

Risk Control Bulletin

Keeping Your Customers Safe: Controlling Slips, Trips, And Falls

Accidents typically occur on walks, staircases, ramps, and parking lots. The principal risk control measures include the proper design of public areas, effective maintenance, adequate lighting, and appropriate warning signs.

Introduction

Statistics collected by the United States Consumer Product Safety Commission (CPSC) on injuries associated with slips, trips, and falls (STFs) indicate that over one million hospital-related incidents were recorded in 1993. Another report issued by the National Safety Council stated that 12,400 fatalities were related to falls during 2002. The majority of these losses occurred on:

- Walks or flooring
- Staircases
- Balconies
- Ramps
- Parking lots

Slips are usually the result of:

- Improper floor material or finish
- Uneven surfaces
- Unexpected vertical transitions
- Debris on walking surfaces
- Inadequate lighting
- Missing handrails on stairs
- Poor maintenance
- Adverse weather conditions

Outdoor Walks

Walks outside of buildings, or protected areas, are often cracked due to settling of surfaces, storm damage, or by the action of tree roots. It is also essential for walks to be pitched to provide proper drainage so that puddles and ice do not collect on them. The best material for the surface of exterior walks is usually concrete that is well maintained. Areas where steps or entrances to buildings are located should be properly illuminated.

Indoor Walks/Flooring

Indoor flooring may be irregular due to settling of the building structure or damaged by having loads dropped on them. Indoor, or enclosed, walks may be constructed of a variety of materials, such as wood, tiles, stone, concrete, or terrazzo. They also may be covered by carpets, tiles, and other decorative materials. Surfaces coated with a sealant or wax to enhance appearance may be slippery. Paint applied to wooden floors also may make the surface slippery. However, a non-slip additive, such as sand, may be added to the paint to reduce slipperiness.

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Floors can also become slippery from “spills” or wet surfaces as a result of inclement weather. In the event of a spill, the area should be marked with a “caution” sign and cleaned up immediately. The use of “walk off” mats is necessary during rainy or snowy weather. The mats need to be replaced if they become saturated.

Parking Lots

A substantial number of slips, trips, and falls occur in parking lots. Unfortunately, most building codes do not address these problems, but rather concentrate on the hazards associated with large, multi-story parking structures.

Mitigation of the hazards associated with conventional ground level parking lots is addressed in the following manner:

- Regular, smooth surfaces are provided.
- Speed bumps are properly designed.
- Safe pedestrian access routes to parking lots are conspicuously marked.
- Adequate lighting is provided.

The surfaces of parking lots should be reasonably level and free of large potholes, cracks, and large irregularities. All-weather paving, rather than soil surfaces, is preferred.

The proper spacing of vehicles will promote pedestrian visibility so that irregularities in the surface can be seen and avoided.

Pieces of concrete placed at the front end of parking stalls are called wheel stops. Pedestrians may trip over them when leaving or returning to their cars. When the parking stall is positioned perpendicular to a sidewalk, wheel stops should be located so that the front of the car does not overhang the pedestrian walk. All wheel stops should be painted with bright yellow slip-resistant paint.

Speed bumps located in driving areas that may not be seen by pedestrians may be the proximate cause of STFs. The bumps can be slippery if painted, especially when they are wet. They should be designed and installed so that a three-foot walking area is provided at either end.

Slips, trips, and falls can occur when a ramp for the physically handicapped terminates in a parking area that is not marked for such use. A car parked in front of the ramp may obscure the presence of the ramp. If "handicapped parking" is allowed in the area, the width of each stall should be increased to at least 12 feet 6 inches, and the area in front of the ramp should be marked as a "No Parking" area.

All areas of parking lots should be sufficiently illuminated so that people can see and avoid obstacles. These include the parking areas plus service ramps and adjacent walks.

Winter Weather

Precautions ought to be taken for winter weather conditions. Snow, sleet, ice, and rain can create significant STF hazards. Snow and ice removal should be addressed aggressively either by management or outside contractors. The days following a storm are critical as melting and re-freezing can prolong the hazard. Areas that were free of ice in the afternoon may soon become a serious slip and fall problem once the sun goes down and temperatures drop below freezing. If outside contractors are used for snow and ice removal, require them to provide Certificates of Insurance with adequate liability limits.

Management Considerations

A comprehensive risk control program to minimize STFs should include the following elements:

- Conformance to standards - All construction should be performed in accordance with local and state building codes plus applicable consensus standards.

- Inspection/maintenance - All areas that could foreseeably cause STFs should be regularly inspected and repairs performed as soon as possible. Responsibility for each area or class of work should be clearly established and periodic reports required on this activity.
- Claims - Details of claims made by customers should be fully documented and counteractive measures contemplated with regard to the alleged cause of each claim.
- Recordkeeping - Details on all risk control activity should be carefully documented and kept current.

Risk Management Checklist

| ITEM | YES | NO | N/A |
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| <p><u>Outdoor walks</u></p> <ul style="list-style-type: none"> • Surfaces are level | | | |
| <ul style="list-style-type: none"> • Surfaces are free of cracks/bulges | | | |
| <ul style="list-style-type: none"> • Surfaces are properly pitched | | | |
| <ul style="list-style-type: none"> • Surfaces are paved | | | |
| <ul style="list-style-type: none"> • Surfaces are properly illuminated | | | |
| <ul style="list-style-type: none"> • Surfaces are free of debris | | | |
| <p><u>Indoor walks</u></p> <ul style="list-style-type: none"> • Surfaces are level | | | |
| <ul style="list-style-type: none"> • Surfaces are free of cracks/bulges | | | |
| <ul style="list-style-type: none"> • Surfaces are not slippery | | | |
| <ul style="list-style-type: none"> • Surfaces are free of highly waxed areas | | | |
| <ul style="list-style-type: none"> • Carpets are firmly fastened in place | | | |
| <ul style="list-style-type: none"> • Areas between carpets and other surfaces are free of gaps | | | |
| <ul style="list-style-type: none"> • Flooring tiles are not slippery | | | |
| <ul style="list-style-type: none"> • Terrazzo flooring is not slippery | | | |
| <ul style="list-style-type: none"> • Marble flooring is not slippery | | | |
| <ul style="list-style-type: none"> • Mats are available to cover terrazzo/marble flooring in case of rain or snow | | | |
| <ul style="list-style-type: none"> • Surfaces are free of debris | | | |

| <u>Staircases</u> | | | |
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| <ul style="list-style-type: none"> • Steps are uniform and meet the design requirements of local/state codes | | | |
| <ul style="list-style-type: none"> • Handrails are provided | | | |
| <ul style="list-style-type: none"> • Winding/spiral/circular staircases are not used | | | |
| <ul style="list-style-type: none"> • Doors do not open onto staircases | | | |
| <ul style="list-style-type: none"> • Landings are level and well designed | | | |
| <ul style="list-style-type: none"> • Staircases and landings are well illuminated | | | |
| <ul style="list-style-type: none"> • Landings and staircases are free of debris | | | |
| <ul style="list-style-type: none"> • Landings and staircases are well maintained | | | |
| <ul style="list-style-type: none"> • Warning signs are installed in critical areas | | | |

| <u>Ramps</u> | | | |
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| <ul style="list-style-type: none"> • Surfaces are free of irregularities | | | |
| <ul style="list-style-type: none"> • The slope of the ramp is 4-15 degrees | | | |
| <ul style="list-style-type: none"> • Surfaces are paved with non-slip material | | | |
| <ul style="list-style-type: none"> • Ramps are equipped with handrails | | | |
| <ul style="list-style-type: none"> • Handrails are 30-40 inches above the walking surface | | | |
| <ul style="list-style-type: none"> • Peripheral areas are free of projections | | | |
| <ul style="list-style-type: none"> • Ramps are at least 36 inches wide | | | |
| <ul style="list-style-type: none"> • Landings are provided at points of turning, entrance, and exit | | | |

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| <u>Parking lots</u> | | | |
| <ul style="list-style-type: none"> • Surfaces are smooth and free from potholes | | | |
| <ul style="list-style-type: none"> • Surfaces are paved with weather resistant materials | | | |
| <ul style="list-style-type: none"> • Spacing of cars is established by markers | | | |
| <ul style="list-style-type: none"> • Appropriately painted wheel stops are provided for each space | | | |
| <ul style="list-style-type: none"> • Speed bumps are properly designed | | | |
| <ul style="list-style-type: none"> • Markings are provided in handicapped zones | | | |
| <ul style="list-style-type: none"> • Safe access routes in parking lots are marked | | | |
| <ul style="list-style-type: none"> • Illumination is adequate and complies with local ordinances and building codes | | | |

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| <u>Bathrooms</u> | | | |
| <ul style="list-style-type: none"> • Surfaces are smooth | | | |
| <ul style="list-style-type: none"> • Surfaces are free of puddles | | | |
| <ul style="list-style-type: none"> • Surfaces are not slippery | | | |