SLIPS, TRIPS & FALLS: THE DANGERS OF A COMMONPLACE HAZARD

Walking from here to there.
Going from one level to another.
Stepping over this cord or that tool.
Are such routine actions really hazardous in the workplace?

By Joshua Franklin, Board of Certified Safety Professionals
The Cost
According to the 2019 Liberty Mutual Workplace Safety Index, injuries from slips, trips and falls (STF) in the workplace cost U.S. businesses $17.54 billion annually. These seemingly benign actions resulted in 887 deaths and 227,760 lost workday incidents in 2017 alone. According to the most recent National Safety Council’s “Injury Facts” (2017), STFs accounted for 25.8 percent of all lost workday injuries. Workers typically lost 12 days on the job, and if the worker was in an industrial setting such as mining, the average days lost went up to 60 days, according to the National Institute for Occupational Safety and Health (NIOSH). The most frequent injuries included in workers’ compensation claims were sprains, strains, dislocations and muscle/ligament tears.

Although the most at-risk age group for injuries involving STFs are those 55 years old and over, every worker demographic is exposed to the hazard for an average of 23 lost workday incidents per 10,000 workers. How much does an injury as commonplace as a sprain cost? According to the OSHA “Safety Pays” calculator and numbers provided by the National Council on Compensation Insurance, Inc., an average sprain costs over $30,000 in direct costs and $33,000 in indirect costs. With a three percent profit margin, depending on the industry and company, that equates to $2 million in sales to cover a single sprain injury.

What are Slips, Trips and Falls?
Before determining and implementing effective mitigation techniques to prevent and reduce STF incidents and injuries in your workplace, let us define STF.

Slip: Too little friction between feet/footwear and the walking/working surface, resulting in a loss of balance (with or without a fall).
Trip: The foot or leg hits an object and the upper body continues moving, resulting in loss of balance (with or without a fall). Also occurs from stepping down to a lower surface and losing balance.
Fall: Both falls to another level, and falls to the same level, usually from a loss of balance, are included in this single definition.

What are the Most Serious STF Hazards?
Each industry has its own unique challenges and environments and therefore specific hazards vary by workplace. But many hazards are common across various industries. One well-studied industry example, with STF hazards similar to retail, transportation and warehousing, is the healthcare industry. According to a NIOSH report on STF prevention for healthcare workers, the 10 most frequent STF hazards, and several associated prevention methods, are:

Contaminants on the Floor
- Provide and maintain a written housekeeping program
- Keep floors clean and dry
- Use proper cleaning procedures for floors
- Wear slip-resistant shoes

Poor Drainage: Pipes and Drains
- Correctly aligned drain pipes
- Unclog drains regularly (e.g., kitchens)
- Redirect downspouts away from pedestrian areas

Indoor Walking Surface Irregularities
- Replace loose carpeting and remove damaged vinyl tile
- Patch cracks greater than ¼ inch wide
- Reduce trip hazards over ¼ inch high, bevel ¼ inch to ½ inch to a slope, and ramp changes over ½ inch
- Consider replacing smooth surfaces exposed to liquids with rougher-surfaced flooring

Outdoor Walking Surface Irregularities
- Patch cracks greater than ½ inch wide
- Highlight elevation changes with Safety Yellow warning paint

Weather Conditions: Ice and Snow
- Promptly remove ice and snow from parking lots and sidewalks
- Place freezing weather warning monitors at entrances to parking lots
- Provide mats in winter months and slip-resistant footwear to employees

Inadequate Lighting
- Install more light fixtures in parking structures, walkways and storage rooms
- Verify light bulbs have the necessary brightness

Stairs and Handrails
- Paint or tape each step (top and bottom)
- Check stair treads and nosing for slip resistance
- Confirm all handrails are 34–38 inches from the stepping surface

Stepstools and Ladders
- Train employees on the proper use of ladders
- Provide the proper ladders for the job
- Maintain three points of contact with the ladder while ascending and descending

Tripping Hazards: Clutter, Loose Cords, Hoses, Wires and Medical Tubing
- Organize storage areas (housekeeping)
- Clear walkways and work areas
- Cover cords with a beveled protective cover
- Route all cords underneath desks

Improper Use of Floor Mats and Runners
- Use non-slip mats in wet areas
- Replace worn mats and/or those with ripped edges
- Secure mats from moving and paint small markers on the floor to lay mats in correct position
How Do I Prevent STFs in my Organization?

History
What is your company’s history of STFs? Where and when do injuries and close calls occur in your facilities, and on what type of jobsites? Survey your workers. Where do they feel is the most likely area for STFs and what would they recommend to prevent future incidents? Does your organization have a fall prevention program (in applicable workplaces) and does it function as designed (e.g., do employees follow prescribed safe work practices to include the installation of guarding where applicable and personal protective equipment)?

Training
With information gathered from the historical review, next create a list of common hazards and associated areas. Locations subject to weather changes like rain, snow and ice; transitional hazards like spills and vehicle movement areas; and temporary worksites like construction areas are all examples. Use these data points to train employees on spill cleanup and who/when to call for larger spills.

Additionally, provide training on how to report damaged and worn surfaces such as cracks and gaps in walking and working surfaces and damaged tiles, carpet or other flooring materials. You might also provide contact information for repairs and spill response. If you’ve identified slip-resistant footwear to reduce an identified STF hazard, provide workers with a choice in footwear and have a policy of when and how it should be worn.

Recognize employees who do report unsafe walking and working conditions. Consider accredited certifications, such as those from the Board of Certified Safety Professionals, for employees with responsibilities in safety and health to recognize education, training and experience, and show an organizational commitment to excellence and continuous improvement.

Surveillance
Create a STF reduction plan that includes a checklist of workplace–unique hazards. For example, you might consider a daily walkthrough of areas where housekeeping needs attention and a weekly visit to places affected by weather, but with less frequent worker presence, like a remote parking lot or seasonal storage area. Finally, use a list, such as the checklist example provided by NIOSH on page 35 of Slip, Trip, and Fall Prevention for Healthcare Workers.

Conclusion
Slips, trips and falls aren’t just something that happens. They cost billions in workers’ compensation and lost productivity. By deliberate analysis of your workplace’s STF history and site conditions, as well as training and surveillance, to include the implementation of NIOSH–identified best practices, STF losses can be reduced and eliminated.

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Josh is originally from Ithaca, NY, and currently resides in Indianapolis, IN, with his wife Karen and their children Sydney and Hunter. He is actively involved in mentoring programs across various organizations and is at home when hiking on muddy trails in far-off mountain ranges.

SOURCES
injuryfacts.nsc.org/work/work-overview/top-work-related-injury-causes/
https://www.cdc.gov/niosh/mining/topics/ErgonomicsandMSDPrevention.html
www.osha.gov/dcspsmallbusiness/safetypays/estimator.html
business.libertymutualgroup.com/business-insurance/Documents/Services/RC2026.pdf