

Walking your property to prevent falls

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Falls are the most frequent and most costly accident type for hotel guests and employees. My associates and I have investigated thousands of fall incidents, and we regularly find the same small number of causes account for the majority of falls.

How people walk explains how they fall. Our feet swing close to the ground, so even low objects can trip. The leading heel lands with force and can slip forward if a floor doesn't adequately push back. These 'human' factors help define the basic standards for walkway safety:

- Floors should be stable.
- Floors should be as even as possible.
- Floors should be slip resistant under expected conditions and use.

Walkways that jiggle and shake

Walkways, steps and things that move when you step on them are a problem. When I inspect walkways for stability I start at the edges where they come loose first. Carpet edges, transition strips and door saddles should be solid and flat to the ground. Carpet on stairs should be tight, especially at the front edges of steps. Carpet that bags past a step edge is a common cause of stair falls.

Door thresholds and floor hardware should have all screws tight in place. Same thing for plumbing and electrical access plates including covers over swimming pool scuppers. Workers sometimes don't re-screw covers they routinely remove.

Damage and deterioration

Some hazards develop over time. Look for uneven wear on stairs, especially at the tread edges since small variations can cause falls. Railings should be solid. If you have brick or stone pathways, make sure the pavers haven't become loose or uneven. Check that sidewalk sections are even with each other and along the curb. Uneven sidewalk joints are a frequent cause of trips. So are uneven asphalt areas in parking lots and driveways.

The main reason outdoor walkways deteriorate is water. Check downspouts, sidewalk and pavement slopes and drainage inlets. Good drainage also helps prevent ice patches in the winter.

The edges that cause trips

Keep your eyes on the ground. That's where people trip. Standards for safe walking surfaces say walkways should be as even as possible. Where floors aren't flat, vertical edges shouldn't be

more than 1/4" high. Edges up to 1/2" high should be beveled on top, and higher edges should be gently sloped.

Where flooring types change they should meet at the same level or with a beveled transition. Carpet trim pieces, door saddles, and exposed paver edges should be sloped. Portable dance floors should have sloped edge strips.

Loose-laid mats should be stiff enough and heavy enough so their edges stay flat. Mats that slide, wrinkle or hump up cause trips. Some thinner-style carpet mats may need to be taped to the floor so they don't create a hazard. Rubber-backed mats on top of carpets should have knobbed bottoms to keep them from sliding.

Controlling Slippery Floors

My company has tens of thousands of dollars worth of specialized equipment to evaluate slippery floors, and we've learned a lot about the most common causes of slips. It's unusual for dry, clean floor to be slippery, so good housekeeping is the first slip prevention strategy. Where wetness is a common condition, you can't usually rely on housekeeping. Identify those areas: entrance vestibules, swimming pool areas, rest rooms, bars and restaurants. Also identify predictable spill sources like ice machines, water fountains and coffee bars.

The best solution for wet locations is to have a floor that's not dangerous when wet. There are many safe alternatives including carpet, quarry and rough ceramic tiles and textured vinyl flooring. Unfortunately, some hotels rely on highly polished floors for visual appeal. Our experience has been that such floors often become slippery when wet.

If you have a floor that is slippery when wet, floor coverings may be an answer, however ensure the coverings don't themselves create tripping hazards. Mats placed to dry shoes in wet weather should be long enough for two steps with each foot, and the mats should be checked frequently to ensure they don't become soaked and ineffective. It's good practice to place a warning sign at the end of the mats to remind people to take extra care.

Color, paint and warnings

While tall enough to trip people, the small size of most walkway hazards makes them unlikely to be seen. Standard accident prevention practice is to warn of trip hazards by marking them to make them conspicuous. Yellow striping is commonly used to mark step edges and uneven floors. Where the view of the ground may be obstructed, you can use warning signs.

Do you have stairs with three or fewer steps? Pedestrians routinely fail to see such small changes in level, and they are a common cause of falls. Mark them so they're conspicuous, especially when approached from above. Handrails can be used to mark steps and ramps.

In dimly lit lounge areas and outside at night, floor level lights may be necessary. Whatever warnings you select, consider their environment. A thin yellow floor stripe may be effective at a lobby step, but would not be as obvious in a sports bar surrounded by neon signs and television screens.

We can reduce the likelihood of injuries by aiding people to focus attention on conditions that might cause them to fall. Hopefully this short article can help you do the same.

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