Risk management strategies: General metal: Industrial Technology

In *General metal* you will learn to identify the range of potential hazards in the work environment and develop risk management strategies.

This material addresses aspects of the following syllabus outcomes:

5.1.2 A student applies OH&S practices to hand tools, machine tools, equipment and processes.

Extract from: Years 7–10 Industrial Technology Syllabus © Board of Studies NSW 2003.

The control of risks

The process of risk management is the responsibility of all teachers and students who use the practical workshops, machinery or equipment. It requires users to identify the hazard, assess and control the risks involved. The purpose is to enable appropriate decisions to be made about control measures that will protect the health of the users.

The assessment process allows a distinction to be made between the hazard and the risk to health that arises from the exposure to an item and its use.

The *hazard* is the potential for an item to adversely affect the health of the user.

The *risk* is the likelihood that an item will cause injury due to the way it is used.

Having identified the materials and equipment to be used it is necessary to see whether they pose a hazard. Some hazards may include the following.

Hazard	**Example**
Amputation, laceration	Contact with a blade or cutter.
Abrasion	Contact with a sanding disk.
Impact	Ejected work piece or broken blade.
Entanglement	Due to rotating machinery.
Entrapment	Between pulley and belts.
Strain injury	Moving large work pieces.
Crush	Between clamp and table.
Burns	Hot metal, flames.

The risk must be evaluated and can generally be described as *significant* or *not significant*. If there is not a significant risk to health then the assessment is complete.

If there is *significant* risk to health, further actions should be taken to control the situation. Your teacher needs to be informed of any significant risks and they will be responsible for controlling the situation.

Activity 1: Identify the hazard

Complete the following table by identifying and describing the hazard. The first example has been completed for you.

Situation	Hazard	Description
1. Using a MIG welder to join two pieces of 5 mm flat mild steel.	• Burns	• The molten metal can *spatter* and the two pieces of metal become extremely hot with a potential risk of burning the user.
	• Flash burns	• Eye protection needed for flying particles and flash protection.
2. Turning between centres on the lathe.	•	
	•	
	•	
3. Using an angle grinder to cut 5 mm flat mild steel.	•	
	•	
	•	
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4. Using the pedestal drill to drill holes in sheet metal.	•	
	•	
	•	
5. Changing the belts to alter the speed of a pedestal drill.	•	
6. Lifting and moving an anvil for forging purposes.	•	

Activity 2: Control measures

Consider the hazards in Activity 1 and describe the method for controlling any risks. The first one is completed for you.

1. The operator must wear a face shield and appropriate eye protection, leather apron, protective gloves, enclosed shoes, and cover to exposed skin. The hot pieces of metal should be lifted with tongs and cooled under water or isolated from others to avoid accidental burns.

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3. _____
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4. _____
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5. _____
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6. _____
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