



TDCJ Risk Management's Training Circular

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August Slips, Trips, and Falls



Slips, trips, and falls are consistently in the top three causes of employee and offender injuries. Based on in-depth investigations and detailed analysis of reported claims, many of them could have been prevented.



there are some exceptions. Highly polished floors such as marble, terrazzo, or ceramic tile can be extremely slippery even when dry, and definitely increases the potential for a slip when moisture is present.

Slips and Trips

The terms slips, trips, and falls are commonly grouped into a single expression. However, we will focus on the first two terms, slips and trips, and more specifically, slips and trips **on the same level**. Although falls are certainly a result, this will concentrate on causes of slips and trips, and identify administrative controls to abate or minimize these types of mishaps. Statistics show that a majority of falls occur on the same level.

Conditions and situations that set the stage for slips and falls are:

- housekeeping;
- wet or slippery surfaces;
- obstacles in walkways;
- lighting;
- footwear; and,
- individual behavior.

Housekeeping

Good housekeeping is important. If good housekeeping practices are not enforced, other administrative control measures implemented will never be fully effective.

If your facility's housekeeping habits are poor, the result may well be employee injuries, ever increasing costs, and regulatory citations. If an organization's facilities are noticeably clean and well organized, it is a good indication that its overall safety program is effective as well.

Good housekeeping includes picking up, wiping up, and cleaning up.

Wet or Slippery Surfaces

A wide variety of surfaces are available indoors. Although most provide some degree of slip resistance in their original state,

Control measures that can be implemented indoors to prevent, or minimize as much as possible, injuries caused by wet surfaces include the following:



- Anti-skid adhesive tape is an excellent and economically feasible fix to combat slips or trips.
- During inclement weather conditions, moisture-absorbent mats should be placed in entrance areas.
- Display wet floor signs in areas that are wet and hazardous.
- Proper area rugs or mats should be used in food preparation areas or bathing facilities. A more expensive; however, effective measure in these particular areas is chemical treatment of the floor surface, which increases the coefficient of friction when moisture is present.

Obstacles in Walkways

Injuries can also result from trips caused by reasons other than slippery surfaces, namely inadvertent contact with obstacles or other types of material (debris) and/or equipment.

Of course, proper housekeeping in work and walking areas is still the most effective control measure in avoiding these types of hazards. The following are some control measures that can be implemented.



Have accessible light switches and a handy place where a flashlight can be found.

Repair fixtures and cords immediately if they malfunction -- do not wait until someone trips and falls in a darkened room. Proper lighting will ensure that employees detect obstructions and avoid slippery areas.

Use proper illumination in walkways, staircases, hallways, and basements to help people avoid slips, trips, and falls. Do not ignore flickering lights, blown fuses or sparks.



Footwear

- Where mechanical handling devices are used, such as storage areas or warehouses, allow sufficient clearance for maneuvering of the equipment.
- Avoid stringing cords or lines across hallways or in any walkway.
- In the office environment, emphasize caution in areas where people leave carrying items such as briefcases, boxes, etc.
- Encourage safe work practices such as closing file cabinet drawers after use and picking up loose items from the floor.
- Maintain constant vigilance for slip and trip hazards through periodic inspections.

Maintain Proper Lighting

Inadequate lighting can hide items that are in your way, so replace light fixtures or bulbs that do not work.

The shoes we wear can play a big part in preventing falls. The slickness of the soles, and the type of heels worn need to be evaluated to avoid slips, trips, and falls.

Whenever a fall-related injury is investigated, the footwear needs to be evaluated to see if it contributed to the incident.

Protective footwear is required to prevent injury from falling, tripping, lacerations from sharp edges, falling objects striking footwear, and electrical hazards. In wet areas, non-skid footwear is required.

Employees are expected to wear footwear appropriate for the duties of their employment.

Sandals or other open-toe style shoes are not permitted to be worn in shop areas or other job locations where glass, caustic or corrosive chemicals, or hot materials are used or handled.

Safety shoes are required for employees whose routine job duties include the lifting, carrying, or moving, etc., of objects weighing more than 15 pounds which, if dropped, would likely result in foot or toe injuries.

Individual Behavior

How many times have we heard the phrase, "I guess I just wasn't thinking" during an accident investigation? What is it that takes a person's attention away from the task at hand? Whatever the cause, something has taken a person's focus away from his/her current activity.

By not staying alert, individuals lose site of what they are doing and they are not aware of hazardous floor conditions and their surroundings. Additionally, lack of planning is a significant factor because people try to make up for lost time through speed.

Being in a hurry will result in walking too fast, even running, or not focusing on the task at hand, and being completely oblivious to their surroundings. This can require rapid changes in direction of travel, and often a loss of balance.

Distraction, not watching where one is going, carrying materials which obstruct vision, and speeds are common elements in many on-the-job injuries.

Falls

As statistics show, falls from elevated surfaces are generally less frequent, but in most cases, more severe than same-level falls, such as slips and trips, in the workplace. More so, the degree of elevation varies considerably, ranging from simply uneven surfaces such as sidewalks, to working on elevated platforms such as docks and ramps. Conditions and situations that set the stage for falls are:

- Uneven surfaces
- Stairs
- Ladders
- Inadequate Fall Protection

Uneven Surfaces

Injuries from falls reported by state agencies cover the entire spectrum; however, interesting to note, a majority of these occur on walking and working surfaces that are not necessarily of any significant height. Any variation in walking surfaces greater than $\frac{1}{4}$ of an inch should be identified as a hazard and require corrective action to be taken to minimize the threat of injury.



Stairs

Falls are the second leading cause of accidental deaths in the United States. Of these fatal falls, statistics show that nearly half occur on steps and stairways.

Naturally, to prevent a stairway fall, awareness and prevention remain the keys.

Before setting foot on a stairway, the following preventative measures should be physically in place, or consciously in your mind.

- Whether going up or down stairs, always use the handrail.
- Make sure the stairs are clear and free of all obstacles. Never use a stairway for temporary storage.
- Take extra care when ascending/descending steps while wearing footwear such as high heels, sandals, slippers, athletic shoes, or socks.
- Avoid carrying vision-blocking loads. Also, keep one hand free to hold onto the handrail. If necessary, make several trips with smaller loads.
- Be on guard for single steps when entering or exiting a room.

In addition to the preventative measures outlined above, steps and stairways located outside must be kept free of ice, snow, or water puddles. Keep in mind that the chances of falling on stairways can be increased by inattention, illness, fatigue, haste, and the use of alcohol or drugs.

The Occupational Safety and Health Administration (OSHA) has developed excellent guidelines for stairway construction, maintenance, and safety in industrial applications.

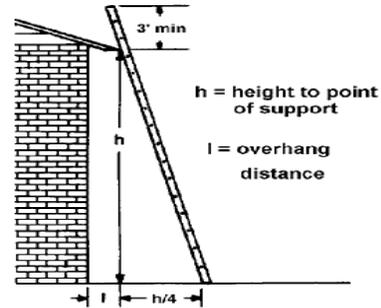


Figure 2. The base of a straight ladder should be one foot out of every four of height to the point of support

Ladders

There are inherent hazards associated with ladder use. Never use items such as chairs or tables to reach heights. Typical ladder hazards include:

- Ladder structural failure or deteriorated ladders;
- Ladders tipping sideways, backwards, or slipping out at the bottom;
- Ladder spreaders not fully opened and locked, causing the ladder to "walk", twist, or close up when a load is applied to the ladder;
- Using metal ladders around electricity;

Employees should follow certain rules when placing, ascending, and descending ladders, which include the following:

- Hold on with both hands when going up or down. If material must be handled, raise or lower it with a rope either before going down or after climbing to the desired level.
- Set step stool or ladder on firm, level ground. Always face the ladder when ascending or descending.

- Do not climb higher than the third rung from the top on straight or extension ladders, or the second tread from the top on stepladders.
- Never lean too far to the sides. Keep your belt buckle within the side rails.
- Choose the right ladder for the job.
- Use a 4-to-1 ratio when leaning a single or extension ladder (e.g. place a 12-foot ladder so that the bottom is at least 3 feet away from the object the ladder is leaning against).
- Inspect ladder for defects before using.
- Never use a defective ladder.

Safety devices are available for both portable and fixed ladders to prevent a climber from falling.

Safety devices for portable ladders include slip-resistant bases, safety tops, and any other device to increase the ladder stability. A portable ladder positioned at a location where it may be tipped over by work activities should be securely fastened at the bottom and top.

Safety devices for fixed ladders include cages (which enclose the stairwell) or a restraint belt attached to a sliding fixture anchored to the ladder.

If fixed ladders are used in multiple levels and equipped with hatch doors or safety chains at each landing, ensure that these doors are closed or chains are up after each person passes through, and when not in use.

Ladders that are weak, improperly repaired, damaged, have missing rungs, or appear unsafe

should be removed from the job or site for repair or disposal. Before discarding a wooden ladder, cut it up so no one can use it again.

Tag any ladders that have developed defects with "DANGEROUS -- DO NOT USE", and remove from service for repair or dispose.

For portable metal ladders, the design should be without structural defects or accident hazards such as sharp edges, burrs, etc. The selected metal should be of sufficient strength to meet the test requirements, and should be protected against corrosion.

Fall Protection

Falls are among the most common causes of serious work related injuries and deaths. To prevent employees from being injured from falls:

- Guard every floor hole into which a worker can accidentally walk (using a railing and toe board or a floor hole cover).
- Provide a guard rail and toe-board around every elevated open sided platform, floor or runway.

Regardless of height, if a worker can fall into or onto dangerous machines or equipment (such as a vat of acid or a conveyor belt) employers must provide guardrails and toe-boards to prevent workers from falling and getting injured.

Other means of fall protection that may be required on certain jobs include safety nets, stair railings, and hand rails.

References:

Occupational Safety and Health Administration (OSHA) Safety and Health Topics: Fall Protection
<http://www.osha.gov/SLTC/fallprotection/index.html>

State Office of Risk Management (SORM) Safety Puzzle Slips, Trips, and Falls.
<http://www.sorm.state.tx.us/training2/SlipsTripsFalls/intro.htm>

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