

# MANUAL TASKS & THE RISK MANAGEMENT PROCESS

3. Control risk – implement measures to eliminate or reduce the risk by altering its source
4. Monitor and review – assess the effectiveness of the risk control measures that have been implemented.

Consultation between employers and workers, including any safety and health representatives, is essential at each stage for the process to be successful.

## Identifying hazards

Hazard identification is a way of analysing tasks to find out which tasks could cause or contribute to the development of musculoskeletal disorders. It involves gathering, reviewing and analysing information to identify those manual tasks that may be hazardous, and includes:

- consulting workers involved in the work process;
- examining available sources of information such as injury records, and incident and hazard reports; and
- observing work processes.

Tasks that are likely to be hazardous manual tasks include those where an injury, pain, discomfort or difficulties have been reported. These tasks need to be observed to determine if they show any of the characteristics of hazardous manual tasks (see Fact Sheet 1). Tasks that are newly introduced, have been modified or have not previously been examined should also be observed.

If more than one hazardous manual task is identified, it is important to prioritise them by ensuring that those likely to pose a higher level of risk are assessed first.

## Assessing risk

To assess the likelihood of an identified hazardous manual task increasing the risk of musculoskeletal disorders, the risk factors known to lead or contribute to such injuries are investigated and, where applicable, measured.

### *Direct risk factors are:*

- postures and movements of the worker, including awkward postures that are repeated or sustained;
- forces involved in the task, including high force, jerky or unexpected forces and speed and force; and
- duration and frequency of the task, that is, for how long and how often the task is performed.

### *Contributing risk factors are:*

- work environment, including cold, heat, humidity, wind, lighting, floor surfaces and housekeeping;
- systems of work, work organisation and work practices, including high workloads and tight deadlines, little latitude for workers to influence workload or work methods, and unsuitable or insufficient resources such as staffing levels, equipment and guidance available to workers; and
- exposure to vibration, including whole-body and hand-arm vibrations.

The risk of developing a musculoskeletal disorder significantly increases where direct and contributing risk factors are present and interact within a task.

The risk assessment process will also help to determine what causes or contributes to the risk (i.e. sources of risk). ▶

The risk management process provides a framework within which all manual task risk factors that cause or contribute to the development of musculoskeletal disorders can be considered. It helps to ensure the cumulative nature of these injuries is effectively managed.

Consultation with workers and safety and health representatives helps to ensure that the solutions developed are likely to work and gives employees ownership over the controls.

The *risk management process* provides a structured approach to reduce the risk of musculoskeletal disorders from performing manual tasks at work. It involves the following stages:

1. Identify hazards – identify hazardous manual tasks
2. Assess risk – assess risks of musculoskeletal disorders that arise from these hazards and identify the sources of the risk

### Sources of risk include:

- work area design and layout, including inadequate design or placement of items in the workplace;
- nature of the item or load being handled or used, including weight, balance, handle design, handle orientation, shock loading and impact forces and failure to select for purpose;
- working environment, including thermal environment, floor surfaces, steps, ramps and containments on floors, quality of housekeeping and vibration; and
- systems of work, work organisation, methods of work and job design for 'average' workers.

The assessment may also rate the level of the risk.

### Controlling risk

The risk control process determines what needs to be done to alter the sources of risk identified by the risk assessment, with the aim of eliminating or minimising the risk of musculoskeletal disorders.

The control measures should follow the hierarchy of controls, with elimination or redesign and engineering controls implemented in preference to administrative controls and personal protective equipment (PPE), which should only be used as a last resort or to supplement other controls.

Examples of control measures for hazardous manual tasks are:

- elimination – remove the need for the hazardous manual task by introducing mechanisation or changing the system of work;
- substitution – change the way a hazardous manual task is performed;
- engineering controls – modify equipment, tools or the design and layout of the work area;
- administrative controls – provide information, training, instruction, supervision or a combination of these,

or limit the time spent on hazardous manual tasks by adjusting the roster or rotating staff; and

- personal protective equipment – to reduce exposure to risk factors, provide PPE such as gloves for protection against cold to maintain circulation.

Rather than a single solution, a combination of measures may be needed to control the risk. Risk control may also involve employing an interim measure while a long-term solution is developed.

When risk control measures are implemented, it is good practice to:

- trial the solutions;
- review the controls after the testing period;
- develop work procedures to ensure the controls are understood and responsibilities are clear;
- communicate the reasons for the change; and
- provide training to ensure workers can and do complete the tasks competently.

### Monitoring and reviewing

The effectiveness of the risk control measures used is assessed by monitoring and reviewing. This is an ongoing process and should include consultation with the workers doing the task and their supervisors, observation of the work activities and monitoring injury reports.

### Further information

More information and tools to assist in the hazard identification, risk assessment, risk control and evaluation process are available from the following sources.

In August 2007, the Australian Safety and Compensation Council (ASCC) declared the *National Code of Practice for the Prevention of Musculoskeletal Disorders from Performing Manual Tasks at Work*. The code of practice provides practical guidance on how to manage risk arising from performing manual tasks at work and

can be downloaded at [www.ascc.gov.au](http://www.ascc.gov.au)

In 2004, R. Burgess-Limerick published the final report on *ACARP Project C11058: Reducing Musculoskeletal Risk in Open Cut Coal Mining* under the auspices of The University of Queensland and Australian Coal Association Research Program. The report and accompanying handbook, co-authored with S. Leveritt, M. Nicholson and L. Straker, are available at [ergonomics.uq.edu.au/download/C11058.pdf](http://ergonomics.uq.edu.au/download/C11058.pdf). The handbook can also be downloaded or purchased (with accompanying DVD) at [www.burgess-limerick.com](http://www.burgess-limerick.com)

In 1993, the National Occupational Safety and Health Commission and Joint Coal Board funded a handbook compiled by B. McPhee on *Ergonomics for the Control of Sprains and Strains in Mining*. The 36-page handbook can be downloaded at [www.jkggroup.com.au/documents/ErgonomicsSprainsStrainsMining.pdf](http://www.jkggroup.com.au/documents/ErgonomicsSprainsStrainsMining.pdf) and hardcopies can be ordered at [www.coalservices.com.au](http://www.coalservices.com.au)

### References

- AUSTRALIAN SAFETY AND COMPENSATION COUNCIL, 2007, *National Code of Practice for the Prevention of Musculoskeletal Disorders from Performing Manual Tasks at Work*: Australian Government, Canberra, 127 pp.
- BURGESS-LIMERICK, R., LEVERITT, S., NICHOLSON, M., and STRAKER, L., 2004, *Reducing Musculoskeletal Risk in Open Cut Coal Mining*: The University of Queensland and Australian Coal Association Research Program, Brisbane, 43 pp.