type of safeguard. Guards are physical barriers or covers designed, constructed, and installed over moving parts to prevent any contact with them. Guards are a simple solution for protecting workers when access to moving parts such as belts and drive chains is not required during operation. Guards are reliable and cost effective, and require low maintenance when properly designed and installed.



Refusing unsafe work

According to sections 3.12 and 3.13 of the Occupational Health and Safety Regulation, if a worker has reasonable cause to believe that carrying out a work process would create a hazard to the health and safety of any person, the worker has the right to refuse the work.

Procedure for refusal of unsafe work

If a worker refuses to carry out work, the following procedure must be followed:

1. The worker must immediately report the circumstances of the unsafe condition or matter to his or her supervisor or employer.
2. The supervisor or employer receiving the report must investigate the matter and do one of the following:
 - Ensure that any unsafe condition is remedied
 - If in his or her opinion the report is not valid, inform the person who made the report
3. If this does not resolve the matter, and the worker continues to refuse to carry out the work, the supervisor or employer must further investigate the matter. This investigation must be carried out in the presence of the worker who made the report and one of the following:
 - A worker representative of the joint health and safety committee
 - A worker who is selected by a trade union representing the worker
 - If there is no joint committee or the worker is not represented by a trade union, any other reasonably available worker selected by the worker who made the report

4. If this does not resolve the matter, and the worker continues to refuse to carry out the work, both the worker and the supervisor or employer must immediately notify a WorkSafeBC officer, who will investigate the matter and take whatever actions are necessary.

No disciplinary action

Workers must not be disciplined for acting in compliance with these steps. It is not considered disciplinary action to temporarily assign the worker to alternative work at no loss in pay until the matter is resolved.

Approach to hazard control

Some control measures are more effective than others. When selecting controls, it is important to ensure you make your choices in the following order:

1. Elimination or substitution — First try to eliminate the hazard completely. If that's not possible, try to substitute a safer work process to minimize the risks as much as possible.
2. Engineering controls — Implement safeguarding technologies such as barrier guards or two-hand controls.
3. Awareness — Alert workers to potential hazards by using beepers, beacons, warning signs, and labels.
4. Administrative controls — These include safe work procedures, lockout, and training.
5. Personal protective equipment (PPE) — Clothing and equipment such as safety eyewear, hearing protection, gloves, and hard hats are considered the last line of defence, and should only be used when other controls are not practicable.

Responsibilities of employers and supervisors

- Provide orientation, education, training, and effective supervision to workers. This includes immediately correcting unsafe behaviour.
- Ensure that machinery is safe for use. This includes ensuring that all safeguards are in place.
- Provide workers with any necessary PPE, and ensure that they use it.
- Ensure the health and safety of employees and other workers at the workplace. Correct any hazardous workplace conditions you are aware of or that are brought to your attention.
- Set a good example — wear appropriate PPE at all times, and use safeguards when working with machinery.
- Stress that it's more important to do the job safely than it is to get it done quickly. Emphasize “safe production.”

If you have concerns about health and safety that aren't being addressed by your supervisor or employer, call the WorkSafeBC Prevention Information Line (see “Resources” on page 11).

Resources

WorkSafeBC Prevention Information Line

The WorkSafeBC Prevention Information Line can answer your questions about workplace health and safety, worker and employer responsibilities, and reporting a workplace accident or incident. The Prevention Information Line accepts anonymous calls.

Phone 604 276-3100 in the Lower Mainland, or
1 888 621-7233 (621-SAFE) toll-free in British Columbia.

To report after-hours and weekend accidents and emergencies, call 604 273-7711 in the Lower Mainland, or 1 866 922-4357 (WCB-HELP) toll-free in British Columbia.

Web resources

Visit WorkSafeBC.com for information on health and safety requirements, accident prevention, first aid, and much more. The web site includes information that is specific to the manufacturing industry. Click “Safety at Work.” Then click “Safety by industry” and select “Manufacturing” from the drop-down list.

Publications

- *Manufacturing Safety* (BK117)
- *Safeguarding in Manufacturing* (BK109)
- *Safeguarding Machinery and Equipment: General Requirements* booklet (BK101)
- *Safety in Manufacturing* — Machine Guarding Checklist
- *Making it Right: Preventing Musculoskeletal Injuries (MSIs) in Manufacturing* (BK110)

WorkSafeBC

publications and videos

Many publications and videos are available for download at WorkSafeBC.com. The web site also includes searchable versions of the Occupational Health and Safety Regulation and associated policies and guidelines, as well as excerpts and summaries of the *Workers Compensation Act*.

Some publications and videos are also available for purchase in print:

Phone: 604 232-9704

Toll-free phone: 1 866 319-9704

Fax: 604 232-9703

Toll-free fax: 1 888 232-9714

Online ordering: Visit WorkSafeBC.com and click on Publications (follow the links for ordering).

“The videos were a direct contrast to the typical safety video. They captured the interest of each worker within the first few seconds and held it for the length of the presentation. I have no doubt that each and every one of my staff is very clear on the message that was being conveyed.”

— Geoff Morbey, Vehicle Maintenance Supervisor, SkyTrain

Two short videos highlight the importance of working safely in the manufacturing industry. These stories show how a life-changing accident can happen in a split second.

Look at Me depicts a serious eye injury that occurs when a worker operates a grinder without using eye protection.

In Too Much to Lose, an experienced worker loses his fingers when he uses a dangerous piece of equipment without a guard.

Warning: This video contains graphic scenes. Viewer discretion is advised.

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4 minutes running time for each video

