



# Manual material handling:

## Can you handle the risks?

Most of us have lifted a box, passed work materials to a co-worker, or carried something heavy from one place to another without giving it much thought. But those seemingly harmless actions can often cause significant musculoskeletal disorders (MSDs) such as back or shoulders injuries.

It is important for any worker, whether in an office, on the road, or on a worksite, to understand the hazards that increase our risk of developing an MSD. MSDs are often associated with manual material handling tasks (lifting, pushing, pulling, carrying, etc.). However, it's not enough just to understand the hazards of such activities. You must also learn and apply the principles of MSD prevention at your workplace.

## What is a musculoskeletal disorder?

A musculoskeletal disorder, or MSD, is an umbrella term for a number of injuries and disorders that affect the muscles, tendons, tendon sheaths, nerves, bursa, blood vessels, joints, or ligaments.

Some examples of MSDs are muscle sprain and strain, lower back pain, tendonitis, carpal tunnel syndrome, lateral epicondylitis, tension neck syndrome, tennis elbow, and herniated discs. Though some of these injuries are often the result of sport activities, they may also be caused or made worse by what you do in the workplace. Forceful exertion, awkward positions, and repetitive tasks can add up over time to produce an MSD.

MSDs are the number-one type of lost-time injury reported to the Workplace Safety and Insurance Board (WSIB). In 2013 they accounted for 35 per cent

of all lost-time injuries reported by IHSA member firms. Though the numbers are beginning to fall, much can still be done to prevent this type of injury.

## Risk factors for MSDs

We know that risk factors for MSD injuries exist in our workplaces. Any tasks involving pulling, throwing, lifting, or twisting can result in an MSD. You may be able to discover where MSDs are happening by reviewing your firm's recent incidents, injuries, first aid records, documented discomfort surveys, human resource data, and production and service data. It is also useful to look for specific MSD hazards when conducting a workplace inspection, doing a job safety analysis, or delivering a safety or tailboard talk.

These are the main manual material-handling hazards that can lead to an MSD:

- **Forceful exertion**—This involves lifting, lowering, pushing, pulling, and carrying heavy objects or materials.
- **Repetitive tasks**—The material-handling task may not necessarily be heavy, but if it is very repetitive with little rest and recovery, it can lead to muscle fatigue and injury to the musculoskeletal system.
- **Fixed or awkward postures and positions**—The task may not be heavy or repetitive, but if it involves a fixed or awkward position, the body will be at a mechanical disadvantage and therefore at a greater risk of injury. Awkward body positions might include bending forwards or backwards, twisting sideways, leaning to the side, or lifting, pushing, or pulling with the hands above the shoulder or below the knees.

## Preventing MSDs

Even though much of our work relies on these kinds of movements, that doesn't mean MSDs are inevitable on the job. It is important to look at work processes, materials, tools and equipment, the work environment, and human factors such as training, communication, and the willingness of workers to report symptoms of MSDs. Once a hazard has been identified, controls may be put in place to reduce or eliminate the risk.

Processes, materials, or equipment can be changed, and workers can be trained in how to keep the possible hazards in mind while they work. The key is to use the statistics and information gathered from your company to identify the specific risks to your workers. You can then decide what kind of controls are best for your situation.

Once these controls have been implemented, their effectiveness should be assessed regularly. If they have been successful, everyone in the workplace should be informed in order to foster a culture of injury reduction. Preventing MSDs can help improve operations at your company by reducing costs from inefficient work processes and techniques, boosting productivity, improving customer service, and increasing worker satisfaction.

IHSA has a variety of courses and products to help your firm identify, assess, and control MSD risks. Download our booklet *Preventing Musculoskeletal Disorders Using Ergonomic Solutions* (IHSA037) or visit the **Musculoskeletal Disorders & Ergonomics** topic page at [ihsa.ca/msd](http://ihsa.ca/msd) for links to our courses, products, safety talks, and free downloads such as Musculoskeletal Hazards and Control profiles for 20 different trades.



## Controlling manual material-handling hazards

### Off-loading materials

- Park the delivery vehicle in an area that is free of debris and where the ground conditions are dry and level. Try to park as close as possible to where the material will be stored or used.
- Get inside the back of the vehicle and move heavier materials close to the door or tailgate.
- Get help lifting the materials out of the back of the vehicle.

### Moving or storing materials

- Check the path and clear up any debris or tripping hazards.
- Ensure that pathways and hallways are safe (e.g., even out ruts on paths, ensure good lighting in hallways).
- Always use handling equipment, such as dollies or carts, before attempting to lift or carry heavy materials.
- Don't overload yourself. Take only as much as you can handle safely.
- If material is awkward or heavy, ask a co-worker to help you.
- Store material above knee level and below shoulder height. That makes it easier to pick up and reduces reaching or stooping.
- Store material on skids or blocking to prevent it from getting frozen to the ground or stuck in mud. This method can also reduce awkward postures.

### Using materials

- Use material-handling devices when working with heavier materials, or get help from a co-worker.
- Take regular micro-breaks: get up—even for a minute—and stretch your back, shoulders, and legs when working in the same position for a long time. Stretching is especially important if you have to lift something after you've been in the same position or an awkward posture for a while.
- Use work platforms (e.g., elevating work platforms) or special tools or devices to minimize awkward postures and overreaching.
- Rotate jobs with other workers to reduce repetitive stress injuries.