

Back care—Basic manual material handling

Explain dangers

Some jobs involve a lot of manual material handling (i.e., lifting, lowering, pushing, pulling, and carrying). This can cause back, neck, and shoulder injuries.

The risk of injury increases when there are MSD hazards present:

- **High forces** (e.g., heavy and/or awkwardly shaped loads)
- **Awkward postures** (e.g., bending, twisting, extended reaching, lifting above the shoulder)
- **Repetition/duration** (e.g., lifting repeatedly or sustaining loads for a significant percentage of the workday)
- **Contact stress** (e.g., having an object dig into your hands or shoulder)
- **Cold environment**

If unaddressed, these types of injuries can become so severe that you may not be able to do your job anymore.

Identify controls

Use the hierarchy of controls to reduce the risk of developing an MSD. ***When planning your material handling activities, consider controls that eliminate the hazards:***

- Use material handling equipment to help avoid lifting (e.g., lift assist devices, overhead or portable crane/hoist, roller transfer table, stair climbers, wall lifters, etc.)
- Consider using forklifts, conveyor systems, carts/dollies, hand trucks, or pallet trucks (automated or manual) to reduce carrying loads. Make sure equipment is appropriate for the terrain.
- Store heavy and frequently used items between knuckle and shoulder height on appropriate shelving, adjustable tables, or height-adjustable work platforms.
- Store heavier materials closer to the work location to reduce the distance you need to carry it.
- Ensure the terrain and any flooring is level,

smooth, free of tripping hazards, and in good condition.

- Order material in smaller loads, where possible, or split heavy loads into smaller loads.
- Use carts with height-adjustable handles so you can position your hands between waist and shoulder height.
- Use larger wheels on carts and bins to reduce push and pull forces. These are also easier to roll over cracks and holes in the ground.
- Ensure that wheels/casters are suitable for the load being transported and are compatible with the type of flooring.
- Determine the most suitable swivel arrangement of casters (i.e., two or four, front or back).
- Ensure there is enough space, so that you can avoid using awkward postures to move the cart.
- Design the layout of the work area to eliminate the need to push wheeled objects up slopes or over uneven surfaces.
- Make sure you can see over the top of the cart.

When manual material handling cannot be eliminated, use the following administrative controls:

- Make sure you are trained on the safe practices for handling the specific material.
- Share material handling tasks with other workers to reduce repetition and fatigue.
- Take regular rest breaks and stretch throughout the day.
- Implement a team lifting procedure for awkward items.

Use personal protective equipment (PPE) to help reduce MSD hazards:

- Use shoulder pads when carrying items on your shoulders.
- Ensure any PPE required to protect against other workplace hazards fits you properly and does not restrict your movement or impact your grip strength.

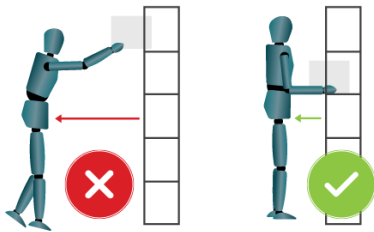
Back care—Basic manual material handling continued

Demonstrate

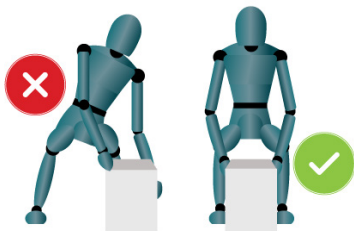
LIFTING PROCEDURE

Have workers practise the strategies first with lighter weight objects to get the technique, then try with some objects they are required to lift within the job.

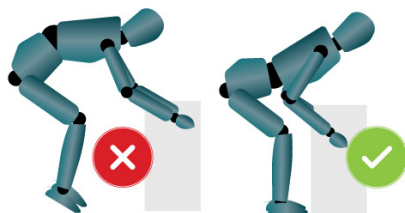
1. **Get as close to the load as possible.** This is very important. Lifting capacity is reduced the further away you are from the load. Keep the load as close to your belly button as possible to protect your back, and as close to your shoulder joint as possible to protect your shoulder.



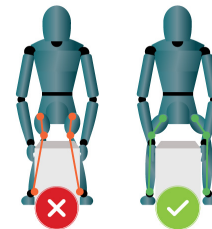
2. **Centre the load in line with your body to minimize twisting.** Having a wide stance will allow for balance and get you closer to the load at lower levels. Use two arms, when possible, to distribute the load.



3. **Keep the natural inward curvature of your lower back. Avoid rounding.** Focus on keeping your head up and shoulders back. Sticking your buttocks out will help prevent your back from rounding.



4. Prior to lifting **ensure you have a good grip on the object** to help prevent loss of balance, twisting, or other risks that may come with dropping the object.
5. **Contract your core muscles and engage your thigh and buttock muscles** when lifting.
6. To protect your knees when lifting/lowering from lower levels, **line up the tip of your kneecap over the middle of your foot** (i.e., limit side-to-side bending and twisting of your knee).



7. **Breathe and relax your muscles.** Not breathing during a lift can increase intra-abdominal pressure and the potential for injury.
8. When lowering the load, maintain the curve in your lower back. **You can hurt your back just as easily lowering a load as lifting it.**

TWO-PERSON LIFTING PROCEDURE

Two person lifts are intended to carry awkward items, not heavy items. Partners should be roughly the same height. Before the lift, the team should agree on methods for:

- Carrying the load in a way that will distribute the load evenly and keep it at the same height (e.g., waist-high, shoulder-high, etc.)
- Clearly communicating the path of travel, who will take charge, and how the team will remain in sync (i.e., timing on when to lift and lower and when a break is needed)

