ANY EQUIPMENT CAN BE HAZARDOUS

IDENTIFY

Even the simplest tools and machines can have the potential to cause severe injuries when used or maintained improperly. Staying safe around equipment requires knowledge of what could go wrong and how to protect yourself from it.

A big reason incidents occur is failing to keep your eyes and mind on the task at all times. Staying focused can be difficult, with attention lessened by fatigue, health issues, personal problems, or just because what you're doing is so repetitive that you function on auto pilot. Also, modifications to tools and machines can play a role in incidents occurring.

Complacency and distraction can be avoided, but it takes conscious effort — by always following correct operating procedures, by being fully engaged in what you are doing, by being aware of your body mechanics, and by taking steps to deal with external factors such as illness or psychological problems.

Hazards posed by machinery can be either mechanical or non-mechanical. When operation of a machine or contact with it could injure the operator or others in the vicinity, the hazards must be eliminated or controlled.

There are as many hazards created by moving machine parts as there are types of machines. Common mechanical hazards and their associated risks include:

- Entanglement – rotating shafts, pulleys, sprockets, and gears
- Crushing – hard surfaces moving together
- Severing – scissor or shear action
- Cutting or puncturing – sharp edges
- Slips, trips, and falls – cable or house connections
- Shocks, burns, electrocution – electrical contact with loose wires or power feed lines
- Hand-arm vibration (HAV), harmful whole body vibration (WBV) and vibration-induced white finger (VWF) – associated with tool and machine operation
- Hearing loss – long term exposure to noise levels of 85 dbA Lex or higher can cause significant damage to a worker's hearing
- Eyes – metal and wood shavings, dust and debris
- Respiratory – fumes, gasses

COMMUNICATE AND CONTROL

Dangerous moving parts in three basic areas require safeguarding:

- **Point of operation** – where work is performed on the material, such as cutting, shaping, boring, or forming of stock.
- **Power transmission apparatus** – all components of the mechanical system that transmit energy to the part of the machine performing the work. These components include flywheels, pulleys, belts, connecting rods, coupling cams, spindles, chains, cranks, gears, and hydraulic actuated components.
- **All other moving parts** – when the machine is operating, these can include reciprocating, rotating, and transverse moving parts, as well as feed mechanisms and auxiliary parts.

Before operating a machine, inspect it for missing or loose bolts, nuts, screws, and other components. Make sure all guards are in place and secure.

Here are some more ways to stay safe around equipment in your workplace:

- Review the safe work procedure on a regular basis.
- Whether hand tools are manual or powered, always use the correct one for the task.
- Never rush machine speeds or feeds. This can cause injury or damage to machinery.
- Whether hand tools are manual or powered, always use the correct one for the task.
- Never clean a machine that is operating.
- Always keep your hands out of the line of operation of tools and machines.
- Never leave machines unattended.
- Never engage in horseplay.
- Use proper lockout/tagout procedures for repairs and maintenance.
- Always clean up a machine after using it.
- Never use compressed air to blow machines or clothing.

THE QUIZ

1. All tools and machines in the workplace have the potential to cause injury:
   TRUE_____ FALSE_____

2. Health issues and personal problems cannot lead to misuse of equipment:
   TRUE_____ FALSE_____

3. Which of these are the main types of hazards posed by machinery? (Circle all that apply.)
   a) Physical
   b) Mechanical
   c) Electrical
   d) Non-mechanical
   e) None of the above

4. Always clean a machine while it's operating to ensure you don't miss a spot:
   TRUE_____ FALSE_____

5. Which of these can cause entanglement:
   a) Hard surfaces moving together
   b) Scissors or sheer action
   c) Rotating components
   d) Sharp edges

6. Safeguarding is often required for parts of a mechanical system that transmit energy to the part of the machine performing the work:
   TRUE_____ FALSE_____

7. Which of these can cause serious injury if not controlled adequately?
   a) Dust
   b) Vapours or fumes
   c) Chemicals
   d) Pressurized fluids and gasses
   e) All of the above

8. Are there written lockout/tagout procedures for all energized equipment and tools in your workplace?
   _____

ANSWERS:

1. TRUE; **2.** FALSE; **3.** b, d; **4.** FALSE; **5.** c; **6.** TRUE; **7.** e;
8. Site-specific answer