

Safeguarding 101: Keeping a safe distance

By Heather Prime

The fearless crashes and wild tumbles of contact sports can make for exciting television, but not a good day's work. When operating dangerous equipment, keeping a safe distance is the smartest play of the game. That's where safeguarding fits in. Whether you operate meat slicers or heavy-duty log chippers, you need proper safeguarding to protect life and limb.

What is safeguarding?

Safeguarding is the use of a variety of devices, either on their own or in combination, to protect workers from hazards. These devices include:

- **Guards** – A physical barrier that prevents workers from reaching over, under, around, or through the barrier to a machine's moving part or point of operation
- **Shields** – A physical cover or barrier that restricts but doesn't prevent access to a hazardous area while a machine is operating
- **Safety devices** – An arrangement of operating controls, an active or passive physical restraint (restraining safety belt), an interlock, or a presence-sensing device that ensures workers can't access or be in a hazardous area while a machine is operating

When is safeguarding required?

Ideally, safety should be incorporated into the design of all machinery and equipment to eliminate hazards. When safeguarding cannot be or has not been incorporated into the design, the Occupational Health and Safety Regulation requires safeguards that protect workers from:

- **Contacting hazardous power transmission parts** such as drive shafts, drive belts, gears, and couplings (the drive belt on a table saw).
- **Accessing a hazardous point of operation**, such as the point at which material is being sheared, drilled, machined, or formed.
- **Hazardous material ejected by the work process**, such as rocks flying off the end of a conveyor and cuttings from metal turned on a lathe, both of which are normal products of the work process. Protection from fragments of broken tools, bits (lathe or drill operation), or grinding wheels is also needed.

Safeguarding fact or fiction?

Fiction: If everyone knows about an unguarded hazard, no one will be injured.

Fact: You can't rely on the skill of the operator and luck to provide adequate safeguarding. When workers repeatedly operate a table saw without a guard on the blade, they may eventually be injured – in spite of their skill and knowledge that the exposed blade presents a hazard, and their best efforts to work safely around the hazard.

Fiction: Safeguarding is too expensive.

Fact: Safeguarding older machines or equipment that's not in regular use may seem expensive, but when you consider the pain and suffering caused by a serious injury or fatality, the cost is easily justified. Financial costs that result from a workplace injury can include higher insurance premiums, production downtime, hiring replacement workers, and repairing damaged equipment – not to mention the financial impact on the injured worker. Effective safeguarding is a bargain by comparison.

Fiction: The machine or equipment doesn't move at high speeds, so it can't cause serious injury.

Fact: Speed is not an indicator of safety. For example, a slowly rotating drive shaft is driven with enormous torque and may have a protruding key that could easily snag a worker's clothing. Despite its slow speed, this shaft could easily cause serious injury.

The safeguarding checklist

Follow these steps to ensure the appropriate safeguarding is installed at your workplace:

- 1. Assess the risk.** What type of hazard is the worker exposed to? How often is the worker exposed to this hazard? How likely is the worker to be injured? And don't forget to ask: Can we eliminate the hazard by doing the work in another way?
 - 2. Install the appropriate safeguard.** When determining what safeguards to install, consider the risk for injury and the need to access the danger area during normal operation. For low-risk situations, a shield, awareness barrier, and/or warning signs may do the job. High-risk situations require safeguarding that:
 - Meets minimum regulatory requirements (refer to Part 12 of the Occupational Health and Safety Regulation*)
 - Prevents workers' hands, arms, and other body parts from contacting all hazardous moving parts
 - Protects workers from material that may be ejected from the process
 - Is fastened securely and not easily removed
 - Ensures no objects will fall into moving parts
 - Permits safe and comfortable operation of the machine
 - Allows lubrication with safeguard in place
 - 3. Train workers in safe work procedures.** All workers require training on how to operate their equipment safely, which must include an understanding of the purpose and limitations of guards. This training should include the shutdown and lockout procedures workers must follow before removing safeguards.
- * Part 12 of the Regulation includes general requirements covering machinery location, operation controls, marking physical hazards, etc. Additional requirements are set out for specific equipment, such as conveyors, power presses, and machine tools.

