

# Diminishing Risks

## How to avoid 25 risk assessment errors

BY SCOTT WILLIAMS

In the life of an action hero, taking risks always pays off. At the very last second, a leap into the face of danger thwarts evil schemes and spares an unsuspecting populace. Music swells, a beautiful young girl sinks gratefully into the hero's arms, and the camera slowly pulls back to reveal the devastation of an epic battle.

In the workplace, any leap into the face of danger is often inadvertent. And potentially catastrophic.

Assessing risk beforehand is one way of preventing such leaps. It can protect your workers and your business from loss, and help you stay in compliance with the law.



“Risk” can be defined as the probability of something bad happening plus the magnitude of the consequences. In other words, how likely is it for a particular potentially harmful event to occur, and what would be the impact?

While eliminating risk is often a matter of course—keeping that machine guard in place, for instance—our ability to eliminate or control risks depends entirely on our ability to identify them. But what if the assessment is flawed?

Conducting a risk assessment, explains the Canadian Centre for Occupational Health and Safety, involves taking a thorough look at your workplace to identify anything—processes, procedures, situations—that may cause harm, evaluate how likely and severe the risk is, and decide on measures to prevent or control the harm from happening.

Although the process is straightforward, errors can compromise the accuracy and quality of the risk assessment, and increase the risk of injury or illness. Twenty-five of the most common errors, and steps to avoid them, are discussed below in the order in which they generally occur.

## Planning a risk assessment

Preparing for a risk assessment includes:

- commissioning, organizing and coordinating the assessment
- appointing competent people to conduct it
- consulting worker representatives of the assessment
- providing the necessary information, training, resources, time and support to assessors
- ensuring, where relevant, adequate coordination between assessors
- involving management and encouraging workforce participation

**1. Not involving a team of people in the assessment**, or not including employees with practical knowledge of the process or activity being assessed. IAPA consultant Ron Furanna recommends a team approach that includes joint health and safety committee members, managers, supervisors, and operators/workers. “We’ve had good success with this approach, which has helped firms discover unrecognized hazards.”

**2. Not assigning responsibility for the risk assessment to a competent person.** It’s essential that the employer and those

making the assessment recognize their limits. “More specialized expertise,” says Furanna, “can then be brought into the process if needed, such as industrial hygienists, machine guarding specialists, ergonomists, or healthy workplace consultants. Besides offering additional expertise, outside experts have no preconceptions about or biases toward your operations. Furthermore, their involvement can free up internal resources that would otherwise be committed to the assessment.”

**3. Involving experts in the risk assessment process who are not familiar with the business.** If you’re adding experts to the process, provide a full briefing, starting with company information, a clear statement of the assessment objectives, and the resources available.

## Carrying out the risk assessment

This stage involves 5 steps:

- identifying loss exposures
- analyzing loss exposures and applying risk assessment techniques
- deciding on prevention and control measures
- implementing prevention and control measures
- monitoring results and revising prevention and control measures

### Step 1: identifying loss exposures

Identify anything that has the potential to cause harm, and who is at risk. Hazards can affect people, property and processes, cause injuries and ill health, reduce output, damage equipment and machinery, and compromise customer relationships.

**4. Overlooking possible risk categories**, such as psychosocial risk and work organizational factors. Such risks, which are linked to the way work is designed, organized and managed as well as to the economic and social context of work, increase stress levels and can lead to a serious deterioration in mental and physical health. Examine these risk categories during the first step of the risk assessment.

To avoid omitting risk categories or analyzing one aspect at the expense of another, consider the HEEPO concept:

- **Human**—lack of physical or mental capacity, lack of knowledge or skills, lack of right attitude or behaviour
- **Equipment**—workplace layout, machines, hand tools, software and hard-

ware, tables or chairs

- **Environment**—light, noise, climate, vibrations, air quality or dust
- **Product**—dangerous substances, heavy loads and sharp or hot objects
- **Organization**—tasks, working hours, breaks, shift systems, training, communication, team work, contact with visitors, social support or autonomy

This approach can be easily integrated into job task analyses, which involve

- classifying job tasks by the level of risk
- conducting task analyses, starting with the riskiest tasks
- preparing task instructions for employers and workers

“Job task analyses are an excellent way to identify risk and hazards related to the work performed,” says Furanna. “They also help employers fulfill their obligation under the *Occupational Health and Safety Act* to point out hazards to supervisors and workers, can be used by joint health and safety committees to further analyze the causes of injury, and assist firms that are going through a WSIB Workwell audit.”

**5. Not thinking about long-term health hazards.** Superficial risk assessments tend to focus on the more obvious risks, and ignore risks with long-term effects or that are not easily observed, such as those caused by exposure to harmful chemicals or high levels of noise. “Controlling exposures to health hazards is essential to any health and safety program,” says Furanna. “If you perform risk assessments properly, they’ll identify both long- and short-term risks.”

**6. Looking only at the procedures manual, instead of involving workers.** Observe and question workers. If actual practice differs from what’s laid out in the manual, the current risk control methods may have resulted from an inadequate risk assessment, or may not have been updated to reflect process or other changes.

**7. Strictly following a checklist.** A checklist is just one step in conducting a risk assessment. A checklist can help to identify hazards and potential prevention measures, but is not intended to cover all the risks of every workplace. Ensure your checklist reflects your particular sector or workplace. You may need to add some items and omit others. You may also need other tools to assess more complex risks. When in doubt, call in an expert.

**8. Not recognizing a hazard as significant.** Record all potential hazards, even if you consider them insignificant or you already have protective measures in place. The assembled information on workplaces, jobs performed and workers involved may help to identify hazards and those at risk. Keep in mind that workplace conditions and jobs vary across an organization. Possible shortcomings in the recording process can compromise the accuracy and quality of the risk assessment. “If team members cannot agree on a perceived level of risk,” says Furanna, “seek additional information and assistance. Consensus is essential regarding the investigation process and decisions.”

**9. Overlooking second jobs,** such as maintenance or cleaning. Serious injuries can also occur in these types of jobs. “Jobs that are not regularly performed typically pose a higher risk,” warns Furanna, “so it’s imperative to conduct risk assessments and task analyses of these types of jobs. In fact, I would hold a project planning meeting before any such work begins. Include managers, supervisors and workers, and review the risks, safe methods and procedures, and hazard controls that will be used.”

**10. Not taking into account the presence of subcontracted workers and other visitors.** They are likely unfamiliar with the risks present or precautions to be taken, so consider them to be also at risk and a source of additional risks.

**11. Not ensuring coordination between employers and subcontractors,** so that the employer and subcontractors can coordinate their actions and inform one another and their respective workers and/or worker representatives of any hazards and risks. “Communication is essential. For subcontractors to take reasonable precautions, employers must supply information on hazards. Conversely, be aware that subcontractors may introduce new hazards,” says Furanna.

“Legal liability, as well as workers compensation and other insurance coverage, should also be explored to cover any substantive risk. Depending on the actual involvement of the employers with the contractors, the employers could be held responsible for injury and loss incurred by their employees, as well as the contractors’ employees.”

**12. Not including groups of persons who may be at particular risk,** such as

pregnant women, older workers or people with a disability. These vulnerable workers may be at greater or additional risk.

**13. Not recording equipment used only on special occasions.** Old, redundant or rarely used equipment can be missed in a risk assessment. However, it may still present hazards.

**14. Not collecting records of injury and ill-health data.** These data may reveal important information on hazards and hazardous areas, and alert you to sensitive workers, such as those with allergies. Include near-incident data or data on dangerous situations if they are recorded.

## **Step 2: analyzing loss exposures and applying risk assessment techniques**

This step involves estimating risks, taking into account the probability and severity of harm that hazards may pose.

**15. Not fully assessing the risks.** Describe any consequences arising from hazardous events. Consider immediate and future consequences. The latter is particularly appropriate when assessing the risk of illness. Be realistic about the worst that could happen, and work back to the minor risks. Everything else in the process flows from this assessment. Fault tree analyses are a useful technique. So too are failure mode and effect analyses. These analyses can identify system failures or scenarios that could lead to potential losses.

“Keep in mind that perceptions of risk may vary,” says Furanna. “For example, the amount of control that people have over their work can affect their perception of risk.”

**16. Creating a false sense of security.** Detecting a risk does not eliminate it from the workplace. The greater challenge is to take effective preventive measures.

**17. Moving from one scenario to another while estimating effect, exposure frequency and probability.** Once you have chosen to assess a scenario, stick with it through the whole assessment process. For example:

- scenario 1 involves a worker only lifting heavy boxes while working in the production area
  - scenario 2 involves a worker also lifting heavy boxes while working in other areas
- The exposure frequency is higher for

scenario 2 than 1. The probability that he or she will develop a musculoskeletal disorder (MSD) is also higher. So, depending on the actual situation, the assessor would be advised to choose a consistent scenario to calculate both the exposure and probability figures.

For more information on calculating probability, download *Probabilistic Risk Assessment Procedures Guide for NASA Managers and Practitioners*, a free document available at [www.hq.nasa.gov/office/codeq/doctree/praguide.pdf](http://www.hq.nasa.gov/office/codeq/doctree/praguide.pdf).

## **Step 3: deciding on prevention and control measures**

**18. Not taking into account the prevention hierarchy.** When implementing preventive and protective measures, follow these principles of prevention.

a) First consider whether risks are preventable or avoidable. Is it possible to eliminate the risk? This can be done, for instance, by

- eliminating unnecessary tasks or jobs
  - removing the hazard
  - using different substances or work processes
- b) If risks are not avoidable or preventable, reduce them to a level that doesn’t compromise the health and safety of those exposed.

When determining a reduction and control strategy, consider the following options:

- combatting the risk at source
- adapting the work to the individual, especially with regard to workplace design, the choice of work equipment, and the choice of working and production methods. Among the goals: to alleviate monotonous work and work at a predetermined work rate, as well as their effect on health. Job enrichment or enlargement can help alleviate some of these concerns
- adapting to technical progress
- substituting the dangerous with the non-dangerous or less dangerous
- developing a coherent overall risk assessment and control program that covers technology, organization of work, working conditions, social relationships, and the influence of factors related to the working environment
- giving collective protective measures priority over individual protective measures (e.g., controlling exposure to fumes through local exhaust ventila-

tion rather than personal respirators)  
• giving appropriate instruction to workers  
Having trouble making decisions?  
Consult CSA Standard Q850-97, *Risk Management: Guideline for Decision Makers*, www.csa.ca.

**19. Transferring the risk.** Ensure that solutions to one problem do not create another problem elsewhere. Don't stop at potential health and safety problems. "For instance," says Furanna, "watch out for other business risks and issues, such as psychosocial hazards, violence and harassment, environmental concerns, and natural disasters. There can also be ethical issues, such as transferring risk to others or the environment.

**20. Not consulting or involving workers in decisions about preventive action.** Workers may, for example, be able to point out where a preventive measure is difficult to implement, or suggest alternatives.

#### Step 4: implementing prevention and control measures

**21. Not prioritizing implementation.** Take into account the severity of the risk, the likely outcome of an incident, the number of workers who could be affected, and the time needed to take preventive measures. If a problem cannot be resolved immediately, identify and incorporate steps that can be taken in the short term as part of the longer term solution. "This is a key

point," says Furanna. "Priorities must be set."

**22. Not involving the workers.** "They're experts in the work being performed," says Furanna, "and should be involved in this and all other stages of risk assessment and control implementation." At this stage, it is particularly important that workers participate in the selection and use of personal protective equipment (PPE). They're the best judge of whether the PPE is a suitable fit, interferes with their work, introduces other risks, or becomes difficult to use over time.

#### Step 5: monitoring and revising prevention and control measures

This stage includes:

- determining the process for reviewing and revising the risk assessment
- ensuring that preventive and protective measures take account of assessment results
- monitoring protective and preventive measures to ensure that they will remain effective

**23. Considering the risk assessment as a one-time obligation.** Ron Furanna recommends reviewing risk assessments and controls annually, and conducting new assessments whenever changes occur. Examples of change include

- the introduction of a new work process, new equipment or materials
- a change in work organization

- the introduction of new workshops
- 24. Not supervising sufficiently the prevention measures' effectiveness.** The effective application of protective measures should also be monitored through a risk assessment review.

#### Documenting the risk assessment

A standard form could provide an overview of hazards, risks and subsequent measures, with customized versions for each department in the organization.

- 25. Not recording the assessment.** Records can be used as a basis for
- information to be passed to the persons concerned
  - monitoring to assess whether necessary measures have been introduced
  - evidence to be produced for supervisory authorities
  - any revision if circumstances change

*Adapted from an article published by the European Agency for Safety and Health at Work.*

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#### TAKING THE NEXT STEP

For a list of related IAPA resources, turn to "Sources," page 42.

# SOURCES

# How Risk Assessment Fits into OHS Management

*Risk assessments form an integral part of an occupational health and safety management plan by helping to*

- create awareness of hazards and risks
- identify who may be at risk (e.g., workers, cleaners, visitors, contractors, the public, etc.)
- determine if existing control measures are adequate, and if not, what can be done
- prevent injuries or illnesses at the design or planning stage
- prioritize hazards and control measures

#### After assessment, control

Once priorities have been identified, you can determine how to prevent or control them.

There are four standard categories of control measures:

- elimination/substitution
- engineering controls
- administrative controls
- personal protective equipment (PPE)

PPE is the least desirable means of control. IAPA recommends that it be considered as a last resort.