WHAT COMES FIRST, THE HAZARD OR THE RISK?

Risk management has become a more common phrase in workplaces around New Zealand since the introduction of the Health and Safety at Work Act 2015, but, asks **Greg Dearsly**, in a health and safety context what does risk management look like?

Identification

There are a variety of methods that can be used to identify hazards that contribute to health and safety risk. The first thing to do, is to understand the risk profile of your workplace, by:

- Working with your workers to identify existing or known hazards
- Implementing a way to enable workers to report new hazards
- Analysing feedback from investigations or audits about how hazards are being managed
- Engaging with your industry association or client about hazards and ways they can be managed.

WorkSafe states that a worker is 15 times more likely to die from a work-related disease than from a workplace accident. When looking for hazards in your workplace, don't forget to consider those that might cause chronic harm over a long period of time such as, for example, cancers. These hazards might include hazardous substances, hazardous respirable dust, fumes or other particles or hazardous levels of noise.

You should also consider those health risks that workers might face should they be exposed to specific scenarios when conducting a work task or in a specific work environment, that might contribute to harm. See examples on the right side of figure 1.

Assessment

When undertaking a risk assessment, there are two key questions to ask:

1. How bad could it be?
2. What's the chance of it happening?

These two questions are commonly referred to as consequence and likelihood. In addition, you also want to understand who could be exposed, i.e., workers, contractors, visitors, bystanders, members of the public.

The answers to these questions will help you understand the priorities for dealing with these hazards. If you end up with a high consequence outcome, for example, multiple fatalities or serious injuries, combined with a high likelihood, then that is where you should focus attention. WorkSafe has a resource that can step you through this assessment process (see end of the article for hyperlink).

Control

Following the hierarchy of controls (see figure 2) is required by the General Risk and Workplace Management (Regulations) 2016. This hierarchy defines the order in which a Person Conducting a Business or Undertaking (PCBU) should consider the best ways to reduce risk associated with a task.

First consider if the risk can be eliminated but if you can't eliminate it:

Figure 1 – Effects of work on health and the effects of health on work.
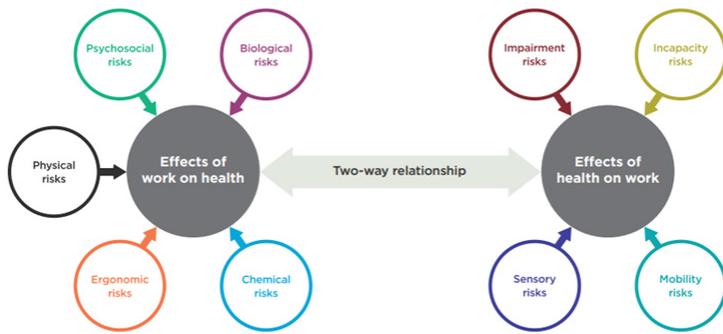
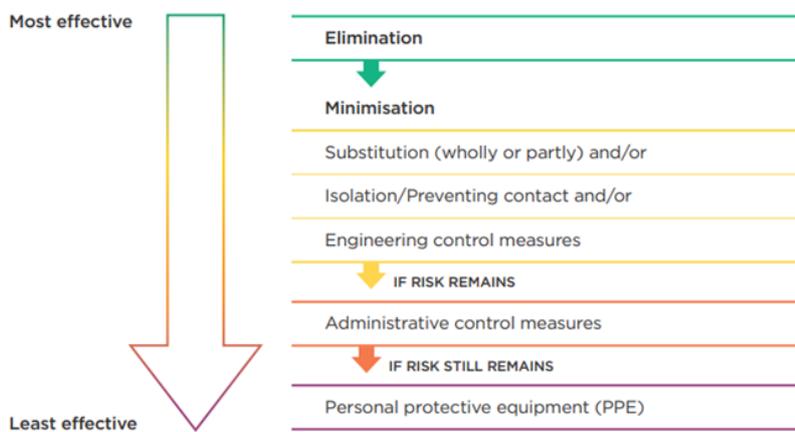| WORK-RELATED HEALTH RISKS ('EFFECTS OF WORK ON HEALTH')					HEALTH-RELATED SAFETY RISKS' ('EFFECTS OF HEALTH ON WORK')			
Biological risks	Chemical risks	Ergonomic risks	Physical risks	Psychosocial risks	Impairment risks	Incapacity risks	Mobility risks	Sensory risks
Blood borne viruses (eg Hep C)	Asbestos	Manual handling	Noise	Bullying and work behaviours	Fatigue	Poorly controlled diabetes	Physical frailty	Colour vision deficiency
Animal bacteria (eg Leptospira)	Solvents	Shift work	Vibration	Excessive workload	Stress or mental distraction	Poorly controlled heart disease	Bone and/or joint conditions	Reduced visual acuity
Bacterial infection	Pesticides	Job design	UV radiation (eg sun exposure)	Lack of autonomy	Drugs/alcohol consumption	Poorly controlled high blood pressure	Severe obesity	Reduced hearing capability

Figure 2 – The Hierarchy of Controls

- Substitute the hazard with one that presents less risk
- Isolate the hazard – can you reduce risk by putting a guard or a barrier around the hazard?
- Consider other engineering controls. This could include lockout systems or modifying equipment to add mechanical devices to better protect workers from harm such as using dust extraction equipment on power tools.

The examples listed above of substitution, isolation and engineering are deemed the most effective way to reduce risk and are sometimes called 'above the line' controls.

In many cases these controls are supported by other ways of further reducing risk, using below the line controls. Administrative controls such as training, standard operating procedures, safe work method statements, signs and painted lines on the road are all examples of these, less effective, methods to controls exposure to a hazard.

Further controls that minimise risk is the use of personal protective equipment (PPE). This is our last line of defence because if the PPE fails someone usually gets hurt, therefore we shouldn't rely on this alone.

Review

The last step of the continuous cycle is to review and monitor your approach to risk management to ensure it remains effective and fit for purpose for the situation. Monitoring can take various forms. Exposure monitoring will help you understand if workers are being exposed to a hazard such as noise or levels of dust at harmful levels. Health monitoring helps you to understand if your controls for minimising health related exposures are effective. This might be annual hearing tests to make sure the suite of controls you have introduced to reduce exposure to noise are working as they were intended and that workers are not suffering from workplace noise induced hearing loss. Site inspections or audits can also identify whether your controls remain effective.

What can I do to connect this together?

- Make sure there is a way in which workers can easily report new hazards
- If new hazards are reported, act straight away to either eliminate it from the workplace or minimise the risk of exposure
- Include identification of those hazards that might cause harm to worker health
- Have workers participate in risk assessments, hazard identification and site inspections
- Check on the effectiveness of your controls periodically to make sure they are being used effectively. **R**

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WorkSafe resource for assessing risks
bit.ly/R0322-HS