



Fall Prevention in the Elderly

Interventions List for Providers

“Because most falls are due to a combination of factors...the most effective interventions are those that include multiple components that address multiple risk factors.”¹ The following are suggested interventions for specific risk factors, which the primary care provider and interdisciplinary team may select to assist a specific patient in an appropriate fall-prevention plan of care.

Risk Factors	Interventions
<p>Medications Use of 4 or more prescription medications, especially psychotropic medications^{2,3}</p> <p>Use of a benzodiazepine or other sedative-hypnotic drug⁴</p>	<p>Medications</p> <ul style="list-style-type: none"> ○ Review and modification of medications and dosages, especially psychotropic medications³ ○ Education about appropriate use of sedative-hypnotic drugs⁴ ○ Nonpharmacologic treatment of sleep problems, such as sleep restriction⁴
<p>Osteoporosis Osteoporosis increases risk of fracture related to falls⁵</p>	<p>Bone-Strengthening Medications³</p> <ul style="list-style-type: none"> ○ Antiresorptive agents ○ Hormone replacement therapy (HRT) ○ Calcium ○ Vitamin D
<p>Postural Hypotension A drop in systolic blood pressure of ≥ 20 mm Hg or to < 90 mm Hg on standing⁴</p>	<p>Cardiovascular</p> <ul style="list-style-type: none"> ○ Review medications that may contribute to hypotension for possible discontinuation or substitution with another medication^{3,4} ○ Behavioral recommendations, such as ankle pumps or hand clenching and elevation of the head of the bed ○ Pressure stockings⁴ ○ Use medications to increase blood pressure⁴
<p>Impairment in Vision Including age-related changes such as decline in visual acuity and accommodative capacity, glare intolerance, altered depth perception, presbyopia, and reduced night and peripheral vision⁴</p>	<p>Visual²</p> <ul style="list-style-type: none"> ○ Refer to ophthalmologist for treatment of conditions and reassessment for corrective lenses
<p>Balance or Strength Impairments Any impairment in balance or transfer skills⁴</p> <p>Impairment in leg or arm muscle strength or range of motion in hips, ankle, knee, shoulder, hand, or elbow⁴</p>	<p>Exercise⁴</p> <ul style="list-style-type: none"> ○ Balance exercises and training and transfer skills if indicated ○ Exercises for balance or strengthening upper/lower extremities if indicated

Risk Factors	Interventions
Impairment in gait ³	<p>Feet and Footwear</p> <ul style="list-style-type: none"> ○ For women—low-heeled walking shoes³ ○ For men—hard-soled shoes with high midsole hardness and low midsole thickness³ ○ Refer to podiatrist for examination of feet for calluses, bunions, and nail problems⁶ <p>Assistive Devices³</p> <ul style="list-style-type: none"> ○ Bed alarms ○ Canes ○ Walkers ○ Hip protectors
Environmental hazards for falling or tripping ^{2,4}	<p>Environmental Modifications</p> <p>Home-safety assessment with appropriate changes, such as:</p> <ul style="list-style-type: none"> ○ Removal of hazards, such as rugs and use of nonslip bathmats and night-lights² ○ Selection of safer furniture with correct height and stability⁴ ○ Installation of devices such as grab bars in bathrooms or handrails on stairs⁴

References:

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2. Tinetti ME. Preventing falls in elderly persons. *N Engl J Med*. 2003;348(1):42-49.
3. American Geriatrics Society, British Geriatrics Society, and American Academy of Orthopaedic Surgeons Panel on Falls Prevention. Guideline for the prevention of falls in older persons. *J Am Geriatr Soc*. 2001;49:664-672.
4. Fuller GF. Falls in the elderly. *Am Fam Physician*. 2000;61:2159-2168;2173-2174. <http://www.aafp.org/afp/AFPprinter/20000401/2159.html?print=yes>. Accessed September 20, 2008.
5. National Institute of Arthritis and Musculoskeletal and Skin Diseases. What are ways to prevent falls and related fractures? http://www.niams.nih.gov/Health_Info/Bone/Osteoporosis/Fracture/prevent_falls_ff.asp. Accessed November 4, 2008.
6. Brown CJ, Gottschalk M, Van Ness PH, Fortinsky RH, Tinetti ME. Changes in physical therapy providers' use of fall prevention strategies following a multicomponent behavioral change intervention. *Phys Ther*. 2005;85:394-403.