

Ergonomics in the workplace: MSI prevention training

OHS information for employers and supervisors

This bulletin gives an overview of employer requirements to provide musculoskeletal injury (MSI) prevention training to workers, and for workers to participate in and apply the training. It is part of the *Ergonomics in the workplace* series that focus on applying ergonomics principles to reduce illness and injury, while meeting Alberta's occupational health and safety (OHS) requirements.

See the "For more information" section of this bulletin to see the other resources that are part of our Ergonomics in the workplace series.

KEY INFORMATION

- Information in this document is not intended to be used as the sole training material for workers.
- Include the MSI issues specific to your work site in your training.

Musculoskeletal injuries

MSIs are also called strains and sprains, musculoskeletal disorders (MSDs) and repetitive strain injuries. They can range in severity from minimal discomfort and a short recovery to a life-long injury that affects a worker's ability to do the work and home activities they once could.

One of the aims of ergonomics is to eliminate and control MSI hazards by adjusting the design of work to fit the abilities of the workers. See the bulletin [Ergonomics in the workplace: Identifying and controlling MSI hazards](#) for an overview of some of the hazards that can contribute to MSIs at the workplace.

Training requirements

OHS legislation requires all workers who may be exposed to the possibility of an MSI to have specific training to help eliminate or reduce that possibility. Training needs to include:

- identification of factors that can lead to an MSI,
- the early signs and symptoms of MSIs and their potential health effects, and
- specific preventive measures in place at their work site(s).

To be considered competent, a worker must be suitably trained, adequately qualified and have sufficient experience to safely perform their work without supervision or with only a minimal degree of supervision. Required MSI prevention training should include some form of practical demonstration to show that the workers understand and can apply what they've learned.

Identifying factors that can lead to an MSI

MSI prevention training must teach how to identify factors that could lead to an MSI. This is an opportunity for workers to participate in the hazard assessment and control process, to protect themselves and others and to bring forward any MSI hazards to their supervisor to address in a timely manner.

Early signs and symptoms

If a worker reports to the employer what the worker believes to be work-related symptoms of an MSI, the employer must promptly



- review the activities of that worker, and of other workers doing similar tasks, to identify work-related causes of the symptoms, if any, and
- take corrective measures to avoid further injuries if the causes of the symptoms are work-related.

-OHS Code, s. 211

Training content must include the early signs (what can be seen) and symptoms (what is felt) of MSIs and their potential health effects. Early detection of MSIs can allow for earlier intervention and a faster recovery.

Signs and symptoms of MSIs can come on quickly or gradually. They may include:

- swelling
- redness of a body area
- reduced range of motion
- pain
- dull ache
- tingling
- numbness
- burning sensation
- tenderness to the touch

Encourage workers to report signs and symptoms of a work-related MSI to their supervisor.

The earlier a worker can identify and report a potential MSI that may be related to their work, the earlier corrective actions can be taken to avoid further injury. This supports the internal responsibility system, with workers and employers sharing the responsibilities for workplace health and safety.

Training to address specific preventive measures

As with any hazard, workers must know what MSI hazards are present in their job tasks, and what specific controls are in place to prevent or control those hazards. Have a training component for each job task to eliminate or control hazards, including MSI hazards.

Train workers in the hierarchy of controls, so they understand the controls in place for a particular task. If elimination of a hazard is not possible, controls must be implemented in the following order:

- Engineering – Isolate people from the hazard by controlling it at its source.
- Administrative – Change the way people work.
- Personal protective equipment (PPE) – Protect workers with PPE. PPE is only introduced after engineering and administrative controls are found to be insufficient for specific hazards. Workers must be trained in the proper use of the PPE and the equipment must be maintained in working order.

If a hazard can't be eliminated or controlled by using a single control method, the employer may use a combination of controls to give a greater level of worker health and safety.

See [Table 1](#) at the end of this bulletin for some examples of training topics based on sample controls.

Training records

Keep good records of training provided to workers. Training records help track which workers have the MSI prevention training required by OHS legislation. They can also help signal when workers are due for re-certification or refresher training.

TABLE 1. WHAT WORKERS SHOULD KNOW ABOUT COMMON MSI HAZARD CONTROLS

MSI hazard control	Training topics
Equipment available for manual handling tasks	<ul style="list-style-type: none"> • Which available equipment is the most appropriate for the job task. • How to properly and safely use the equipment as intended by the manufacturer. • How to report malfunctioning equipment.
Workstation layout and adjustment to reduce awkward postures	<ul style="list-style-type: none"> • How to arrange the items, furniture and equipment at the workstation to minimize awkward postures. • How high the workstation should be adjusted, based on the task and worker height. • How to store and organize items to keep frequently used items within easy reach. • What equipment is available for workers to position themselves to an appropriate height if a workstation cannot be adjusted.
Appropriate tool selection	<ul style="list-style-type: none"> • How to select the appropriate tool to minimize <ul style="list-style-type: none"> – awkward postures based on the job task – excessive force or vibration
Maintenance of tools, equipment and mechanical aid devices	<ul style="list-style-type: none"> • Schedule for required maintenance of equipment and mechanical aids. • How to use the selected tool or equipment as intended by the manufacturer. • How to report malfunctioning or damaged tools and equipment.
Safe lifting techniques	<ul style="list-style-type: none"> • Practical demonstrations of safe lifting techniques – specific to the job task and environment.

Contact us

OHS Contact Centre

(Concerns, questions, report serious incidents)

Anywhere in Alberta

- 1-866-415-8690

Edmonton and surrounding area

- 780-415-8690

Deaf or hearing impaired

- 1-866-232-7215 (Alberta)
- 780-427-9999 (Edmonton)

Call the OHS Contact Centre if you have concerns that involve immediate danger to a person on a work site.

Notify OHS of health and safety concerns online

alberta.ca/file-complaint-online.aspx

Report a potentially serious incident online

alberta.ca/report-potentially-serious-incidents.aspx

Report a mine or mine site incident online

alberta.ca/report-mine-or-mine-site-incidents.aspx

Website

alberta.ca/ohs

Get copies of the *OHS Act*, Regulation and Code

Alberta Queen's Printer

qp.gov.ab.ca

OHS

alberta.ca/ohs-act-regulation-code.aspx

For more information

Ergonomics in the workplace: Identifying and controlling MSI hazards (ERG045)

ohs-pubstore.labour.alberta.ca/erg045

Ergonomics in the workplace: Identifying and controlling manual handling hazards (ERG043)

ohs-pubstore.labour.alberta.ca/erg043

Prevention Initiative Resources – Musculoskeletal disorders (MSDs) / Musculoskeletal injuries (MSIs)

ohs-pubstore.labour.alberta.ca/musculoskeletal-disorders

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