

# Preventing slip and fall accidents in nursing homes and long term care facilities

Risktopic 7-3.002

## Introduction

Slips and falls are a leading type of accident occurring in nursing homes and other long term healthcare facilities. In addition to the alarming frequency of these accidents, the injuries sustained in slip and fall accidents can be very serious, requiring a long time for recovery or leading to the onset of debilitating or even life threatening complications. Accordingly, the prevention of slips and falls in the long term care environment must be viewed as an indicator of quality care.

The economic impact of these accidents on the bottom line can be very significant. In addition to possible liability insurance claims and litigation, such accidents may be perceived as an indicator of "less than optimal care" and may adversely impact the reputation of the care facility. Although not all slip and fall accidents are preventable, a comprehensive slip and fall prevention program can help to both decrease the likelihood and reduce the ultimate cost of these accidents.

## Guidance

**Fall prevention plan** - All long term care healthcare facilities should have a fall prevention protocol in place. The first step in the development of a plan is to analyze causes of slips and fall accidents at the facility. A multidisciplinary team approach is a must for a comprehensive and effective fall prevention plan. This fall prevention team should have representatives from nurses, physicians, occupational and physical therapists, and others involved in direct resident care. Maintenance, custodial, or housekeeping personnel should also be involved in the process.

The plan should identify various risk factors that cause or increase the likelihood of a slip and fall accident. These risk factors stem from a combination of factors. Without a question, a facility's physical design, layout, use, and maintenance play a major role in contributing to slips and falls. In addition, environmental factors, such as weather, lighting levels, floor composition or level changes, further contribute. However, among the elderly in a long term care setting, human factors like mobility, mental alertness, medications, and continence level also need to be evaluated.

Ideally, an "at risk" profile will be developed to enable individualized care plans to address the prevention of slips and falls among residents. Successful implementation of the prevention care plan requires appropriate communication of these risk factors and an ongoing fall prevention education for staff. A comprehensive plan is a team effort requiring cooperation between the facility staff, the residents and the families. Data gathered during the admission process, ongoing physical assessments, incident and quality assurance reports will provide further clues for the "at risk" profile.

**Risk factors**\_ When developing a fall prevention plan, evaluate two major types of risk factors:

- Physical and environmental conditions
- Human factors related to the residents' age and health condition.

**Physical and environmental conditions** - To some extent, a facility has greater control over the physical environment than it does over variable human risk factors, such as mental alertness, mobility, medication and continence level among its residents. Many slip and fall accidents are caused by physical conditions and environmental factors. Risk factors causing or contributing to falls may include one or more of the following:

**Surface composition** - This refers to the type of surface and the traction offered by the surface. The coefficient of friction (COF) is a measure that helps quantify the slip resistance of the walking surface. The 1990 American with Disabilities Act (ADA) recommends a minimum of 0.5 COF for all level walking surfaces. The anticipated use of canes and walkers will require an even higher level of slip resistance. The selection of a suitable surface will also depend on several other factors, such as traffic pattern, durability, maintenance, and appearance.

**Foreign substance potential** - Some surfaces such as terrazzo and marble are inherently slippery. The presence of water, ice, grease, food spills, and excessive waxing adversely impact the slip resistance of a surface. The use of slip resistant coatings and mats, as well as carpeted surfaces, can counter foreign substances. Of course, incontinence is a major source of foreign substance exposure in a long term care setting. The individualized care plan should identify incontinence as a risk and address recommended controls.

**Surface condition** - Broken tiles, loose/torn carpeting, and surface wear are indicators of poor maintenance and may increase the potential for a tripping accident.

**Level changes** - Frequent changes in elevations, such as sudden and unexpected level changes, non-uniform steps, or ramps with excessive slopes also adversely affect a smooth walking gait. A major change in a surface level is easier to detect, but subtle changes in levels frequently go unnoticed until a fall occurs.

**Obstructions** - Obstructions in the walking area, such as extension cords, floor displays, and other items on the floor increase the chance of a tripping accident. The proximity of these obstructions to the traffic pattern, permanency of these obstructions, and familiarity also play an important part.

**Visibility** - In addition to sufficient illumination, this factor also includes color contrasts, glare and visibility of obstructions, and any surface or level changes. This risk factor is particularly important in elderly care facilities. Generally, vision among an elderly population is suspect and may compound the adverse impact from this risk factor.

**Stairs** - The presence of stairs and escalators significantly increases the risk of fall accidents. The stairs should conform to the applicable standards and codes for step geometry, handrails, and maximum slope requirements. Factors that increase the potential for falls include a pattern of high frequency of usage and the presence of spiral stairs.

**Age-related risk factors** - Among an elderly population, several age and related human risk factors may cause or precipitate a fall. Elderly residents, a high risk category for fall accidents, are susceptible to a variety of physical conditions and ailments that can both increase the potential for a fall and also adversely impact recuperation. Moreover, many of these conditions can restrict residents' alertness, mobility, and range of motion, as well as ability to perform activities of daily living. These conditions and ailments include:

- Reduced visual acuity
- Slowed darkness adaptation
- Reduced depth perception and color contrast sensitivity
- Foot disorders
- Lower extremity weakness and balance deficit
- Cervical degenerative disorders
- Loss of hearing
- Incontinence
- Circulatory and blood pressure problems
- Mental disorders, such as dementia, depression, and Alzheimer's diseases

**Resident medication** - Whereas the age related risk factors are likely to affect the majority of the elderly resident population, the medication related risk factors will affect each resident individually. Importantly, both medical and mental health factors must be considered when developing a fall prevention care plan. The possibility of physical side effects, as well as the impact of prescription medications on residents' alertness, responsiveness, and judgment must be considered.

Many residents require medication. Some residents may require multiple medications and the possibility of adverse interactions must be monitored. Some medications also have undesirable side effects that may increase the risk of fall accidents.

For example, hypnotic, anti-depressants, and anti-hypertensive drugs have sedative effects and may impair physical and motor activities. Anti-psychotic medications can impair mobility and may lead to dizziness or confusion which may precipitate a fall. Anti-diabetic drugs and non-steroidal anti-inflammatory drugs may cause confusion, mood swings, drowsiness, and blurred vision. Some medications increase the likelihood of hypotension caused by a sudden change of position, which can result in a fall.

**Restraint use** - The impact of restraints on slips and falls is controversial within the long term care industry. On the one hand, the use of restraints has had an indirect impact on slip and fall incidents. Residents frequently attempt to escape from the restraints and, in the process, may fall, causing the resident serious injury. These falls are especially dangerous and associated with severe injuries because they involve falling either from a supine (lying) position in a bed or from a sitting position in a chair or wheelchair. As a result of this danger, and to preserve dignity of the residents, strict legal guidelines on the use of restraints exist.

On the other hand, the long-term care industry is embracing the philosophy that a "restraint free" facility is an indicator, if not a benchmark, of quality care. While the impetus for restraint reduction has been driven by federal and state regulations, the advancing professionalism within the industry has helped fuel this philosophy.

Importantly, the concept of restraints involves both physical devices and medications as chemical restraints. Use of bed and / or chair alarms may be a viable alternative to physical restraints. With the reduction of restraint use, however, there is a potential risk for an associated rise in slips and falls among unrestrained residents. This poses a challenge to long term care administrators and clinicians to both understand and proactively respond to this increased risk. This reinforces the value of the "at risk" profile and fall prevention care planning processes.

**The fall prevention plan** - The following are some of the elements that should be incorporated into any fall prevention plan.

- Select suitable floor surfaces
- Promptly control spills and foreign material
- Perform appropriate floor care, including possible application of coating materials
- Regular inspection of floor conditions and prompt maintenance.
- Minimize subtle level and grade changes and enhance their visibility by color contrasts or light strips.
- Avoid obstructions in the walkways, including extension cords.
- Do not over wax the floors.
- Install skid-proof bath tubs, showers and bathroom floors.
- Ensure adequate lighting in public areas.
- Use low level night lights in resident rooms for improved night time visibility.
- Complete preventive maintenance of various mobility aids, such as walkers, canes, wheelchairs, and lifts.
- Identify the mobility needs of all residents upon admission and periodically thereafter; for those residents with "at risk" attributes, develop an individualized care plan to address these special needs and concerns.
- Carefully evaluate and monitor resident medication prescriptions and tolerance to medications. Evaluate non-drug alternatives, if possible.
- Establish an ongoing education program addressing fall prevention for your staff that may include topics like risk factors, mobility aids, correct transfer techniques, incident reporting, and other subjects.
- Report, investigate, and document all incidents promptly. Do not restrict these activities only to actual claims.
- Aggregate incident and claims data to allow the use of causal analysis and trending to identify appropriate preventive measures and to determine whether preventive measures are having the intended impact in reducing the frequency or severity of incidents.

## Conclusion

Although not all slip and fall accidents are preventable, a well-designed, comprehensive fall prevention plan can certainly help in reducing the frequency and the severity of slip and fall accidents involving residents and visitors in long-term care facilities. Implementation of the plan requires an ongoing dialogue and communication between the residents, their families, and the staff. It is important to establish realistic expectations of independence and mobility and to train the residents in proper use of mobility aids.

The benefits of preventing slips and falls are far-reaching and can result in significant savings and improved care for residents. A fall prevention program is a major responsibility for a long-term care facility. This is a function of the desire to maintain the residents' maximum level of independence, mobility, and safety. In turn, this yields both the optimal quality of care and quality of life.

## References

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