FALL RISK ASSESSMENT EXPERIENCE

Learning Objectives

By the end of this experience you will be able to:

1. Recognize the impact of falls on the lives of older adults
2. Identify risk factors for falls in the elderly.
3. Perform the 3 Chair Rise and Timed Up and Go tests to assess functional status.
4. Describe interventions to reduce an older patient's risk of falling.

Background

One third of community dwelling elderly and half of those living in long term care will fall every year, with half of those who fall doing so repeatedly.[1] Rates of falling and injury increase with age, as older adults are more susceptible to injury due to multiple medical problems and age related physiologic decline. 5% of falls result in fractures and another 5-10% result in other serious injuries. These injuries, in turn, can cause pain, functional impairment, disability, and even death. In fact, unintentional injury is the fifth leading cause of death in the elderly.[2] Also, falls or fear of them, can result in social withdrawal, loss of independence, and depression. Falls are the major reason for 40% of nursing home admissions and represent 6% of all medical expenditures for older adults in the U.S. Many risk factors for falling, such as age or previous falls, cannot be changed, but there are several that are treatable, such as gait disorders, postural hypotension, polypharmacy, unsafe footwear, vision impairment, and home environmental hazards. Inventions to improve these risk factors have been found to reduce fall rates by more than 30%. Finally, in additional to such risk factor interventions, daily Vitamin D supplementation has been shown to reduce falls by 19% with a number needed to treat of 15.[3]

Table 1: Fall Risk Factors and Interventions

RISK FACTOR	PROVIDER INTERVENTION	PATIENT EDUCATION
1. Taking 4 or more medications	▪ Medication review & adjustment ▪ Avoid high risk medications ▪ Prescribe non-pharmacological treatments, like exercise, when possible.[4]	▪ Keep an updated medication list and bring it to every visit with all health care providers.[4] ▪ Buy all medications at one pharmacy and do not take over the counter medications without asking your physician.[4] ▪ Enquire about side effects or interactions with medications you are already taking
2. Gait disorder	▪ Consider referral for physical therapy	▪ Stand upright, take full steps ▪ Use caution on stairs and uneven ground

	▪ Consider referral to ophthalmology	▪ Correctly use walking aid such as a cane or walker (as prescribed) ▪ Keep hands free to use railings. ▪ Consider an emergency call device to use in emergency.
3. Postural hypotension	▪ Check orthostatic vital signs ▪ Review and reduce medications that may contribute.[4] ▪ Geriatric tip: Blood pressure is a more sensitive indicator of orthostasis than heart rate in older adults	▪ Drink sufficient water every day ▪ Get up from sitting slowly. Clench your fists and pump your ankles 10-12 times before standing to help raise your blood pressure a little before you get up. ▪ Review your medicines with your health care provide to see if any could contribute to your drop in blood pressure and could be decreased or stopped.
4. Vision impairment	▪ Ask about vision problems, such as difficulty driving, watching TV, or reading due to poor vision. ▪ Consider ophthalmology referral	▪ Have yearly vision checkups ▪ Keep eyeglasses clean and never walk while wearing reading glasses.[4] ▪ Allow time for eyes to adjust to changing levels of light.[4]
5. Foot pain or inappropriate footwear	▪ Examine feet for pulses, sensation and proprioception, and evidence of ulcers or deformities that could cause pain or impair gait.[4] ▪ Consider podiatry referral	▪ Wear supportive shoes that are comfortable, cover the entire foot, and fit well. ▪ Heel height should be no more than 1.5 inches and soles should be at least as wide as the sole of the foot, nonslippery and not too thick.[4] ▪ Socks and shoes should not leave marks on the skin when removed

High Risk Medication Classes That Contribute to Falls [4]

Cardiac	**Neuro/Psychiatric**	**Others**
Antiarrhythmics	Anti-depressants	Decongestants
Antiotensin 2 receptor antagonists	Benzodiazepines	Antihistamines
ACE inhibitors	Anti-psychotics	Antiandrenergic agents
Calcium channel blockers	Sleep medications	H2 blockers
Diuretics	Anticonvulsants	Proton pump inhibitors
Beta-blockers	Antiparkinsonism medications	Anticholinergics
Alpha- adrenergic blocking agents		Skeletal muscle relaxants

A special Fall Risk Assessment visit will be scheduled in the outpatient geriatrics practice for your senior mentor.

Prior to meeting with your senior mentor

1. Reading: Tinetti ME. Preventing Falls in Elderly Persons. N Engl J Med. 2003. Jan; 348 (1). 42-49.
2. Review your mentor's medication list. Are there any medications that belong to the high risk medication classes that contribute to falls as listed above?

At the assessment meeting with your senior mentor

1. Discuss what you are going to do with your mentor
2. Complete Fall Risk Questionnaire
3. Complete Falls Risk Assessment Worksheet

Following the assessment meeting with your senior mentor

1. Review your findings and refer to Table 1 to make recommendations to decrease your mentor's risk of falling. Discuss your suggestions with your mentor's doctor (or the preceptor assigned to you for this exercise) and determine what you are going to counsel the patient about.
2. With the mentor's doctor (or the preceptor) present, please review your findings and counsel the patient.
3. Ask your mentor if they have any questions for you or their doctor
4. Type up a summary of your findings and the counseling session and submit these and the worksheets, within one week of the visit, to your mentor's doctor.

Useful Web Resources

www.fallprevention.org
www.geronet.ucla.edu/centers/acove/office_forms.htm
www.americangeriatrics.org
www.guidelines.gov

References

1. Tinetti ME. Preventing Falls in Elderly Persons. N Engl J Med. 2003. Jan; 348 (1). 42-49.
2. Kannus P, Parkkari J, Koskineen S et al. Fall-induced injuries and deaths among older adults. JAMA 1999; 281:1895-9

3. Rao S. Prevention of Falls in Older Patients. Am Fam Physician. 2005 Jul 1;72(1):81-8
4. Tinetti, ME. Falls Risk Assessment and Interventions. Connecticut Collaboration for Fall Prevention. 2007.
5. Bickley LS. Bates' Guide to Physical Examination and History Taking. Seventh Edition
6. Evaluating the Risk of Dependence in Activities of Daily Living Among Community-Living Older Adults with Mild to Moderate Cognitive Impairment. J Gerontol Med Sci. 1995; 50:M235-24.
7. Mathias S, et al. Balance in Elderly Patients: the "Get and Got Test." Arch Phys Med Rehabil. 1986; 67:387-389.
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9. Bischoff-Ferrari HA, Dawson-Hughes B, Willett WC et al. Effect of Vitamin D on falls: a meta-analysis. JAMA. 2004; 291: 1999-2006.