



Associated Risks: Identifying Slips and Falls

A fall can be defined as an event that results in a person coming to rest inadvertently on the ground or floor or other lower level, with or without injury. This would include unwitnessed falls where the patient/client/resident is unable to explain the events and there is evidence to support that a fall has occurred as well as near falls, where the patient/client/resident is eased to the floor by staff or family members.

Falls among seniors is one of the most critical injury problems and is poised to become an even more central health issue as our population continues to age. 40% of nursing home admissions are the result of falls.

There are three key steps when dealing with injuries caused by slips and falls:

1. Assessment
2. Treatment
3. Reassessment

Failure to do any of these aspects will likely result in a poor resident recovery out-come, increased regulatory monitoring and increased litigation. Proper assessment,

treatment and reassessment of a resident who has suffered from a slip and fall can include:

- Combining ongoing nursing assessments and medical treatment, rehabilitation, environment modifications and technological interventions.
- Performing a thorough fall risk assessment upon admission, quarterly and when there is a change in condition.
- Providing physical conditioning and/or rehabilitation to improve strength and endurance.
- Making environmental assessments and modifications to improve mobility and safety (e.g. grab bars, raised toilet seats, lowered bed heights, hallway handrails, good lighting; also proper equipment maintenance on wheelchairs, commodes, beds).
- Employing appropriate devices (e.g. safety belts, alarm systems, etc.).
- Adopting a program to alert staff and visitors of residents who are at risk for falls.
- Evaluating a fall immediately after occurrence.
- Track and trend data to identify areas for improvement.

Causes and Prevention

Preventative measures can be utilized to protect or The causes of falls are known as risk factors. Although no single risk factor causes all falls, the greater the number of risk factors to which an individual is exposed, the greater the probability of a fall and the more likely the results of the fall will threaten the person's independence.

Many of these risk factors are preventable. As obvious as it may sound, a lack of knowledge about the potential risk factors, as well as how to prevent them, contributes to many falls. Some people believe that falls are a normal part of aging, and as such are not preventable. Lack of knowledge leads to lack of preventive action, resulting in falls.

Factor #1: Osteoporosis

Osteoporosis is a condition wherein bones become more porous, less resistant to stress, and more prone to fractures. Caused by hormonal changes, calcium and vitamin D deficiency, and a decrease in physical activity, osteoporosis is a chief cause of fractures in older adults, especially among women.

What is debatable is whether brittle bones break after a fall, or break when stressed and in turn cause a fall. In either event, a decrease in bone density contributes to falls and resultant injuries.

Prevention Tips:

- Eat or drink sufficient calcium. Postmenopausal women need 1,500 mg of calcium daily. Calcium-rich foods include milk, yogurt, cheese, fish and shellfish, selected vegetables such as broccoli, soybeans, collards and turnip greens, tofu and almonds.
- Get sufficient vitamin D in order to enhance the absorption of calcium into the bloodstream. Vitamin D is formed naturally in the body after exposure to sunlight, but some older adults may need a supplement.
- Regularly do weight-bearing exercises.

Factor #2: Lack of Physical Activity

Failure to exercise regularly results in poor muscle tone, decreased strength, and loss of bone mass and flexibility. All contribute to falls and the severity of injury due to falls.

Prevention Tips:

- Engage regularly (e.g., every other day for about 15 minutes daily) in exercise designed to increase muscle and bone strength, and to improve balance and flexibility. Many people enjoy walking and swimming.
- Undertake daily activities in a safe manner, such as reaching and bending properly, taking time to recover balance when rising from a chair or bed, learning the proper way to fall, and learning how to recover after a fall.
- Wear proper fitting, supportive shoes with low heels or rubber soles.

Factor #3: Impaired Vision

Age-related vision diseases can increase the risk of falling. Cataracts and glaucoma alter older people's depth perception, visual acuity, peripheral vision and susceptibility to glare. These limitations hinder the ability to safely negotiate their environment, whether it's in their own home or out in a shopping mall. Young people use visual cues to perceive an imminent fall and take corrective action. Older adults with visual impairments do not have this advantage to the same extent.

Prevention Tips:

- Have regular checkups by an ophthalmologist to discern the extent of age-related eye diseases such as cataracts and glaucoma.
- Use color and contrast to define balance-aiding objects in the home (e.g., grab bars and handrails).
- Add contrasting color strips to first and last steps to identify change of level.
- Clean eye glasses often to improve visibility.

Factor #4: Medications

Sedatives, anti-depressants, and anti-psychotic drugs can contribute to falls by reducing mental alertness, worsening balance and gait, and causing drops in systolic blood pressure while standing. Additionally, people taking multiple medications are at greater risk of falling.

Prevention Tips:

- Know the common side effects of all medications taken.

- Talk with your physician or pharmacist about ways to reduce your chances of falling by using the lowest effective dosage, regularly assessing the need for continued medication, and the need for walking aids while taking medications that affect balance.
- Remove all out-of-date medications and those that are no longer required.
- Have a physician or pharmacist conduct a “brown bag” medicine review of all current medications.
- Limit intake of alcohol as it may interact with medications.

Factor #5: Environmental Hazards

At least one-third of all falls in the elderly involve environmental hazards in the home. The most common hazard for falls is tripping over objects on the floor. Other factors include poor lighting, loose rugs, lack of grab bars or poorly located/mounted grab bars, and unsteady furniture.

Prevention Tips:

Outdoor

- Repair cracks and abrupt edges of sidewalks and driveways.
- Install handrails on stairs and steps.
- Remove high doorway thresholds and trim shrubbery along the pathway to the home.
- Keep walk areas clear of clutter, rocks and tools.
- Keep walk areas clear of snow and ice.
- Install adequate lighting by doorways and along walkways leading to doors.

All Living Spaces

- Use a change in color to denote changes in surface types or levels.
- Secure rugs with nonskid tape as well as carpet edges.
- Avoid throw rugs.
- Remove oversized furniture and objects.
- Have at least one phone extension in each level of the home and post emergency numbers at each phone.
- Add electrical outlets.
- Reduce clutter.

- Check lighting for adequate illumination and glare control.
- Maintain nightlights or motion-sensitive lighting throughout home.
- Use contrast in paint, furniture and carpet colors.
- Install electronic emergency response system if needed.

Bathrooms

- Install grab bars on walls around the tub and beside the toilet, strong enough to hold the resident’s weight.
- Add non-skid mats or appliques to bathtubs.
- Mount liquid soap dispenser on the bathtub-wall.
- Install a portable, hand-held shower head.
- Add a padded bath or shower seat.
- Install a raised toilet seat if needed.
- Use nonskid mats or carpet on floor surfaces that may get wet.

Kitchens

- Keep commonly used items within easy reach.
- Use a sturdy step stool when you need something from a high shelf.
- Make sure appliance cords are out of the way.
- Avoid using floor polish or wax in order to reduce slick surfaces.

Living, Dining and Family Rooms

- Keep electrical and telephone cords out of the way.
- Arrange furniture so that residents can easily move around it (especially low coffee tables).
- Make sure chairs and couches are easy to get in and out of.
- Remove caster wheels from furniture.
- Use a television remote control and cordless phone.

Bedroom

- Put in a bedside light with a switch that is easy to turn on and off (or a touch lamp).
- Have a nightlight.
- Locate telephone within reach of bed.

- Adjust height of bed to make it easy to get in and out of.
- Have a firm chair, with arms, to sit and get dressed in.

Stairways, Hallways and Pathways

- Keep free of clutter.
- Make sure carpet is secured and get rid of throw rugs.
- Install tightly fastened hand rails running the entire length and along both sides of stairs.
- Handrails should be 34 inches high and have a diameter of about 1.5 inches.
- Apply brightly colored tape to the face of the steps to make them more visible.
- Optimal stair dimensions are 7.2 inch riser heights with either an 11 or 12 inch tread width.
- Have adequate lighting in stairways, hallways and pathways, with light switches placed at each end.

Comprehensive Fall Prevention Intervention

The Canadian Falls Prevention Curriculum notes that the most effective fall prevention interventions factor in a number of different approaches, targeting selected individuals or groups of older persons based on their risk profiles. Taking into account the best evidence and research, the Curriculum presents a comprehensive falls prevention model, **BEE EACH**, incorporating the following categories:

- **Behaviour change** - this should be a common goal of all strategies.
- **Education** of program participants.
- **Equipment** - appropriate use of mobility aids and assistive devices.
- **Environment** - both in the home and in public places.
- **Activity** - physical and social.
- **Clothing and footwear** - should be appropriate for risk reduction.
- **Health management** - including medication reviews, vision tests, bone health, healthy nutrition and hydration and chronic disease management.

Behaviour change

Program participants must be actively involved in the behaviour change process. Rather than lecture to the participants, it is important to use a collaborative approach to understand the person's view and experience and to creatively explore possibilities for change.

Education

Education can increase awareness about the issue, create an understanding that prevention is possible, and promote learning about effective strategies. Such tools should be followed up with face-to-face sessions where you can understand a person's perceptions of risk and explore prevention strategies that will work for them.

Education is necessary for seniors at risk of falling, as well as for staff working with seniors. Community education is also important, making it clear that everyone has a role in falls prevention.

Equipment

Older persons may choose to not use equipment that could reduce their risk of falls and injuries or they may use equipment inappropriately. Equipment that can be useful in preventing or addressing falls includes personal electronic alarms, mobility aides such as canes, walkers, wheelchairs and scooters, bathroom aids, grab bars and hip protectors.

Environment

Good evidence suggests that assessing and modifying environmental hazards can reduce the risk of falls, especially when applied to those known to be at risk for falling. Areas to consider are:

- Indoors - doors should have minimal resistance, stable furniture at appropriate height, walkways free of clutter and slip/trip hazards.
- Outdoors - walkways should be cleared, sanded or salted in winter.
- Public spaces - uneven sidewalk surfaces are a hazard as are short crossing times at crosswalks.
- Lighting - higher wattage, no-glare bulbs are useful.
- Flooring - uneven surfaces should be modified, scatter rugs removed.

- Stairs - uniformity is important with a maximum stair height of 17.5 cm and a maximum depth of 27.5 cm, with good contrasting visibility and handrails.

Activity

Strong evidence exists for the benefits of physical activity in reducing the risk of falls. Exercise should be tailored to the individual's capacity and focus on training for balance, gait, muscle strength and coordination.

Clothing and Footwear

Clothes should be easy to put on and take off and not restrict movement. Good walking shoes are recommended.

Health Management

While medical conditions can increase the risk of falls, these can be reduced or eliminated when properly assessed and treated. Health professionals and community leaders can promote effective health management, including annual medical assessments, referrals to specialists when necessary, annual medication reviews and modification, good sleep habits, annual vision tests, bone health and fracture risk reduction, healthy nutrition and hydration and chronic disease self-management.

Residential and Acute Care Settings

In both residential and acute care settings, there are opportunities for both facility-wide interventions and the individual approaches discussed above. Facility-wide interventions include staff education, restraint reduction, continence management, gait training and use of assistive devices, reduction of benzodiazepine use, sleep habits, vitamin D and calcium supplements, hip protectors and energy-absorbing flooring.