We’ve all done it. We’ve jumped down off trucks, tractors, trailers, and other types of vehicles and equipment instead of taking the time to properly climb down. Many workers jump to the ground because it’s faster. But the faster way may not be the safer way.

When you jump down from the cab of a truck or the back of a trailer, you risk a slip, a fall, or a musculoskeletal injury. Your body has to absorb the impact of the landing. The higher up you jump from, the greater the impact of the landing on your body. Usually it’s your lower back, knees, or ankles that suffer the damage. As anyone who has had one knows, these types of injuries are often life-long. They can continue to cause discomfort long after they’ve healed.

The impact force of jumping from the bottom step of a truck compared with jumping from the floor level or seat level can increase from 1 – 1.5 times your body weight to 5 – 7 times your body weight. The impact force will also increase if the landing area contains a hard surface or is in a tight space compared to if it contains soft soil, mats, or foams that allow the impact force to dissipate.

**Spine and joint injuries**
The high impact force of jumping down increases your risk of seriously injuring your lower back and lower limbs. The force of landing on the ground intensifies the shock or impact load on the spinal column, which can lead to increased bone-on-bone compression forces.

Research has shown that repetitive bone-on-bone impact is a direct cause of spinal disc degeneration and other soft-tissue back injuries. The force of landing can also cause a similar bone-on-bone effect in your joints, such as your knees and ankles.

**Don’t Jump Down**

The greater the impact force, the higher the bone-on-bone compression force

<table>
<thead>
<tr>
<th>Level</th>
<th>Multiples of Body Weight</th>
</tr>
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<tbody>
<tr>
<td>Seat Level</td>
<td>7 or more</td>
</tr>
<tr>
<td>Floor Level</td>
<td>5 to 6</td>
</tr>
<tr>
<td>Bottom Step</td>
<td>1 to 1.5</td>
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</tbody>
</table>

**Slip and fall injuries**
Another risk from jumping off a trailer or from a truck cab is a slip and fall injury after the landing. The higher the jump distance, the higher the landing force. In order to maintain balance and prevent a slip or a fall, the contact friction between your feet and the ground must be high upon landing. If the friction is low, a slip or a fall can occur.

The risk of a slip and fall injury can also increase if you land on a slippery surface such as ice, mud, or waste materials on the ground. Landing awkwardly on an uneven surface can lead to ankle and knee injuries from torn muscles and tendons.

Always use three-point contact when mounting and dismounting.

Sitting on the back of a trailer or the side of an open trailer before jumping will lessen the impact.
Prevention

Musculoskeletal disorders (MSDs), slips, and falls are among the leading causes of injuries in Ontario. To help prevent these injuries, make the following solutions part of your workplace health and safety program.

1. Climb down from the vehicle rather than jump. Mount and dismount only when the vehicle is parked.

2. Avoid wearing loose or torn clothing that can catch on the vehicle or equipment.

3. Provide proper ramps or ladders so workers can safely enter and exit trucks, trailers, and other heavy equipment. Take extra care in wet, snowy, icy, or other dangerous weather conditions.

4. Install slip-resistant steps and grab rails to help workers mount and dismount equipment safely. Keep running boards, treads, steps, footholds, and platforms clear of mud, ice, snow, grease, debris, and other hazards.

5. When getting off or on equipment, always face the equipment and maintain three-point contact—keep either two hands and one foot or two feet and one hand on the equipment at all times. Break three-point contact only when you reach the ground, the cab of the vehicle, or a stable platform.

6. If you can’t avoid jumping down, get as close to the ground as possible. Sitting on the edge and jumping from a seated position will lessen the impact on your body.

For more information on how to prevent MSDs, visit the MSDs and Ergonomics page at ihsa.ca/topics_hazards

Seat Level – 7 or more times your body weight

Floor Level – 5 to 6 times your body weight

Bottom Step – 1 to 1.5 times your body weight