



# Slip and Fall Elimination

The Fundamentals of Winter-Weather Housekeeping

## Practices, Inspections and Preventative Maintenance Programs

Slip, trip and fall accidents are a leading cause of injury across many industry segments including health care, manufacturing, trucking and general office environments. Good housekeeping practices, routine facility inspections and preventative maintenance programs are all effective ways of preventing these injuries and lowering the cost of workers' compensation insurance.



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## Key Players

Facility, janitorial and maintenance staff play a key role in keeping parking lots, sidewalks and interior walking surfaces clean and well-maintained. Management plays an important role in this process by meeting with these employees and reviewing current work practices and procedures. Discuss where potential slip and fall exposures are present in your workplace and how facility inspections, preventative maintenance programs and housekeeping practices can be fine-tuned to focus on winter-related exposures.

## Outdoors

Inspections and snow removal procedures should be in place to identify and make necessary repairs to prevent fall injuries.

- Parking lots, sidewalks and outdoor steps need to have any snow accumulation removed in a timely manner and have salt or other surface treatments applied to melt icy spots.
- Extreme winter environmental factors can be harsh on blacktop and concrete surfaces so ongoing inspections need to be performed to identify potholes and cracks that may have formed.
- Temporary barricades and safety cones should be on hand to mark these areas until appropriate repairs can be made.
- Special cold patch products are available to fill potholes and large cracks in outdoor parking lots and sidewalks even during the extreme winter months.
- Preventative maintenance programs and safety inspection checklists should include the areas where there have been a known history of slip and fall incidents.
- Lighting systems covering the parking lot and sidewalks should be checked early in the morning or evening to verify they are working properly and identify any electrical ballast systems that need repair. Deficient lighting makes it more difficult for employees to choose a safe path of travel and see patches of snow and ice.
- Audits should include a close examination of curbs, which are often damaged by snow removal equipment.
- Entrance steps and handrails need to be inspected for damage.
- Slabs of sidewalk concrete can be lifted by trapped water freezing that creates a lip between the sections. These sections may need to be ground down with specialized machinery to create a smooth transition area.

- Additional mud-jacking may be necessary during the early spring season.
- Drain pipes, grate covers and catch basins may become clogged with debris or ice dams, causing water from melting snow and ice to back up onto walking surfaces and refreeze.

## Indoors

Interior walking surfaces, such as entrances, foyers, reception areas, hallways, and stairwells, are all areas where serious slip and fall injuries have occurred, and special attention should be paid to housekeeping in these areas.

- The occurrence of these injuries mainly takes place during the winter when employees and visitors inadvertently track snow, ice and water throughout hallways, stairwells, break rooms, restrooms and other interior areas.
- These walking surfaces can quickly accumulate snow, ice, water and excess salting materials, which need to be cleaned in a prompt manner to remove hazards.
- Heavy foot traffic causes entrance mats to roll up and become a major trip hazard.
- Floor mats also become saturated with snow and water and may require replacement during the day. Extra mats should be kept on hand and changed out as needed.

Housekeeping staff should develop a schedule to monitor specific areas of a facility where moisture may collect as employees and visitors enter throughout the day. Facility and janitorial staff will need to stay vigilant in their inspections of stairwells, landings, break rooms, restrooms and hallways as well.

## Tools to Put into Place

Written schedules, housekeeping checklists, maintenance procedures and other standard forms are all effective ways to monitor hazardous areas. Computer software applications are available for large facilities or customized checklists can be created easily by your own staff. Use your safety teams, wellness committees and facility personnel to develop your own materials to identify the specific areas to place on a housekeeping checklist. And be sure to refer to our website for samples of checklists and other helpful resources.



## Housekeeping and Company Culture

We think you'll agree that a neat and tidy workplace promotes safety on the job. You lessen the risk of a slip, trip or fall injury by removing rubbish, cords and unwanted material on walking surfaces.

There are several common methods used by many companies to keep a clean workplace:

- Employees are responsible for their own work area.
- Company assembles rotating cleaning crews.
- Company allows five or 10 minutes at the end of the shift to clean up.
- Dedicated cleaning/sanitation crew cleans the facility each evening (or day).
- Facility audits to spot check for dirty areas; if found, they are cleaned.

### The Concept of 5S

Many years ago, companies started to practice 5S and 6S (now 7S and 8S) theories to workplace cleanliness, order and safety. The 5S concept includes five primary phases:

1. Sorting — Eliminate all unnecessary tools, parts and instructions. Go through all tools and materials in the plant and work area. Keep only essential items and eliminate what is not required, prioritizing things per requirements and keeping them in easily-accessible places.
2. Straightening — There should be an orderly place for everything.
3. Systematic cleaning — Clean the workspace and all equipment. Keep it clean, tidy and organized.
4. Standardizing — Work practices should be consistent and standardized. All workstations for a particular job should be identical and all employees doing the same job should be able to work in any station effectively.
5. Sustaining (self discipline) — Maintain and review standards.

Additionally, there are three other phases sometimes included (6S-8S): safety, security and satisfaction.

### Housekeeping and Culture

So how does a clean workplace improve employee morale, behavior and ultimately improve your overall culture? It's simple:

- Employees like to come to a clean workplace.
- They take a sense of pride in keeping their workplace clean.

- There is less chance of a slip, trip or fall as you eliminate some of those potential hazards.
- It's easier to keep a clean work area clean versus doing it sporadically.
- Necessary workplace tools and equipment are clean and easier to find, eliminating the time it takes to search for items if it's unorganized.
- It's a more effective use of space.

Many safety professionals and consultants agree that clean workplaces tend to have fewer injuries. Additional benefits include fewer fire hazards, and better hygienic work conditions leading to improved health avoidance of OSHA citations. Not convinced? Ask any of your co-workers what type of place they want to work in — clean or dirty? We think you already know the answer.

## Floor Maintenance — Key to Controlling Slips and Falls

While financial losses due to slips, trips and falls are often perceived to be uncontrollable, employers can do many things to manage these types of claims — they truly are preventable if employers choose to focus their efforts and resources on the causes of these accidents.

While there are many loss drivers which may precipitate a slip/trip/fall accident, employers need to canvass their operation and identify potential loss sources to determine what necessary controls or procedures would be needed to prevent a slip, trip or fall. Often, the floor surface that employees walk across can be a potential source of slip/trip/fall accidents. This document will focus on how employers could effectively control these losses related to the floor surface.

Workplaces offer a variety of floor surfaces within a work environment. Many times, employees are faced with multiple floor surfaces that each present varying slip/fall hazards as the condition of their surface changes. Floor surfaces will wear over time, and their longevity and condition can be directly tied to the care and maintenance they receive on a regular basis.

### Floor Maintenance

The implementation of a floor maintenance program is an important aspect in managing the wear and condition of different types of floor surfaces. Keeping floors clean maintains the desirable walking surface features of that



surface and can help control the overall wear over time. Almost all commercial flooring manufacturers detail floor care and maintenance guidelines to ensure optimal performance of their product. This information provides direction to companies in selecting floor care products that reduce liability from a floor surface hazard as well as providing a quality floor cover. There are certain floor finishes and detergents that will actually improve the slip resistance of the floor product.

### Floor Maintenance Program

The first step in a floor maintenance program is to follow specific guidelines provided for the floor surfaces that need to be maintained. Again, the manufacturer of most commercial surfaces will provide an outline of the process and products that will clean and maintain their floor product. While each manufacturer may have their own specific guidelines, included here are some examples of processes and frequency:



**Daily Maintenance** — Dust mopping, wet mopping, auto-scrubbing and spot mopping will keep most hard floor surfaces in good condition. Frequent spot mopping is especially important as it is one of the best ways to control slip/fall hazards by eliminating the exposure when first observed. A floor cleaning schedule should be identified based on floor conditions that present themselves during the workday. Frequency should be dictated by hazards that develop during the day as well as recommendations from the floor manufacturer.



**Wet Cleaning** — There are many types of floor cleaning products available in the main categories of alkaline, acidic and neutral pH products. These products act upon the contaminants and break them down so they can be removed by simply rinsing the surface.



**Alkaline cleaners** react with fats and oils and convert them into soaps and should be thoroughly rinsed with clean hot water. They're good at removing greases and oils and may also be effective in removing some sealers, finishes and waxes. Alkaline cleaners are often used in restaurant floors, kitchen floors, and dining-area tile floors.



**Acidic cleaners** work to remove scale, rust or oxides from floor surfaces. Acid-based cleaning products work best on ceramic and porcelain tiles and grout floors. When mixed with warm water, these cleaners will remove surface contaminants. Use of mechanical scrubbing or brushing will remove contaminants that gather in the pores and valleys of the floor surface.



**Neutral pH cleaners** are traditionally used on resilient flooring, such as marble, terrazzo and granite floors, and won't interfere with the mineral composition of the floor surface. Neutral cleaners will not damage the floor surface as alkaline or acidic treatments may. As with most floor cleaning products, the key aspect of the process is the floor rinse activity. This will remove loosened contaminant and remove any residual floor cleaning product, which can contribute to the floor slipperiness if not thoroughly rinsed with clean water.



**Ample drying time** is an important aspect of keeping floors safe during the cleaning process. Some cleaners dry quickly, while others may take additional time to effectively dry. Use of fans to increase air movement across the floor surface can speed up drying time. Make sure the floor is entirely dry before releasing the area for use by employees.



**Use of Personal Protective Equipment (PPE)** is critical when using chemical cleaners — always follow the manufacturer's recommendations when handling products. Many products can be hazardous, and can burn or cause occupational dermatitis when they are in contact with the skin. Before new chemicals are introduced into the workplace, evaluate possible hazards and anticipate if suitable controls are in place to prevent injury. The Material Safety Data Sheet (MSDS) can provide valuable information on how best to protect your workers when handling these products.





**Whenever wet cleaning a floor** — Proper protection and limiting employee traffic in these areas is critical. Until the floor can be properly cleaned, rinsed and dried, the work area should be cordoned off to limit employees from traveling in that area. Additionally, “Wet Floor” signs should be placed at both ends of the cleaning area and in front of the area to be easily visible before arriving to the work area. Consider the use of pylons, cones and warning tape to clearly identify the work area. Reserve major floor cleaning processes during off-peak hours, when there are few employees on site.



**Spill Plan** — Nearly every organization is faced with a scenario where some substance, liquid or other material is spilled on a walking surface. The manner in which they react will directly correlate to the number of instances where employees slip or fall when coming in contact with an unexpected spill. Organizations that have specific processes in place to deal with unexpected spills and who react immediately upon identification of a spill stand a far better chance of preventing injuries. A formal “Spill Plan” should be developed with specific processes and responsibilities for cleaning up unexpected spills — from signage and barriers to tools and equipment that effectively clean up a spill.



**Inspection** — Routine inspections of all floor surfaces for wear, condition, worker habits, damage and the effectiveness of the floor care program should be done. Inspections should be documented with clear instructions provided on the areas to be addressed within the floor maintenance program. After a floor has been cleaned, stripped or burnished, take time to inspect the floor to ensure it exhibits proper slip-resistance. Use of improper cleaners or compounds can actually increase the slipperiness of the floor. If these situations arise, check the product to ensure it is compatible for the floor surface.



**Training** — An effective floor maintenance program should include training and educating those responsible for directing, inspecting and providing service to various floor surfaces. Training should include the floor care surface cleaning requirements, cleaning procedures, safe use of floor cleaning equipment, safe chemical handling procedures and disposal, and proper documentation of floor cleaning activities.



**Slip/Fall Accidents and Near Misses** — Investigating slip/fall accidents or near misses which may relate to a floor surface can provide useful information that can be incorporated into the floor maintenance program. Perhaps a process in an operation creates a floor condition that needs a special cleaning procedure, or maybe floors are not being effectively cleaned with the current cleaning product. These investigations will hopefully identify where modifications to housekeeping efforts can prevent a future accident or near miss.



**Documentation** — Having a written program in place is essential in outlining roles, responsibilities and processes to be followed within the program. Documenting floor cleaning and conditioning activities is an important key to prevention as it details when floors were last cleaned or conditioned, and highlights recurring issues with a floor surface or unexpected spills. Documentation should include products used, cleaning procedures, frequency, dates, employees involved, and dates and times of floor surface inspections.





## Housekeeping and Facility Inspection Checklists

Checklists are a good way to identify and correct potential slip and fall exposures before injuries occur. Housekeeping staff, safety teams and maintenance employees should be encouraged to use checklists and schedules to maintain quality and ensure consistency.

Documents such as this provide a systematic way of targeting areas where potential fall exposures are present while uncovering potential problems that may unknowingly exist. Deficiencies noted during housekeeping

activities and inspections can be recorded, corrective action put into place and items tracked until they are completed.

The frequency of the inspections may vary depending on the particular items listed, size of the organization and weather forecasts predicting inclement conditions. Below is a generic checklist that was created to help you get started on developing your own inspection document. Print off this checklist and take it with you during a tour of your facility. Add additional items and create your own form based on the findings of the tour and fall exposures unique to your building and grounds.

## Parking Lots

Items	Satisfactory	Not Satisfactory-Action Needed
Formal snow and ice removal procedures are in place.		
Lot is clear of snow and ice accumulation.		
Salt or ice melter is applied as needed.		
Extra salt or ice melter is kept on hand for changing weather conditions.		
Snow is pushed to a safe area and snow piles do not obstruct vision of traffic and pedestrians.		
Lot is free of potholes, cracks and other trip hazards.		
Curbs are in good condition with no broken sections.		
Designated pedestrian pathways leading to the building are clear and free of snow and ice.		
Make-shift paths through landscaping and unplowed areas are marked with signage.		
Caution signs or cones are available to mark hazardous areas or ground under repair.		
Handicap ramps from the lot to the sidewalk are clear.		
Curb, gutters, grates, collection basins and drain pipes are clear for melting water run-off.		
Lighting systems are operable.		
Other:		



## Sidewalks

Items	Satisfactory	Not Satisfactory-Action Needed
Sidewalks are clear of snow and ice accumulation.		
Surfaces are in good repair without cracks, uneven sections, upheaval and other damage.		
Edges of the sidewalk are clear and visible.		
Excess salt or surface treatment materials are removed after melting.		
Other:		

## Exterior Steps and Ramps

Items	Satisfactory	Not Satisfactory-Action Needed
Ramps and steps are clear of snow and ice.		
Ramps and steps are in good condition without any damage noted.		
Handrails are present and in good condition.		
Area is properly illuminated and lighting systems are all working.		
Other:		

## Building Entrances, Foyers and Exits

Items	Satisfactory	Not Satisfactory-Action Needed
Entrance/exit floors are clean, dry and free of obstructions.		
Entrance doors open smoothly and are undamaged.		
Seasonal slip and fall signs or window clings are placed on exit doors at eye level.		
The correct cleaning compounds are used for floors.		
Entrance mats are used to collect water, snow and ice from pedestrian traffic. Mats have no curls, tears or damage. Mats have rubber backing to prevent movement.		
Extra mats are on hand and rotated when saturated.		
Area is properly illuminated and lighting systems are all working.		
Caution signs or cones are available and used when needed.		
Handrails are present and in good condition.		
Other:		



## Interior Hallways and Work Areas

Items	Satisfactory	Not Satisfactory-Action Needed
Floor mats and carpet runners are in good condition. No damage exists.		
Wall-to-wall carpet is in good condition.		
Aisles in hallways and general work areas are clear of electrical cords, boxes, open drawers and other obstructions or debris.		
Other:		

## Interior Stairways

Items	Satisfactory	Not Satisfactory-Action Needed
Stairways are clear of obstructions and debris.		
Stair treads are secure and carpeting or tile is in good condition.		
Handrails are present and in good condition.		
Stairways are properly illuminated and lighting systems are all working.		
Stairway landings have slip-proof mats or strip		
Other:		

## General Housekeeping: Cafeterias, Kitchens, Breakrooms, Restrooms

Item	Satisfactory	Not Satisfactory-Action Needed
Written schedules are in place and posted in breakrooms, cafeterias, kitchens, restrooms and other similar common rooms.		
Cafeterias/Kitchens — the cleaning schedule is being completed during the day. Floor areas are clean, dry and in good repair. No water, grease or other materials are on the floor. Lighting is working properly.		
Breakrooms — the cleaning schedule is being completed during the day. Floor areas are clean, dry and in good repair. Lighting is working properly.		
Restrooms — the cleaning schedule is being completed during the day. Floor areas are clean, dry and in good repair. Lighting is working properly.		
Housekeeping carts with cleanup materials, supplies and caution signs are in place.		
Other:		





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