



Risktopics

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

Introduction

According to the National Safety Council, falls account for almost 12,000 deaths annually, making them the second leading cause of accidental death after automobile accidents. The majority of these falls occur in the home. The "graying" of America has looming implications for the long-term care industry amidst the growth in both assisted living facilities and home health agencies.

Slips and falls are the 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 slip 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.

Fall prevention plan

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

The plan should identify risk factors that cause or increase the likelihood of a slip and fall accident. These risk factors stem from a combination of factors. Without 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, numerous human factors like mobility, mental alertness, medications and continence level 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 care plan requires appropriate communication of these risk factors and 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 and 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/environmental conditions and human factors related to the resident's 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. Yet, a recent study reporting that more than 50 percent of all slip and fall accidents are caused by physical conditions and environmental factors is alarming. These risk factors include, but are not limited to, 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 Americans 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. Items such as 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 will 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. Proximity of these obstructions to the traffic pattern, permanency of these obstructions and familiarity also plays an important part.

Visibility: In addition to sufficient illumination, this 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 falls. 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 use and the presence of spiral stairs.

Age-related risk factors

Among an elderly population, several age-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 performing activities of daily living.

These conditions and ailments include:

- Reduced vision 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 disease

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 even require multiple medications; the possibility of adverse interactions must be monitored. Some of the medications 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 the mobility and may lead to dizziness or confusion, which may precipitate a fall. Anti-diabetic drugs and nonsteroidal 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 a serious injury to themselves. These falls are very dangerous and are associated with severe injuries due to the nature of falling, either from a supine (lying) position in a bed or from a sitting position in a chair or wheelchair. As a result, 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. With the reduction of restraints, 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

Following are some of the elements that should be incorporated in the fall prevention plan:

- Selection of suitable floor surface
- Prompt control of spills and foreign material
- Appropriate floor care, including coating
- Regular inspection of floor conditions and prompt maintenance
- Minimizing subtle level and grade changes and enhancing its visibility by color contrasts or light strips
- Avoiding obstructions in the walkways, including extension cords
- Do not overwax the floors
- Skid-proof bath tubs, showers and bathroom floors
- Adequate lighting in public areas
- Low-level night lights in resident rooms for improved night time visibility
- 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 any "at risk" attributes, develop an individualized care plan to address these special needs and concerns
- Careful evaluation and monitoring of resident medication prescriptions and tolerance to medications
- Evaluation of possible non-drug alternatives, if possible
- Establishing an ongoing education program for fall prevention for your staff that includes various risk factors, mobility aids, correct transfer techniques, incident reporting and other subjects
- Report, investigate and document all incidents promptly. Do not restrict only to actual claims.
- Aggregation of incident and claims data to enable causal analysis and trending to identify appropriate preventive measures and to determine whether preventive measures are having the intended impact of 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 reduce the frequency and severity of slip and fall accidents of 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 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.

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