



PREVENTION OF FALLS IN THE DEMENTIA RESIDENT

Falls are common in elderly patients residing at home or living in long-term care facilities. About 30% of elders fall each year and 5% of those falls result in broken bones. Approximately 1% of elders who fall will fracture their hip. Hip fractures will shorten life expectancy, lower the quality of life and increase the expense of care for your patient. Elderly dementia patients fall for a variety of reasons. Appropriate preventive measures require a thorough evaluation to determine the cause of falls. Dementia patients fall because of cognitive problems, coordination difficulties, muscular weakness and environmental hazards.

Alzheimer's disease can be divided into early, middle and late stages. Early stage Alzheimer's patients have memory problems and few psychiatric complications except for depression and anxiety. Middle stage Alzheimer's patients will have multiple intellectual problems as well as significant psychiatric or behavioral complications. Late stage Alzheimer's patients will have severe intellectual loss and forget how to perform basic bodily functions such as eating and walking. Dementia patients retain the ability to move arms and legs and muscular strength is maintained through the early and middle phase of the illness. Many late stage Alzheimer's patients lose weight and manifest muscular wasting. The disease minimally damages the cerebellum, the brain region that coordinates muscular activity. Alzheimer's disease does not damage the inner ear or other brain structures that are involved with balance. Alzheimer's patients lose coordination because they forget how to perform complex motor tasks like walking.

Early stage Alzheimer's patients have a similar risk for falls as other elders residing in the community. Patients may develop psychiatric complications, such as depression, or complications that may cause orthostatic hypertension (lowering of blood pressure when patient stands up). The side effects of psychotropic drugs (sedation and confusion) increase the risk of falls.

Early stage Alzheimer's patients are at risk for falls when placed on medication for medical illnesses which sometimes causes confusion (i.e., delirium). The stiffness and rigidity caused by antipsychotic medications (e.g., Haldol) increases difficulty of rising from a chair or walking for patients in all stages of the disease. Delirious patients are at

greater risks for falls because of increased confusion and drowsiness. Any dementia patient with delirium should be placed on fall precautions until the delirium resolves.

Mid-stage Alzheimer's patients may fall for a variety of reasons. Patients begin to lose fine motor coordination and forget how to perform basic functions of daily living. Patients misinterpret their environment and fail to recognize unsafe situations such as loose rugs, loose floor boards, etc. For example, patients may attempt to step over shiny floors misperceived as wet spots. Patients may fail to exercise caution with uneven pavement, slippery floor surfaces and other dangerous situations. Confused, agitated patients arise in the middle of the night without sufficient environmental light and fall. Patients cannot remember the location of light fixtures to illuminate the room. Patients with previous motor problems (e.g., old stroke, severe arthritis, or a past history of falls) or sensory impairment (e.g., cataracts, hearing impairment) have a double risk for falling.

Late stage dementia patients are particularly prone to falls. Patients forget how to walk (gait apraxia) and seem uncoordinated with the placement of their feet. Patients can no longer follow verbal direction and communication barriers complicate moving these patients.

The abrupt onset of a patient falling should tip the clinician to look for causes besides dementia. Delirium, medication, stroke and unrecognized fractures are common causes. Patients who fall and then become agitated or combative should be carefully assessed for fractures. Moderate to severely demented patients lose the ability to communicate and localize pain for the clinician. Agitation after a fall may represent symptoms of a fractured hip or broken rib.

Fall prevention in the Alzheimer patient involves multiple preventive measures. Prolonged restraint of patients will weaken them and predisposes them to falls. Patients immobilized for more than a day should have assistance when walking to assure appropriate rehabilitation. Dementia patients should be ambulated and maintain physical activity for as long as possible. Psychotropic medications that increase the risks of falls such as antipsychotics, antidepressants and benzodiazepines should be avoided when possible and careful assessments for side effects (e.g., parkinsonism, orthostasis) is necessary to avoid falls. Over-the-counter medicines like Benadryl can also increase the risk for falls. Patients should remain on an active, physical fitness program to assure peak muscular strength and maximum range-of-motion around joints through all stages of the disease. The home or nursing home should have basic safety features such as grab bars, no-skid floor coverings, adequate lighting, etc.

Late stage dementia patients with gait apraxia will not walk again. Although these patients have normal strength in their legs, they have permanently lost the ability to

coordinate trunk and legs in order to stand or walk. Staff should protect such patients against falls, fractured hips or increased pain through active or passive restraints and range-of-motion exercise. These patients may be able to roll out of bed but not stand. Patients with mild gait apraxia can often move around the unit in assistive devices like merri-walkers.

Basic bone-preserving treatments such as estrogen replacement in females and oral calcium supplements are indicated for Alzheimer's patients to sustain bone density. Significantly unsteady patients can be placed in assistive devices such as a merri-walker to allow continued use of extremities while minimizing risks for fractures. Normal range-of-motion around joints will diminish pain experienced by patients during moves, lessens agitation, diminishes the need for antipsychotic medications and improve quality of life for patients, family and staff.