

# Workplace Health and Safety Bulletin



## Slips, Trips and Falls

*To reduce the number of slips, trips and falls at your workplace, make sure you understand why they happen and use properly designed workspaces and work methods.*

It is amazing we do not fall more often than we do. As our leg swing forward each time we take a step, our toe rushes past the ground at a speed of 14 to 18 km/hr and is often less than 1 cm above it. And as we land our heel, it normally slips forward along the ground for a distance of up to 2 cm without causing us to lose our balance.

Slips most commonly occur when your back heel strikes the ground and you transfer your body weight to the lead foot. If this foot slips out from under you, you lose your support base and fall. Although you may often manage to recover from slips, you can easily strain muscles while trying to regain your balance. Many lower back injuries occur when a person carrying or lifting an object tries to recover from a slip or loss of balance.

To prevent slips:

- Wear appropriate footwear and keep walking surfaces clean. Using high resistance surfaces as the answer to every slipping problem should be avoided — they can increase the potential for trips.
- Walking surfaces should be suitable for the pushing, pulling and carrying tasks performed on them. They should provide adequate foot grip but allow wheels to roll freely. Rough, deeply textured surfaces may reduce the potential for slips but increase the potential for trips.



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## Trips

Trips are caused when your forward-moving leg suddenly and unexpectedly stops. Your body continues its forward motion but hasn't a foot on which to land, so you fall.

Abrupt changes in the height of a walking surface present a tripping hazard, even if the change is as little as 1 cm. Making the transition from a low-slip resistance surface such as a sand-covered loading ramp to a high-slip resistance surface such as a clean, dry, asphalt pad, can also cause you to trip. Make a point of adapting your walk to the surface.

To prevent trips:

- Keep as few objects as possible on walking and working surfaces.
- Eliminate abrupt changes in walking surface height.
- Where possible, replace stairs with ramps between levels. Be aware that when a ramp angle increases to as much as 20 degrees, the friction or slip resistance of the surface must increase approximately threefold in order to prevent slips.

## Falls

In 2002, 15.5 percent of Alberta's workplace lost time claims were the result of falls (9.1 percent – fall on same level; 5.2 percent – fall to lower level; 1.2 percent – other falls). The severity of falls is often underestimated; serious injuries or death can result from fall of less than 3 m. Unsafe ladder use, particularly in construction and maintenance, causes falls, but even stairs present a hazard. People lose their balance, slip on poor slip-resistant material on the nose of the stair, or don't bother to use handrails, perhaps because they're carrying something.

Fall associated with the operation of vehicles and equipment are often the result of a combination of slip, loss of balance and misjudging surface or step height. To prevent such falls, take care to get out of equipment safely, maintaining a three-point contact and using handles when available.

## Prevent falls from elevated surfaces

Falls from elevated work surfaces are often preceded by slips and trips. Apply the same prevention methods to elevated surfaces as for slips and trips on level surfaces. Include railings, guardrails, travel restraint, or fall arrest systems where necessary.

For more information



[www.gov.ab.ca/hre/whs/publications/pdf/oid2002.pdf](http://www.gov.ab.ca/hre/whs/publications/pdf/oid2002.pdf)

Occupational Injuries and Diseases in Alberta – 2002 Summary

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### Workplace Health and Safety



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