Heavy or repetitive lifting can hurt your back and lead to a musculoskeletal disorder (MSD). If not addressed, these types of injuries can become so severe that you may not be able to work.

The best way to prevent ergonomic hazards is to treat them like any other hazard. That means you should look for ways to control the hazard at the source using engineering controls, along the path using administrative controls, or at the worker using controls such as training or specific equipment.

**Engineering controls**

When we talk about engineering controls, we mean eliminating the hazard by using some sort of machine or equipment. For example, in the case of fall hazards, putting up guardrails eliminates the hazard because the guardrail eliminates the open edge. The guardrail is the engineering control.

Because engineering controls actually eliminate the hazard, you should always try them first before moving on to the other types of control.

Here are some engineering controls that eliminate ergonomic hazards.

- Store material on shelves between knee- and shoulder-height. This prevents you from reaching overhead or bending at the waist. Avoid storing items on the floor.
- Try to purchase materials in manageable weights and sizes so that they are easier to lift and carry. For example, buy 20-pound bags instead of 40-pound bags.
- Use mechanical lifts, hoists, conveyers, or carts to move material.

**Administrative controls**

These types of controls address how a task is done. Often, supervisors or employers are the ones who initiate these controls because they deal with how the work is organized. These types of controls don’t completely eliminate the hazard the way engineering controls do, but they significantly reduce the risk.

Here are a few administrative controls that can help reduce back injuries.

- Organize the work area so there is enough space to comfortably lift and carry material. Avoid forcing workers into constrained, awkward positions.
- Lift as a team. If something is heavy or awkwardly shaped, don’t try lifting it alone. Make sure there are enough workers around to get the job done without overexertion.
- Rotate tasks so that each worker isn’t doing one thing repeatedly.
- Provide training for your workers on MSDs.

**Controls at the worker**

Controls at the worker refer to things you do, as the worker, to protect yourself. Sometimes they involve wearing personal protective equipment.

Sometimes, controls at the worker involve how you perform a task. For example, the way you lift a heavy box or bucket could reduce your risk of injury.

Like administrative controls, controls at the worker reduce the risk of injury. They don’t eliminate the hazard the way engineering controls do. The main difference between controls at the worker and administrative controls is that controls at the worker protect only you from the hazard. They do not protect everyone in the work area. Here are some controls that can help you reduce your risk of back injury.

- When lifting a heavy object alone, keep it close to your body.
- Always squat and lift using your leg muscles rather than bending over and lifting with your back muscles.
- When lifting an awkwardly shaped object alone, squat and lift one end of the object, walk up the length of the object, then lift the entire object off the ground. This should reduce overexertion.
- Lightly tense your torso muscles when lifting.
- Avoid turning your body too far to either side. Doing so could hurt your spine.

For more information, visit the MSD page at [www.ihsa.ca](http://www.ihsa.ca).

If you or your company has a new tool or way of doing things that reduces MSDs, let us know by contacting IHSA’s Peter Vi at pvi@ihsa.ca.