

Slips, Trips and Falls Guide

Health and Safety



INTRODUCTION

Did you know that slips, trips and falls (STF) are the largest mechanism of injury at the University? In 2022, there were 42 incidents and 36 hazards reported in the STF category at Curtin – and unfortunately, 4 fractures. Frequently with STFs it's the combination of smaller risk factors that lead to the incident - such as full hands, while talking to someone, without using a handrail on the stairs.

Situational awareness of the following factors can help reduce the incidence of STFs:

Human Factors

- Inattention (walking while using the phone talking to others, reading)
- Rushing (someone looking at their watch or diary on phone)



Environmental Factors

- Slippery floor surfaces
- A work area where lubricating contaminants are routinely present (e.g., water or another liquid, dust, larger objects such as ball bearings, beads)
- Presence of spills and contaminants (e.g., water tracked in on a wet day, a spilt drink)
- A sudden change in floor surfaces (e.g., from carpet to polished timber)
- Staircases
- A change in gradient of the pedestrian surface (e.g., a ramp)
- Fine growth (e.g., moss on a pavement)
- Uneven flooring e.g., raised pavers, walking from a garden bed to a roadway etc
- Items blocking off access ways
- Footwear that is inadequately slip resistant.



Physical Factors

- Lighting level (too dark or too much glare)
- Visual contrast between different surfaces
- Expectations based on previous experience ('that wasn't here yesterday!')
- Lack of awareness of previous incidents
- Failure to heed warning signs
- Physical impairment



Slips, Trips and Falls Guide

Health and Safety



Ways that a slip/trip/fall incident can occur

Understanding the science of STFs can help you when assessing the risk – heel strikes, toe offs, air steps – and in turn, prevent a STF incident. Read on to find out more about the ways we slip, trip, or fall.

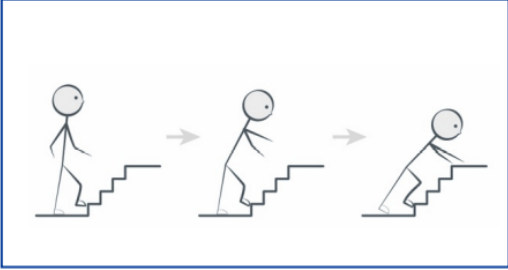
Slips - A slip occurs when the frictional force acting between the relevant part of the shoe sole or foot and the surface is insufficient. A slip could occur as a result of a heel strike or a toe-off.

Heel Strike	Toe-Off	Trips
<p>A heel strike is the most common type of slip. This occurs as a result of either the surface or shoes not being efficiently slip resistant. If the person loses balance, they'd fall backwards.</p>	<p>With a toe-off slip, the person involved drops to their knees or falls with the trailing leg twisting beneath them</p>	<p>Trips are also a common source of falls in the workplace. It occurs when the movement of the foot is impeded/obstructed. Many trips are caused by unobserved obstructions, hence why it's vital that each person is aware of their path of travel.</p>
<div data-bbox="125 459 654 678" data-label="Image"> </div> <p data-bbox="271 687 506 711">Figure 1: Heel-strike slip</p> <p data-bbox="107 767 741 836">(Picture source – Gravitational Hazards – Core Body of Knowledge for Generalist OHS Professional)</p>	<div data-bbox="801 450 1337 643" data-label="Image"> </div> <p data-bbox="965 667 1167 691">Figure 2: Toe-off slip</p> <p data-bbox="786 715 1348 826">(Picture source – Gravitational Hazards – Core Body of Knowledge for Generalist OHS Professional)</p>	<div data-bbox="1420 466 1951 655" data-label="Image"> </div> <p data-bbox="1603 667 1733 691">Figure 3: Trip</p> <p data-bbox="1406 743 2040 812">(Picture source – Gravitational Hazards – Core Body of Knowledge for Generalist OHS Professional)</p>

Missteps

A misstep commonly occurs on stairways, when the gait of the pedestrian unintentionally strays from the gait that is appropriate for the walkway surface. There are several ways that we can misstep, as shown here:

Air steps	Heel scuffs	Over-steps
<p>Ever gone to take one more step and the ground wasn't where you were expecting? That's an air step - when a change in level or gradient is unexpected especially stepping down.</p>	<p>Heel scuffs where you haven't 'picked up your feet' are common on staircases, especially those with shallow treads. The heel gets caught or impacted by the overhanging riser as the person steps down from the stairs, causing a forward fall.</p>	<p>An overstep happens when the person coming down the stairs misjudges their foot placement so the descending foot lands too close to the end of the next step or even totally misses it.</p>
<div data-bbox="129 628 730 943" data-label="Image"> </div> <p data-bbox="322 963 568 999">Figure 4: Air step</p> <p data-bbox="107 1042 741 1114">(Picture source – Gravitational Hazards – Core Body of Knowledge for Generalist OHS Professional)</p>	<div data-bbox="810 639 1319 914" data-label="Image"> </div> <p data-bbox="931 938 1173 967">Figure 5: Heel scuff</p> <p data-bbox="790 1015 1424 1086">(Picture source – Gravitational Hazards – Core Body of Knowledge for Generalist OHS Professional)</p>	<div data-bbox="1473 635 1933 876" data-label="Image"> </div> <p data-bbox="1608 903 1823 932">Figure 6: Over-step</p> <p data-bbox="1447 983 2080 1054">(Picture source – Gravitational Hazards – Core Body of Knowledge for Generalist OHS Professional)</p>

Under-steps	Unstable footing
<p>When going up the stairs, the person accidentally trips on the next step up, resulting in a fall up the stairs.</p>	<p>When a person rolls their ankle as a result of the unstable or uneven nature of the surface</p>
<div data-bbox="123 343 629 614" data-label="Image"></div> <p data-bbox="241 651 497 683">Figure 7: Under-step</p> <p data-bbox="107 746 741 821">(Picture source – Gravitational Hazards – Core Body of Knowledge for Generalist OHS Professional)</p>	

How can a slip, trip or fall impact me?

Don't under-estimate the power of an ill-time trip. Four people experienced fractures from STFs at Curtin in 2022, with 72 other incidents/hazards reported – that's a rate of 3 falls every fortnight here on campus. A fall can impact your quality of life and ability to undertake daily activities such as working, driving, exercising, or caring for loved ones.

What can I do to reduce the risk to myself and others on campus?

- Immediately fixing the hazard yourself if possible – move debris, alert people to a spill.
- Placing a maintenance request for pathway, stairway and lighting issues directly with the Service Coordination Centre on extension 2020 or via their online [portal](#)
- Reporting the hazard in CHARM if it's a recurring problem

What else can I do?

- Ensure you use the handrail when going up or down the stairs
- If you are carrying items such as bags, laptops, screens, coffee etc and you can't use the handrail on the stairs, use the lift or the ramp
- Don't be distracted by your devices while using stairs or walking outdoors
- Use a trolley to transport heavy items across the university
- Plan to arrive at meetings or lectures earlier than the allotted time to minimise the need to rush
- See someone doing something unsafe? Don't be a bystander – speak up for safety and prevent an injury.