



Slips, Trips and Falls

Residential Care Facilities



226,100 fall accidents

903 deaths from falls



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Additional References:

- OSHA standards require that floors be maintained in a clean and dry condition and they be kept free from protruding nails, splinters, holes and loose boards. Reference: 29 CFR 1910.
- IDPH regulations have similar requirements. In addition to keeping floors clean and dry, items must be stored on pallets or skids to permit easy cleaning. Reference: 77 Illinois Administrative Code IAC.





Preventing slips, trips and falls at work

The United States Bureau of Labor Statistics reported that in 2003 there were 266,100 fall accidents and 983 falls resulted in the death of a worker. In a study conducted by the Illinois Department of Public Health there were 11,960 slip, trip and fall injuries during 2003. Of these, 22.6% occurred in the health care industry. One insurance trust for the residential care industry reports that slips, trips and fall injuries account for 21% of the claims and 25% of the total claim dollars.¹

Why is prevention of slips, trips and falls important?

Slips, trips and falls in residential care can result in serious injuries including fractures, sprained joints, back injuries, contusions and lacerations. These injuries cause a lot of pain and suffering and sometimes result in death.

These accidents do not have to happen. Anyone at work can help reduce slip, trip and fall hazards through safer work practices.

Effective solutions are often simple, cheap and lead to other benefits. To develop solutions, you need to:

- understand how fall accidents happen,
- identify the trouble areas,
- prevent or minimize hazards of falling, and
- reduce the extent of the injury.

The Problem

Contributing Factors to Slips and Trips Resulting in Falls

1. *Foreign object on walking surface.*
2. *Design flaw in walking surface.*
3. *Slippery surface.*
4. *Individual's impaired physical or mental condition.*



¹ Data from Life Services Trust



How do falls happen?

When you fall, you don't think about what has happened or how it happened. Generally, a fall is the result of a progression of events. There are three laws of science involved in a slip, trip or fall: friction, momentum and gravity.

- ❖ Friction provides the traction necessary to maintain a grip on the walking/working surface. Remove the friction and you will slip.
- ❖ Momentum is the speed at which you are moving. When you walk fast and then encounter an object in your walking path, you can be thrown off balance and trip.
- ❖ Gravity is the force that pulls you to the ground. Once a slip or trip is in progress, the end result is usually a fall, which is only stopped by hitting another level of surface.

Understand
how fall
accidents
happen



What makes falling so hazardous?

Statistics show that the majority (60 percent) of falls happen on the same level. These are usually the result of slips and trips. The remaining 40% are caused by falls from an elevation such as falls from ladders, falling down stairs or falls from jumping to a lower level.

*It's not the fall that kills you –
it's the sudden stop*

Slip and Fall

Slips happen where there is too little friction or traction between your footwear and the walking surface. Slips are primarily caused by a slippery surface. This can be compounded by wearing the wrong footwear.



During normal walking, two types of slips may occur.

1. The first of these occurs as the heel of the forward foot contacts the walking surface. The front foot slips forward, and you fall backward.
2. The second type of fall occurs when the rear foot slips backward. The force to move forward is on the sole of the rear foot. As the rear heel is lifted and the force moves forward to the front of the sole, the foot slips back and you fall.

The force that allows you to walk without slipping is commonly referred to as "traction." Common experience shows that dry concrete sidewalks have good traction, while icy surfaces or freshly waxed floors can have low traction.

Providing dry walking surfaces and slip-resistant footwear is one answer to slips and their resultant falls and injuries. Obviously, high heels, with minimal heel-to-surface contact, taps on heels, and shoes with leather or other hard, smooth-surfaced soles lead to slips, falls, and injuries. Shoes with rubber-cleated, soft soles and heels provide high traction and are recommended for most work.

In work areas where the walking and working surface is likely to be wet and slippery, such as the kitchen dishwashing area, non-skid strips or floor coatings could be used. Consider non-slip matting in all tub and shower areas to protect the residents from slips, trips and falls as well.

Trip and Fall

Trips occur when your foot strikes an object and is suddenly stopped. You lose your balance and fall. As little as a 3/8 inch obstruction in a walkway can cause a person to "stub" his toe resulting in a trip and fall. The same thing can happen going up a flight of stairs. Uneven stair heights can cause you to trip and fall.

Understand
how fall
accidents
happen



Contributing factors for slips are:

- ❖ *wet or oily surfaces*
- ❖ *occasional spills*
- ❖ *weather hazards*
- ❖ *loose, unanchored rugs or mats*
- ❖ *walking surfaces that are worn so they no longer have the same degree of traction in all areas*



Step and Fall

Another type of working and walking surface fall is the "step and fall." This occurs when the front foot lands on a surface lower than expected. A good example is unexpectedly stepping off a curb in the dark. In this type of fall, you will normally fall forward.

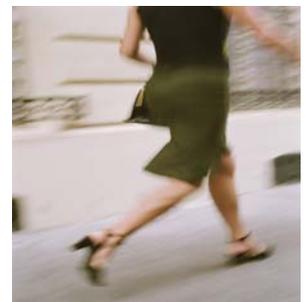
A second type of step and fall occurs when either the inside or outside of the foot lands on an object higher than the other side as you step forward or down. The ankle turns, and you tend to fall forward and sideways.

Contributing Factors

Other factors that contribute to slips, trips and falls include:

- ❑ Loose, irregular surfaces such as gravel, shifting floor tiles, and uneven sidewalks, can make it difficult to maintain your footing. So, a shortcut across the lawn or loose gravel may not be the best choice.
- ❑ Oil, grease and other liquids can make walking surfaces extremely slick.
- ❑ Irregular step height or tread depth tend to throw you off balance which could result in a slip or trip and fall.
- ❑ Obstructed aisles or walkways may present tripping hazards. These obstructions require frequent change in direction which can throw you off balance.
- ❑ Insufficient light can make it difficult to see obstacles and notice changes in the walking surface.
- ❑ Shoes with slick soles provide insufficient traction, while platform shoes and high heels increase your vulnerability to uneven surfaces.

Understand
how fall
accidents
happen





- ❑ Moving too fast increases the likelihood you will misjudge a step or encounter a hazard before you have a chance to notice it.



Other problems that can lead to slips, trips and falls are: distractions; not watching where you are going; carrying materials that obstruct your view; wearing sunglasses in low-light areas; and horseplay.

These and other behaviors, caused by lack of knowledge, impatience, or bad habits developed from past experiences, can lead to falls, injuries, or even death.

**If you drop it, pick it up.
If you spill it, clean it up.
If you take it out, put it away.
Look where you are going,
and go where you are looking.**

Falls from Heights

Generally, falls from heights are less frequent, but more severe than falls to the same level. Falls from ladders are the most common falls from heights. However, there are significant numbers of falls from vehicles, equipment and other structures.

Understand how fall accidents happen

Reduce the risk of tripping by:

- *Use sufficient lighting for your tasks or,*
- *Use a flashlight if you enter a dark room where there is no light, and*
- *Ensure that things you are carrying or pushing do not prevent you from seeing any obstructions, spills, etc.*

Winter months are especially hazardous because of ice and snow.

Use a detour whenever possible to avoid ice or wet surfaces.





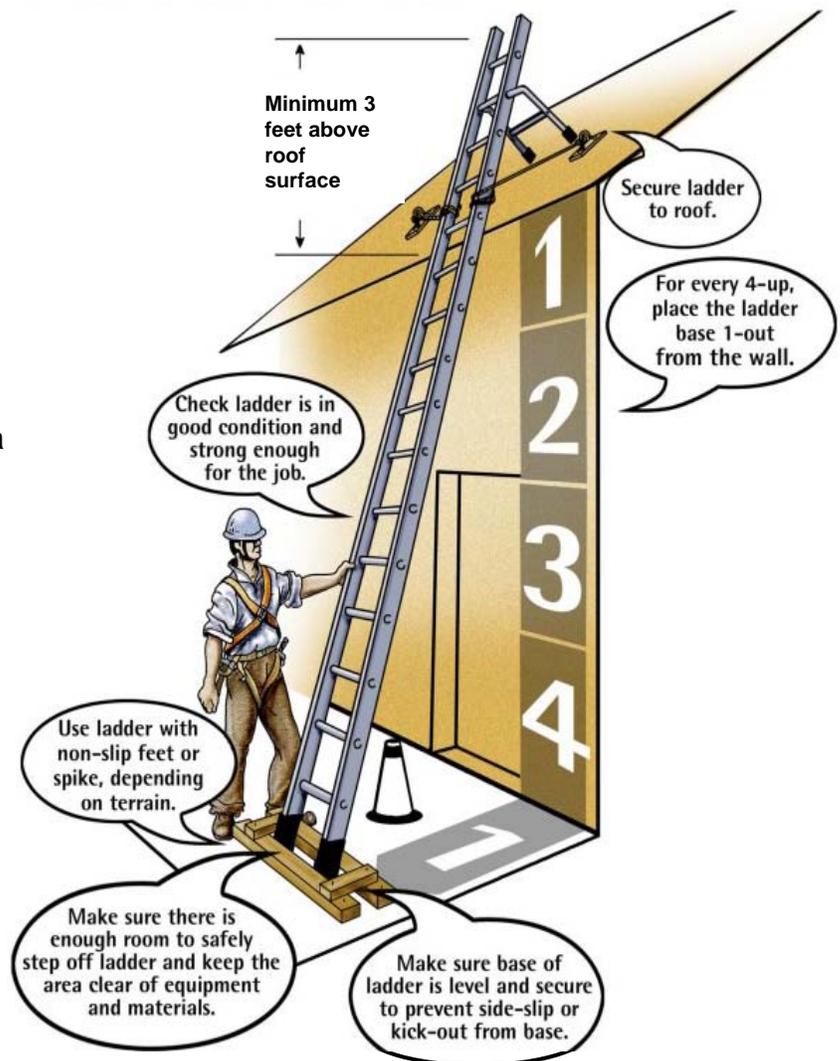
Falls from ladders

Ladders come in many lengths, are made of several types of materials, and are rated according to how much weight they can hold. For example, ladders can be two feet high (step-stools) or 40 feet or longer (extension-type ladders). Ladders can be made of wood, metal or fiberglass. They can be rated light, medium, heavy, or extra-heavy duty. The type of ladder you select will depend on how you will be using that ladder.

To prevent slipping, ladders need to be set at, or as near to, a 4:1 angle as possible. This means, if a ladder is leaning against the edge of a roof that is 20 feet off the ground, the base of the ladder should be set back five feet from the wall.

No matter what type of ladder you use, keep in mind that the ladder must be used correctly. Metal ladders should never be used in locations in which the ladder could come in contact with live electrical wires. These include power lines coming into the building, which appear to be insulated. The insulation on these lines is usually weatherproofing material, and it will not protect you from contact with electricity.

Understand
how fall
accidents
happen





The ladder should be long enough for its intended use. You should never stand on the top two steps of a step-ladder or the top three rungs of a straight ladder. The rule of thumb is, the climber's waist should be no higher than the top rung of the ladder. If you climb higher than this, you could tip the ladder over and fall.

The base of the ladder must be firmly set to prevent slippage or settling into soft ground. When you need to place the ladder against a structure, such as a building, both siderails must rest against that structure. Tying the top of the ladder to the structure can also help to keep the ladder from slipping or sliding.

The bottom of the ladder should be equipped with slip-resistant pads, particularly if the ladder is to be used on hard surfaces. The top of the siderails should also be equipped with slip-resistant pads if the ladder is resting against a surface.

Always inspect ladders before use. Check for cracks, loose rungs, splinters, and sharp edges. Never paint ladders, as the paint can hide potentially dangerous conditions. Wooden ladders can be coated with linseed oil or an oil-based wood preservative to keep them from drying out and cracking. Allow ladders to dry thoroughly before using them or the rungs will be slippery.

The rungs and siderails of ladders must be kept free of oil, grease, and mud; they should be kept dry.

Wear shoes with heels when climbing ladders. The rung or step of the ladder should be just in front of the heel, under the arch of the foot. Stepping or standing on a ladder with the front part of the shoe is inviting a slip and fall. Always face the ladder when climbing or descending.

Injuries frequently occur when the climber reaches too far to their left or right while on the ladder. When working on a ladder, your belt buckle should never extend beyond the siderails. Reaching further can cause the ladder to slide in the opposite direction. Tying the ladder to the structure supporting it can prevent this and is a recommended practice. Keep both hands free to hold the ladder's

Understand how fall accidents happen



Practice the "3-Point System." This can significantly reduce the chances of injuring yourself through a slip or fall. The 3-Point System means that three of your four limbs are in contact with the ladder at all times, either one hand and two feet, or two hands and one foot - only one limb is in motion at any one time.



siderails, not the rungs, when climbing and descending. Small tools may be carried in a tool belt, not in your hands. Tools and supplies can be raised with a rope. Never raise or lower power tools by the cord.

Falls on stairs

Climbing stairs is common so it is easy to forget that they can be hazardous. Stairwells should be well-lighted, with sturdy handrails installed on both sides. When using stairwells, remember to keep one hand free so you can use the handrail.

All steps should have the same rise (height) and depth. Edges should be marked so they are clearly visible. Keep steps free of grease, oil and obstacles which could cause slips and trips. Whenever possible, avoid carrying heavy or bulky objects which obscure your vision and/or require the use of both hands. Carry smaller, lighter loads and make more trips, or obtain help with the load.

Falls on stairs occur most often when someone is traveling down stairs without holding onto a handrail. Loss of traction, or friction, causes many stairway slip and fall accidents and is usually due to water or other liquids on the steps. Other conditions that may lead to accidents on stairs include running or losing your balance.



Make-shift ladders, chairs, boxes, and barrels should never be used as substitutes for a ladder -- the risk is far too great.

Understand how fall accidents happen



Protect yourself from injury by:

- 1. Using handrails whenever possible.*
- 2. Use extra caution when carrying something that does not allow you to grip the handrail.*
- 3. Walking up and down stairs rather than running or jumping.*
- 4. Only carrying loads that you can see over.*
- 5. Promptly report unsafe conditions like poor lighting or clutter on the steps.*



Hazard	Suggested Action
Spillage - wet or dry substances	<p>Clean spills up immediately, if a liquid is greasy, make sure a suitable cleaning agent is used. Use barriers to alert people that the floor is still wet and arrange alternative bypass routes.</p> <p>Keep floors clean and dry. In addition to being a slip hazard, continually wet surfaces promote the growth of mold, fungi, and bacteria.</p> <p>Where wet processes are used, maintain drainage and provide false floors, platforms, mats, or other dry standing places where practicable, or provide appropriate waterproof footwear.</p> <p>Ensure spills are reported and cleaned up immediately.</p> <p>Use no-skid waxes and surfaces coated with grit to create non-slip surfaces in slippery areas such as toilet and shower areas.</p>
Trailing cables	<p>Position equipment to avoid cables crossing pedestrian routes, use cable covers to securely fix to surfaces, restrict access to prevent contact. Consider use of cordless tools. Remember that contractors will also need to be reminded that cords or cables should not extend into walk-ways.</p>
Obstacles	<p>Keep areas clear and remove rubbish such as plastic bags.</p> <p>Remove obstacles from walkways and always keeping them free of clutter.</p> <p>Always close file cabinet or storage drawers.</p> <p>When not using, slide chairs under the desk where they belong.</p>

Identify the trouble areas

There are many simple steps you can take to reduce risks.

Here are a few examples.





Identify the trouble areas

Hazard	Suggested Action
Obstacles	Keep aisles and passageways clear and in good repair, with no obstruction across or in aisles that could create a hazard. Provide floor plugs for equipment, so power cords need not run across. Temporary electrical cords that cross aisles should be taped or anchored to the floor.
Rugs/mats	Ensure mats, rugs and carpets are securely fixed and do not have curling edges.
Slippery Surfaces	Create non-slip surfaces in toilet/shower areas.
Walking from wet to dry floor surface	Require suitable footwear. Use signage to warn of risk. Place doormats in wet areas.
Change of level	Try to avoid uneven floor surfaces. If you can't, improve lighting, add high visible tread nosings (white/reflective edge to step).
Housekeeping	<p>Use prudent housekeeping procedures such as cleaning only one side of a passageway at a time, and provide good lighting for all halls and stairwells, to help reduce accidents.</p> <p>Use waterproof footgear to decrease slip/fall hazards.</p> <p>Use only properly maintained ladders to reach items. Do not use stools, chairs, or boxes as substitutes for ladders.</p> <p>Replace or stretch carpets that bulge or have become bunched to prevent tripping hazards.</p> <p>Eliminate cluttered or obstructed work areas.</p> <p>Nursing station countertops or medication carts should be free of sharp, square corners.</p>
Slopes	Improve visibility, provide hand rails, use floor markings.

There are many simple steps you can take to reduce risks.

Here are a few examples.





Hazard	Suggested Action
Posture	Promote safe work in cramped working spaces. Avoid awkward positions, and use equipment that makes lifts less awkward. Ask for help when carrying bulky or heavy loads.
Stairs	Instruct workers to use the handrail on stairs, avoid undue speed, and maintain an unobstructed view of the stairs ahead of them.
Unsuitable footwear	Ensure workers choose suitable footwear, particularly with the correct type of sole. Footwear for staff should be of a closed shoe design with a sole of nitrile rubber, polyurethane or nitrile PVC. The sole should have a deep tread pattern with channels to the outer rim of the shoe allowing liquid to escape. Leather soled shoes are not suitable.
Lighting	Ensure even lighting of all areas by proper placement of lighting fixtures. Improve lighting levels where needed.
Climbing	<p>Ensure three points of contact are maintained when climbing</p> <p>Use the 4 to 1 rule when placing ladders</p> <p>Keep body within the frame of the ladder; do not lean beyond the side rails.</p> <p>Tie off the ladder when possible</p> <p>Face the ladder when climbing and descending</p>

Identify the trouble areas

There are many simple steps you can take to reduce risks.

Here are a few examples.

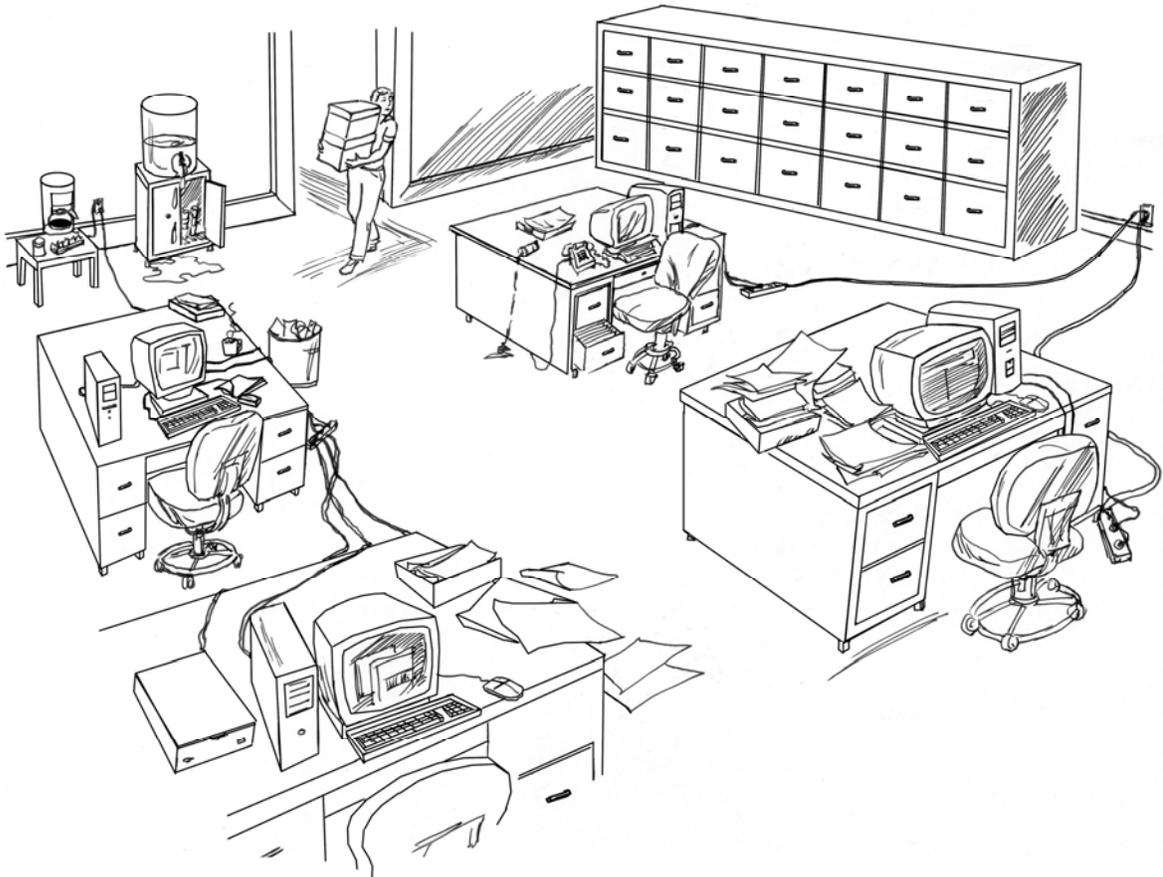




Learn to recognize potential hazards.

Circle the hazards in the picture.

Practice
Find the hazards



Spot check for hazards whenever you enter a room



Learn to recognize potential hazards.

Circle the hazards you find in the picture.

Practice
Find the hazards



Spot check for hazards whenever you enter a work area



Managing Health and Safety

A good management system will help you identify problem areas, decide what to do, act on decisions and make sure that the steps taken have been effective. A good system should involve:

1. Management Commitment & Employee Involvement

- **Planning.** Identify key areas of risk and set goals for improvement. Work with employees to identify areas that they think are a slipping and tripping risk (remember that there will be about 40 cases of a slip or stumble, resulting in no or minor injury for every major injury accident). Careful selection of materials, equipment and work practices can prevent or contain slip and trip hazards from liquids, fine powders and objects. For example, using anti-slip floorings in areas that can't be kept dry and using cordless tools to avoid trailing cords across working areas can help remove or minimize risks.
- **Organization.** Workers need to be involved and committed to reducing risks. Assign staff responsibility to ensure that areas of the workplace are kept safe. Make sure everyone knows their job assignments. These can include cleaning up spills quickly, keeping access routes clear and ensuring adequate lighting.

2. Worksite Analysis

Assess the risks to employees, as well as to visitors and members of the public.

Look for slip and trip hazards around the workplace, such as uneven floors, trailing cables, areas that are sometimes slippery due to spillages. Include outdoor areas too.

Evaluate existing controls. Are the precautions already taken adequate to deal with the risks?

Prevent or minimize hazards of falling



Common causes of trips are:

- ❖ *obstructed view*
- ❖ *poor lighting*
- ❖ *clutter in your way*
- ❖ *wrinkled carpeting*
- ❖ *uncovered cables*
- ❖ *bottom drawers not being closed*
- ❖ *uneven steps, thresholds or walking surfaces*





Look at how people might be injured. This should not only include staff, but residents and visitors. Decide who might be harmed and how; who is present in the workplace? Are they at risk? Do you have any control over them? Remember that older people and people with disabilities may be at particular risk.

Periodically review the assessment. If there are significant changes, make sure that existing controls are still adequate to deal with the risks.

3. Hazard Prevention & Control

- **Control.** Ensure that work practices and processes are being carried out properly. Make sure floors are not left wet, housekeeping is good, and any equipment or roof leaks are repaired quickly. Keep a record maintenance work. Encourage good health and safety practices.
- **Monitor.** Monitor accident investigation and inspection reports. Try to identify deficiencies. Talk to safety representatives about slip and trip risks. They can be a great help when identifying and solving problems. Encourage employees to be involved in reviewing existing control measures. They are often better placed to assess the effectiveness of the measures implemented to reduce the risks of slipping and falling.

4. **Safety & Health Training.** Training at all levels is required. Managers and supervisors need training as to the requirements of the slip, trip and fall prevention program so they can actively support and enforce the program. Employee training must include an explanation as to why the program is necessary and what their role is in reducing slip, trip and fall hazards.

Prevent or
minimize
hazards of
falling



Don't use makeshift ladders.



Get help with overhead objects.



*Pick it Up! Clean it Up!
Put it Away?*



Take Control

Established policies and practices can be implemented to significantly reduce the number of injuries and deaths due to slips, trips and falls. The following recommendations are provided for your consideration:

Suggested Action

Owners, managers, supervisors and employees must make a commitment to prevent accidental slips, trips and falls.

Conduct regular frequent inspections of working and walking areas to identify environmental and equipment hazards which could cause slips, trips and falls. Give special attention to the working and walking surfaces, housekeeping, lighting, vision, stairways and ladders. Take immediate corrective action when deficiencies are noted.

Provide extensive safety training on the prevention of slips, trips and falls for all new employees. Provide regular retraining for all employees. Give special attention to proper walking, carrying, climbing and descending stairways, ladders, vehicles and equipment. Correct unsafe practices immediately.

Require all employees to wear proper footwear for their work and environment.

Require all slips, trips and falls, with or without injury, to be reported, recorded and thoroughly investigated. Take corrective action to prevent such a repeat occurrence immediately.

Prevent or
minimize
hazards of
falling



*Slips, trips and falls
whether on or off the
job are expensive,
disruptive, painful,
and may be tragic.*



What can you do to avoid falling?

It is important to remember that safety is everybody business. While it is the employer's responsibility to provide safe work environment for all employees, employees can improve their own safety too.

Slips and trips usually result from some an unexpected change in contact between the feet and the ground or walking surface. This shows that good housekeeping, quality walking surfaces (flooring), selection of proper footwear, and appropriate pace of walking are critical for preventing fall accidents.

Contributing factors

Carrying an oversized object can obstruct your vision and result in a slip or a trip. This is a particularly serious problem on stairs. Whenever possible, place the object on a cart so you can push or pull your load instead of carrying it.

Behaviors that lead to falls

There are specific behaviors which can lead to slips, trips, and falls. Walking too fast or running can cause major problems. During normal walking, as you foot strikes the ground, force is exerted in the heel. When walking fast or running, however, the heel of your front foot absorbs the force, but you push harder off the sole of the rear foot. This requires greater traction to prevent slipping. Changing directions quickly creates a similar problem.

Prevent or minimize hazards of falling

Reduce the risk of slipping by:

- taking your time and paying attention to where you are going,*
- adjusting your stride to a pace that is suitable for the walking surface and the tasks you are doing,*
- walking with your feet pointed slightly outward, and*
- making wide turns at corners.*

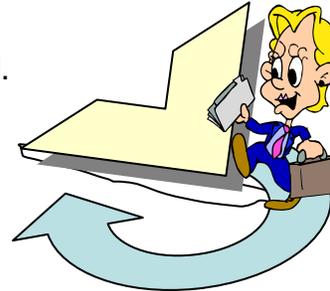




Rounding corners

If you take a sharp turn when walking around a corner, you exert a lot of **sideways** force at the point of the turn. This could result in a slip and fall. Make wide turns around corners.

Never turn sharply on slippery ground.



Prevent or minimize hazards of falling



Getting out of your car

When you are about to step out onto a slippery surface, use the car door as a "rail".

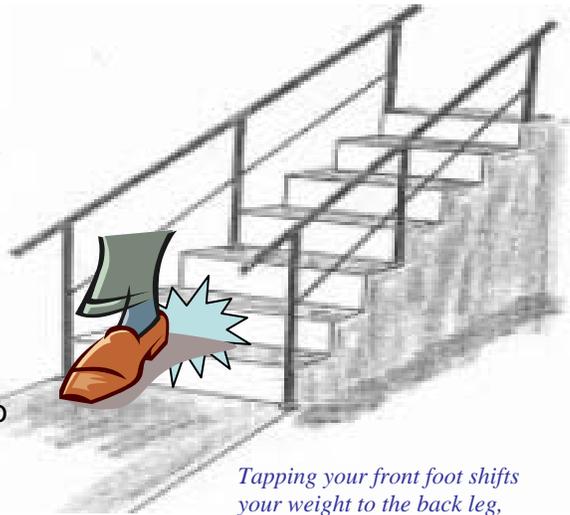
Walking on slippery stairs

A special problem of balance occurs when you must walk on wet stairs. It's best not to walk on wet stairs, but if you have to do so, always keep your **weight on the back leg** to help maintain your balance.

When going downstairs, test your balance by tapping the lower step with the heel of your front foot.

When going upstairs, use the toe of your front foot to TAP the edge of the higher step.

Maintain three points of contact on stairs or ramps by holding onto the handrail.



Tapping your front foot shifts your weight to the back leg, already safe and steady. Tapping also allows you to make sure your foot is on the next step in the proper place.



It's All About Balance!

Put your **foot straight down** (↓) when you step and you will have less chances of slipping. When you stand still, you cannot slip!

The **longer** your step, the greater your chances are for slipping.



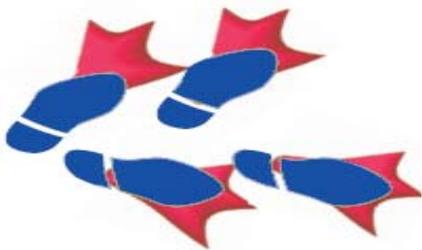
Dangerous Walking - Taking Long Steps

On a slippery surface, take the **SHORTEST** step possible.



Safer Walking

Point your toes out and taken short steps when crossing wet and slick areas. Walk like a penguin!



Safest Walking

Walk on your complete foot and your chances of not slipping are better. Do not walk on your toes or heels. Walking with short steps, toes out give maximum protection when crossing any surface.

When crossing rough uneven ground full of rocks you can easily twist your ankle. Walking with your toes out, gives sideways coverage over the surface you are walking on. This gives you the best balance.

Keep hands free when walking wet or slick surfaces.

Prevent or
minimize
hazards of
falling



*Safe walking is all about
keeping your balance!*
www.bitbetter.com





Individual Physical Practice

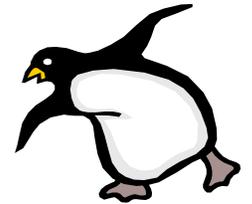
Skill Set #1

- 1 Try to walk like a penguin: make sure that the heel of one foot never goes ahead of the other toe.
- 2 Try the penguin walk placing your entire foot down as you take each step.
- 3 Try rounding a corner near you in this manner. Avoid sharp turns as you round the corner.

Skill Set #2

- 1 Go to a staircase.
- 2 Go down the stairs. Tap you heel on the next lower step before fully placing your foot down.
- 3 Go up the stairs. Before placing your foot down, tap your toe against the inside of the next higher step.

Practice
Physical
demonstration



Practice until safe walking becomes a habit and not an inconvenience.



Prevent or minimize hazards of falling

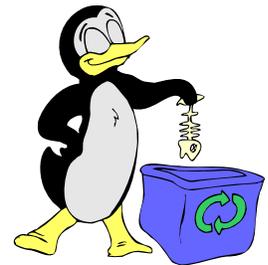
Good working practice

Choose only suitable floor surfaces and particularly avoid very smooth floors in areas that will become wet/contaminated (such as kitchens and entrance halls). Ensure lighting levels are sufficient, properly plan pedestrian and traffic routes and avoid overcrowding.

Housekeeping

Proper housekeeping in work and walking areas can contribute to safety and the prevention of falls. Not only is it important to maintain a safe working environment and walking surface, these areas must also be kept free of obstacles which can cause slips and trips.

Good housekeeping is the first and the most important (fundamental) level of preventing falls due to slips and trips.



Lighting

Adequate lighting to ensure proper vision is important in the prevention of slips and falls. Moving from light to dark areas, or vice versa, can cause temporary vision problems that might be just enough to cause a person to slip on an oil spill or trip over a misplaced object. Provide lighting that will enable people to see obstructions, potentially slippery areas etc, so they can work safely. Replace, repair or clean lights before levels become too low for safe work.

Signs

Safety signs to remind people of slip, trip and fall hazards are helpful, particularly where hazards cannot be removed or corrected. "Humorous" warnings may be more effective than simple warning signs. "CAUTION-WET FLOOR" is less effective than "WET FLOOR--SKATE, DON'T SLIP".



Cleaning and maintenance

Train workers in the correct use of any safety and cleaning equipment provided.

Use cleaning methods and equipment that are suitable for the type of surface being treated. Get advice from the manufacturer or supplier. Do not create additional slip or trip hazards while cleaning and maintenance work is being done.

Carry out all necessary maintenance work promptly. Include inspection, testing, adjustment and cleaning at suitable intervals.

Slip-resistant materials

Recoating or replacing floors; installing mats, pressure-sensitive abrasive strips or abrasive-filled paint-on coating; and installing metal or synthetic decking can further reduce the risk of falling. However, it is critical to remember that high-tech flooring requires good housekeeping. Resilient, non-slippery flooring prevents or reduces foot fatigue and contributes to slip prevention measures.

Abrasive coatings can be applied to concrete, metal and wood surfaces to increase the traction and reduce the risks of slips and falls. Many of these products can be applied like paint; others can be troweled on in a thin coat. These coatings are formulated to resist grease, oil, water and a wide range of chemicals. It is important to purchase the correct product for your problem areas. For example, some enamels and epoxies contain a rough, hard, gritty material providing high traction. You may not want to install this in a shower area.

Prevent or minimize hazards of falling



Do not overuse “Wet Floor” or “Caution” signs. If they become a part of the ‘scenery’, they may not be taken seriously when there really is a hazard.



There are a number of skid-resistant products that can be purchased in strips or rolls. These products may have a pressure-sensitive backing. They may also be applied with a special glue. They are designed for easy application to stair treads, ramps and other hazardous walking and working surfaces.

Another effective skid-resistant material is rubber or rubber-like mats. This material is long-wearing and skid-resistant on both the top and bottom. Hard rubber or hard rubber-like mats are ineffective because they have low traction when wet.

Footwear

Footwear can play an important part in preventing slips and trips. This is especially important when floors can't be kept dry.

Wearing footwear that is not suitable for the work environment or environmental conditions can cause you to fall.



High heels



Smooth soles



Old, worn-out shoes

In workplaces where floors may be oily or wet or where workers spend considerable time outdoors, prevention of fall accidents should focus on selecting proper footwear. Since no footwear exist that will cover every condition you may encounter, you should consult with the manufacturer to determine what type would best fit your situation.

Properly fitting footwear increases comfort and prevents fatigue which, in turn, improves safety for the employee.

Prevent or minimize hazards of falling



Shoes with soft rubber soles and heels with rubber cleats provide better traction.

Make sure you have adequate "tread." Some experts believe up to half of all slips and falls could be prevented through proper footwear alone!



Learn How to Fall

Naturally, the goal is not to slip, trip or fall. However, the possibility of a fall still exists.

There are correct ways to fall. When falling, the objective is to spread out the impact of the fall. This means dispersing the impact of the fall over as large an area as possible and protecting the vulnerable parts of the body to a fall.

Employees can learn to protect the three most vulnerable parts of the body – the head, spine/back and joints (wrist, elbows, shoulder and knees). The recommended procedures are:

- ❑ Tuck your chin in, turn your head, and throw an arm up. It is better to land on your arm than on your head. This natural placement prevents falling onto the head. The position can be assumed rapidly and is easy to hold.
- ❑ Where possible, try to fall forward rather than backward. This will protect the back of your head and spine. If you fall backward, a slight twist to the side may help minimize spinal damage.
- ❑ Keep your wrists, elbows and knees bent. Do not try to break the fall with your hands or elbows. Wrist, elbow and shoulder dislocations and fractures often occur in a forward fall. These injuries can be reduced by not attempting to ward off an oncoming fall stiff-armed. Use the inner arm muscles and aligned hand to slap the falling surface just before impact. This slapping spreads and reduces the force of the fall.
- ❑ Curse the Fall! Shouting prevents you from holding your breathe - a contributor to tension.

Reduce the
Extent of
Injury



Injuries to the spine and head from backward slips or falls can be reduced by:

1. *Tucking the head to one side. This protects the head from concussion, the neck from whiplash and turns the body to the side, away from spinal impact.*
2. *Landing on side of body – thigh, rear, latissimus muscles.*
3. *Exhaling to reduce internal compression.*



After the Fall



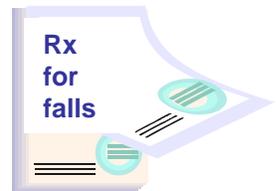
Assume you fall over backwards.
BEFORE you move, test your hands and feet for feeling.

If you have no feeling, you may have broken your neck or back and a careless move by you or anyone else could result in paralysis or death.

Insist on getting medical help before you move.

Do not laugh off the fall because you are embarrassed.

**Reduce the
Extent of
Injury**



*Exercise regularly
to maintain
strength, flexibility
and balance.*



Identify the Cause

A workplace accident report comes across your desk stating an employee slipped and fell in the break room. This picture accompanies the report. What is the cause of the accident and what can be done to prevent a recurrence?



Courtesy of Texas Mutual Insurance Company

Practice

Identify the cause

A further examination of the accident reveals the following:

*Unsafe act
Employee improperly carrying a box – there is obstructed vision*

Unsafe Conditions

- 1. A trash can is in the walkway – maybe it is catching leaking water from dispenser from above*
- 2. A coffee maker is in the area – maybe the spill came from here*
- 3. The sink drain pipe appears to have problems as a rag is wrapped around it*
- 4. The sink pipe cover is down creating an additional hazard*
- 5. There is a soda can overturned on the counter*
- 6. A leak could have occurred from the dishwasher*
- 7. There is no mat in the area to catch any spill*



Learn to recognize potential hazards.

Match the number of the best hazard control with the picture.



Practice
Mix-n-Match

A. Clean It Up!

Clean spills up immediately, if a liquid is greasy, make sure a suitable cleaning agent is used. Use barriers to alert people that the floor is still wet and arrange alternative bypass routes.

B. Pick It Up!

Position equipment to avoid cables crossing pedestrian routes, use cable covers to securely fix to surfaces, restrict access to prevent contact. Consider use of cordless tools. Remove obstacles from walkways and always keeping them free of clutter.

C. Put It Away!

Keep aisles and passageways clear and in good repair, with no obstruction across or in aisles that could create a hazard. Provide floor plugs for equipment, so power cords need not run across. Always close file cabinet or storage drawers.



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Now, look around your workplace. Are there other hazards that you can find and correct to make your workplace safer?



Case Study

Case study reviews are an excellent in-service tool. You provide an account of a real or fictitious situation, including sufficient detail to make it possible for groups to analyze the problems involved. The major benefit of a case study is that abstract information is presented concretely. The participants will learn what you want them to learn without having to give them a lecture.

Case Study #1

A file clerk was filing material in the bottom drawer of the file cabinet when the phone rang. Before getting up and going to the other side of the room to answer it, the clerk marked his place in the file and left the drawer open, so that he could easily pick up where he left off. While the file clerk was on the phone, a delivery man, balancing two large cartons in front of him, entered the room. He tripped over the file drawer, fell, and broke his arm. What, if anything, could have been done to prevent this accident?

Case Study #2

A CNA was trying to get the attention of her supervisor, who was talking with another person down the line. When the supervisor failed to see her raised hand, the CNA leaned back in her chair to get the supervisor to notice that she needed her. The chair tipped over backwards and the CNA suffered a concussion. What was the CNA doing wrong?

Case Study #3

A maintenance man was called to the basement of his facility on an emergency. As he entered the poorly lit, steamy corridor leading to the trouble spot, he began to run. He tripped over a drain pipe on the floor, fell and broke his leg. How could this accident have been avoided?

Practice Case Study

Provide each of the participants with a copy of the case study that you want reviewed. During the resulting discussion, ensure that these points are emphasized.

Case Study #1

- *The file drawer should have been closed. Don't leave hazards behind.*
- *Don't carry loads too large to see over. You should always be able to see where you're going.*
- *Always spot check before entering a room.*

Case Study #2

She was violating the rule that you should NEVER lean back in your chair.

Case Study #3

- *Don't run, especially in a hazardous area.*
- *Always spot check. Be extra cautious in areas of poor visibility.*



Case Study #4

A woman, wearing high heels, was getting out of her car in an icy parking lot. To help herself out of the car, the woman placed one hand on the back of the front seat and with the other hand she gripped the top of the steering wheel. The steering wheel was not locked and turned as soon as she put her weight on it. The woman slipped on the ice and fell, seriously injuring her hip. How could this have been prevented?

Case Study #5

A maintenance worker was told to transfer several buckets of water from a first floor utility closet to the basement. To get to the basement he had to descend a short flight of cement stairs. In order to save himself extra trips, he decided to carry two buckets at a time – one in each hand. On the first trip downstairs, he spilled some water on the stairs, which he noticed on his way upstairs for the next load. On his second trip, he was again carrying a bucket in each hand. This time, as he was hurrying down the stairs he slipped and fell, cracking two vertebrae in his back. What, if anything, could have prevented this accident?

Case Study #6

As he was approaching the end of a corridor, a nurse noticed a puddle on the floor, which extended all the way across the hall. The puddle was caused by a leaking water cooler. While turning the corner, the nurse tried to “hug” the corner and brace himself against the wall. He slipped and fell, injuring his knee slightly. What was the worker doing wrong?

Case Study #7

After a fall, what should the employee do?

Practice

Case Study #4

- She should not have been wearing high heels on a slippery surface.
- She should have used the door, not the wheel, as a “rail”.

Case Study #5

- He neglected to remove the hazard (spilled water) that he had created.
- He did not keep one hand free to grip the railing and/or break his fall.
- He was hurrying and he did not exercise extra caution in descending the stairs by placing his weight on his back leg and tapping the next stair with his heel.

Case Study #6

Never make sharp turns on a slippery surface. When making a turn around a corner, a person always exerts great sideways force at the point of the turn. If forced to make a turn on a slippery surface, you should always make as wide a turn as possible.

Case Study #7

Before he moves, check his hands and feet for feeling. If there is no feeling, do not move or allow yourself to be moved until you can be helped by medically trained personnel.



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