Designing Strategies to Prevent Falls

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One of the unexpected side effects of the rapid growth of assisted living (AL) is the increasing recognition that falls are a major problem. It is estimated that up to 50% of residents experience one or more falls annually. Between 10% and 25% of these falls result in serious injuries requiring medical attention (eg, sprains, joint dislocations, head trauma, wrist and hip fractures). Other consequences of falling include loss of mobility and function, depression, and self-imposed functional limitations caused by fear of falling, which can increase the risk of future falls. Consequently, the problem of falling in AL is drawing increased recognition from regulators, such as the Joint Commission on Accreditation of Healthcare Organizations (JCAHO).[1] JCAHO recently announced its 2007 National Patient Safety Goals, (see page 35) which apply specifically to accredited AL facilities, and include the need to:

- Reduce the risk of resident harm resulting from falls.
- Implement a fall reduction program including an evaluation of the effectiveness of the program.

This underscores the real risk for falls in AL and the need to address the problem. The purpose of this article is to provide AL with practical guidance in developing an approach to fall prevention.

Key Components of Fall Prevention

Preventing falls among residents in AL requires a multifaceted approach. The ability to prevent falls, to a large extent, is dependent upon staff adhering to a clinical process or practice of care regarding fall prevention, which assists staff in identifying factors contributing to falls and finding solutions to reducing the risk of falling. Consequently, having in place an organized clinical approach or process represents the foundation of any fall prevention program. Developing educational programs and providing administrative support for fall prevention activities are equally important enabling factors for a successful program.

Clinical Process

The necessary components of a "best practice" approach to fall prevention consist of identifying residents at risk, communicating this risk status to all staff, targeting interventions aimed at reducing risk, monitoring the effect of interventions, and evaluating residents post-fall.

Assessing Fall Risk

The purpose of risk assessment is to identify those residents most likely to fall and raise staff awareness of

Table 1.
Fall Risk Factors

Most falls are not accidental (ie, a fall caused by a resident either slipping on a wet floor or tripping over an object on the floor), but are due to a number of interacting risk factors that are potentially preventable.

Internal or Health Factors
- Recent falls (a history of falls is the best predictor of future falls)
- Poor vision (cataracts, macular degeneration, glaucoma)
- Lower extremity dysfunction (arthritis, muscle weakness, impaired sensory function)
- Unsteady gait/balance (stroke, Parkinson's disease, etc.)
- Uses cane/walker (ambulation aids are a marker for underlying gait/balance disorders)
- Elimination problems (excessive nighttime urination, incontinence)
- Altered cognition (dementia, depression, agitation)
- Fear of falling (leads to over-precaution, fear of walking, and consequently, weakness, poor balance, and increased fall risk)
- Polypharmacy (4 or more prescription drugs)
- Medication side effects (especially drugs that affect the central nervous system, such as sedatives and tranquilizers)
- Mobility impairment (bed, toilet, and chair/wheelchair transfers)
- Foot deformities (corns, calluses, bunions that might be destabilizing the gait)

External or Environmental Factors
- Toilets (lack of equipment for support, such as grab bars)
- Furnishings (inappropriate bed/chair heights)
- Floors (loose or thick-pile carpeting, sliding rugs, highly polished or wet ground surfaces)
- Poor lighting (lack of night lights)
- Footwear (ill-fitting shoes, slippery soles)
- Assistive devices (improper and/or broken cane, walker, or wheelchair)
- Bed rails (rather then preventing falls, bed rails increase risk for injurious falls)
- Clutter in rooms or hallways

Behavioral Factors
Certain resident activities or decisions may increase the risk of falls. Examples are:
- Walking in stocking feet or in footwear with high heels
- Rushing to the bathroom (especially at night when not fully awake or when lighting may be inadequate)
- Failing to use a cane or walker for balance support
- Exhibiting unsafe behavior (overestimation of one's abilities to self-transfer and ambulate, poor safety awareness, desire not to "bother" staff for assistance, and resistance to care)

Situational Factors
- New admission/post-fall (many falls occur during the first week after admission and immediately following a fall)
- Post-meal times (need for toileting).
- Nighttime hours (many falls occur at night; often while traveling to the bathroom and/or transferring from bed)
- Acute diseases and/or change in condition (eg, urinary infection, pneumonia, acute dehydration, CVA, TIA, acute medication reaction, sudden hypoglycemia or hyperglycemia, etc.)

fall risk. The rationale is that if residents at high risk of falling can be identified, then appropriate interventions can be instituted to minimize their risk of falling. Therefore, conducting a fall risk assessment represents an important starting point in attempting to reduce falls. In addition, all residents who fall should receive a post-fall assessment. The purpose of this assessment is to discover what caused the fall and to prevent another fall from occurring. See *The Story of Your Falls*, on page 12 of this issue.

Communicating Risk

Once a resident's risk of falling has been identified, it is crucial that his or her risk status and specific risk factors are communicated to all staff involved. Preventable fall risk factors are shown in Table 1. Communication of fall risk can be achieved by means of colored decals (ie, placing symbols such as a falling leaf or star on the resident's chart, or on the bedroom wall above the bed), colored wristbands, and/or daily shift reports. In this way, everyone in the facility knows that residents wearing a colored wristband, for example, are "at risk of falling."

Multidisciplinary Evaluation

After completing a fall risk assessment and identifying specific risk factors, an attempt should be made to identify the underlying cause or causes of all risk factors identified. Since residents may have multiple risk factors, multidisciplinary referral and evaluation are necessary. For example, if internal risk factors have been identified, a referral to the resident's primary medical provider for further evaluation is indicated. If the resident has impaired mobility or a gait and balance problem, then referral to a physical therapist should be made. If external or environmental factors have been identified, then an occupational or physical therapist referral should be considered (ie, although nursing staff may evaluate unsafe

Table 2.
Multidisciplinary Strategies and Fall Prevention Interventions

Medical Strategies
- Disease management (treat acute/chronic conditions associated with fall risk)
- Medication management (attempt to eliminate medications that are associated with falls)
- Injury prevention (test for osteoporosis and treat accordingly).

Nursing Strategies
- Anticipatory care (anticipate resident's toileting needs, hunger, thirst, etc. and meet those needs, as appropriate)
- Supervision/observation (monitor at-risk residents and provide assistance with ambulation/transfers when necessary)
- Scheduled toileting (cue and/or assist resident to the bathroom every 2 hours, and before and after activities and meals)
- Eyeglasses/hearing aids (make sure that eyeglasses are clean and that hearing aids are operating properly and worn appropriately)
- Medications (watch residents on new medications and look for side effects that may lead to falls)
- Mental status changes (pay attention to sudden and/or subtle changes in resident behavior that may increase fall risk)
- Mobility devices (make sure that canes, walkers, and wheelchairs are in good condition).

Rehabilitation Strategies
- Exercise programs to improve muscle tone and build strength
- Daily floor ambulation and walking groups to maintain muscle strength/balance stability
- Resident-specific exercise/training to improve balance, gait, and safe transfers
- Ambulation devices (assess need for cane or walker; evaluate canes and walkers to ensure they are the appropriate type, height and weight; teach resident how to use cane or walker correctly)
- Wheelchairs (assess need for chair; evaluate chairs to ensure they are the appropriate type, height and weight; teach resident how to use chair correctly)

Environmental Strategies
- Lighting (keep areas where residents walk well-lit, make sure that light switches or pull-cords are easily accessible).
- Floors (clean up spills immediately, keep all floors clean and well-swept, use non-slip floor wax or no wax at all to prevent slipping, keep walkways free of clutter and obstacles)
- Rugs/carpets (remove or replace small sliding throw rugs, check that bathroom rugs have rubber non-skid backing, ensure that all carpeting is well-secured and that edges lie flat)
- Stairways (maintain sturdy handrails to support balance, use non-skid stair treads, keep them well lit and free of clutter)
- Bathrooms (install handrails in the tub and shower and around the toilet, install a high toilet seat to make sitting and standing safer and easier, use non-skid strips in the bathtub and shower to prevent slips)
- Furniture (arrange furniture to allow for wide walking spaces, especially if residents use assistive devices such as a cane or walker).
- Beds (adjust to a height that allows resident to sit and rise easily, beds should be secured to prevent slipping or sliding during use)
- Chairs (seat height should allow resident to sit and rise easily, chairs should be secured to prevent slipping or sliding during use)
- Footwear (wear low-heeled shoes with non-skid soles that fit snugly; avoid footwear with thick, heavy soles that can catch on uneven surfaces; avoid walking while wearing socks and stockings, which are slippery)
- Outdoor surroundings (keep outside walkways and stairs clear of debris, leaves, snow, and ice).

Equipment Strategies
- Bed/chair exit alarms (alarms will not prevent falls, but will alert caregiver to a problem and allow them to respond more quickly)
- Bed side rails (bed rails used as enablers can assist residents with safe bed transfers)
- Hip protectors (specially designed underwear/sweat pants to prevent hip fractures)
- Bed side commodes (makes toileting easier for residents with urinary frequency; makes sitting and standing safer and easier for residents with unsteady balance).
- Low beds and floor mats (to prevent injurious falls from bed)

environmental conditions, there often is an interplay between unsafe environmental conditions and unsafe resident mobility that may require a therapist). Identified risk factors and the results of subsequent multidisciplinary evaluations serve as the basis for selection of interventions or strategies aimed at reducing fall risk.

Care Planning

A fall prevention program is useful only if an effective treatment or intervention is available. To be effective, interventions need to be individualized, according to the resident's needs, and targeted to identified risk factors and multidisciplinary evaluations. It is important to remember that as risk factors change, interventions may have to change as well. A list of multidisciplinary strategies and recommend-

ed interventions aimed at preventing falls is included in Table 2. In those residents at low risk of falling (ie, absence of any fall risk factors), universal fall precautions may be used (eg, setting bed at lowest level, ensuring that residents have necessary items, eliminating potential environmental hazards).

Monitoring

Because fall risk is a dynamic process, often subject to change, monitoring of the resident's care plan should occur on a regular basis. The purpose of monitoring is twofold: first, to evaluate the effectiveness of interventions in reducing falls and/or fall risk, and second, to decide what to do next if interventions are not effective in reducing risk.

Education

Staff Education

Ongoing staff education regarding fall prevention is essential in order to increase staff confidence, knowledge, skills, and ability to identify residents at risk of falling and to select appropriate interventions for the prevention of falling. Staff should receive training on the fall prevention care process and available interventions used by the facility to prevent falls, especially the appropriate use of fall preventive equipment (eg, bed alarms, low beds, hip protectors). When designing educational programs, it is important to include discussions on specific medications, diseases, and disorders associated with falls within the facility. Education should occur not only during orientation but also on a regular basis. Audits of the care process can be used to detect any deficient practices and identify educational topics.

Resident and Family Education

Promotion of ongoing communication and involvement with the residents and their families is an important ingredient to the success of fall prevention. Educate residents, as appropriate, and/or their family about falls and safety awareness, individual risk factors, and interventions aimed at preventing falls. It is important to enlist the help of families because they, too, can assist in preventing falls. If families are aware of why the resident is at fall risk, they can communicate any potentially risky behavior and/or conditions to staff.

Administrative Support

Lastly, facilities need to create a system of administrative support for fall prevention. Important initiatives to consider include:

- Make falls and injury prevention an explicit and important aspect of the facility's planning program and budget allocation.
- Promote a culture of fall prevention that includes policies and procedures, availability of staff and equipment resources, and an atmosphere of "no shame, no blame" in which staff members are not blamed for falls, but rather falls are looked at as an opportunity to do things better.
- Appoint a staff member who can support, coordinate, and champion prevention initiatives.
- Conduct regular audits of the fall prevention process to determine whether staff are assessing risk, implementing interventions, and so on. This helps separate what you think is happening from what is really happening.
- Conduct regular environmental tours to identify hazards and check equipment.
- Develop a falls surveillance system for monitoring the nature and severity of falls and contributing factors.
- Review incident reports to track and trend falls and fall rates, and make recommendations for improvement.
- Make available a primary medical provider (includes physicians, geriatric nurse practitioners, and/or physician assistants) experienced in geriatric care to help direct and/or coordinate fall prevention activities.
- Develop a process for recognizing and rewarding the efforts of staff for their falls prevention efforts.

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Summary

Falls in AL can be prevented by adhering to a clinical process of care, which includes identifying fall risk factors and causes of falling, and implementing targeted interventions based on all predisposing and precipitating factors discovered. The management of falls can be enhanced greatly through educational activities and administrative support. ALC

References

1. Joint Commission on the Accreditation of Healthcare (JCAHO). Joint Commission Announces 2007 National Patient Safety Goals for Assisted Living Facilities. http://www.jointcommission.org/NewsRoom/NewsReleases/nr_npsg_al.htm. Accessed Oct 1, 2006.

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