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Updated Guidelines to Prevent Falls in Elderly CME

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Target Audience

This article is intended for primary care clinicians, geriatricians, and other specialists who care for older patients.

Goal

The goal of this activity is to provide medical news to primary care clinicians and other healthcare professionals in order to enhance patient care.

Authors and Disclosures

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January 19, 2011 — The American Geriatrics Society (AGS) and the British Geriatric Society (BGS) have updated their 2001 guidelines on preventing falls in older persons and have published a summary of the new recommendations online January 13 in the *Journal of the American Geriatrics Society*. All healthcare practices for older adults should include fall screening and prevention, with new assessments involving feet and footwear, fear of falling, and ability to carry out daily living activities. All interventions for fall prevention should include an exercise component, with additional interventions to be considered including starting tai chi and reducing medications.

Adults practicing tai chi

"Falls are one of the most common health problems experienced by older adults and are a common cause of losing functional independence," said guidelines panel co-chair Mary E. Tinetti, MD, from Yale University School of Medicine in New Haven, Connecticut, in a news release. "Given their frequency and consequences, falls are as serious a health problem for older persons as heart attacks and strokes."

The new recommendations were developed by a panel including members from the previous panels and new experts in fall prevention and geriatrics, with representatives from the fields of physical therapy, pharmacy, orthopaedics, emergency medicine, occupational therapy, nursing, home care, and geriatric clinical practice. The American College of Emergency Physicians, the American Medical Association, the American Occupational Therapy Association, and the American Physical Therapy Association endorsed the updated guidelines.

The guidelines panel performed a search of the literature and systematic review of randomized controlled trials of fall prevention interventions, as well as meta-analyses, systematic literature reviews, controlled before-and-after studies, and cohort studies published between May 2001 and April 2008. The search included MEDLINE, PubMed, the Database of Abstracts of Reviews of Effectiveness, Centre for Reviews and Dissemination/Health Technology Assessment, and the Cochrane Central Register of Controlled Trials. After reviewing the randomized controlled trials published between April 2008 and July 2009, the panel determined that evidence from these additional studies did not warrant changing the guideline recommendations or the ranking of the accompanying evidence.

"There is emerging evidence that the rate of serious fall injuries, such as hip fractures, is decreasing modestly in areas in which fall prevention is integrated into clinical practice," Dr. Tinetti said. "By making fall prevention

part of the clinical care of older adults this trend can continue."

A new assessment recommendation is that clinicians ask older patients if they have fallen recently or if their gait is unsteady, as a first step toward evaluating their falling risk. Questions should include frequency of falling, symptoms at the time of fall, and injuries from the fall.

Patients with no evidence or history of gait problems or recurrent falls do not require a fall risk assessment. However, those with gait unsteadiness or recent falls should undergo multifactorial fall risk assessment, including evaluation for muscle weakness, balance problems, or orthostatic changes in blood pressure. Any identified problems should be addressed with specific interventions.

New specific recommendations for evaluation of fall risk also include examination of the feet and footwear, functional evaluation including activities-of-daily-living skills and use of adaptive equipment and mobility aids, self-report of functional ability and fears concerning falling, and environmental evaluation including home safety.

"New recommendations specify that direct interventions adjusted for the identified risk factors, performed by the health professionals who performed the assessment or other healthcare professionals referred by them must follow the multifactorial fall risk assessment," the guidelines authors write.

New Recommendations

Recommendations for interventions that are new since the 2001 guidelines include the following:

- Multifactorial interventions should always include an exercise component, such as tai chi, physical therapy, or other exercise for balance, gait, and strength training, in group programs or as individual programs at home. Endurance and flexibility training may be prescribed, but not apart from strength training. On the basis of currently available evidence, exercise programs are recommended only for community-dwelling older persons.
- Environmental adaptation by a healthcare professional should be considered to reduce factors in the home and in daily activities that could increase fall risk.
- Cataract surgery should be performed if indicated, but this or other vision intervention should not be administered in isolation apart from a multifactorial assessment and intervention strategy.
- Medication reduction or withdrawal is recommended, particularly for sedatives, antidepressants, and other drugs affecting the central nervous system, regardless of the number of medications prescribed. This is a change from the 2001 guidelines, which recommended reducing medications only if patients were taking 4 or more.
- Orthostatic hypotension, arrhythmias, and heart rate abnormalities should be managed appropriately as part of a multifactorial intervention strategy. Older persons with cardioinhibitory carotid sinus hypersensitivity who have unexplained recurrent falls may benefit from dual-chamber cardiac pacing.
- All older adults at risk for falls, and those with known or suspected vitamin D deficiency, should receive a daily vitamin D supplement (800 IU).

"We found that the most effective trials for preventing falls in older people looked at multiple interventions rather than just one," Dr. Tinetti said. "Previous studies have indicated that it is more effective to focus on one intervention, but because we looked at not only what recommendations were given, but also which [were] carried out, we're confident that multifactorial [intervention] is the best course of action."

Some of the guidelines authors have disclosed various financial or other relationships with Johnson & Johnson, various other pharmaceutical companies, Medco Health Solutions, Inc, the American College of Emergency Physicians, Pfizer, Orion, and/or Pharmacia.

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Clinical Context

The risk of falling and sustaining an injury increases with age and is linked to poorer functioning and early admission to long-term care facilities. Effective fall prevention strategies can lead to fewer injuries, emergency department visits, and hospitalizations, and less functional decline.

This is an update of the 2001 Guideline for the Prevention of Falls in Older Persons, produced by a panel consisting of experts in physical therapy, pharmacy, orthopedics, emergency medicine, nursing home care, and geriatric medicine. The guidelines were prepared using literature searches, systematic reviews, and meta-analyses of studies published between 2001 and 2008.

Study Highlights

- Databases that were searched included Medline and PubMed, Database of Abstracts of Reviews of Effectiveness, Center for Review and Dissemination/Health Technology Assessment, and the Cochrane Central Register of Controlled Trials.
- Excluded were interventions aimed at home health and in-hospital fall prevention.
- The committee assigned a rating of A (strong recommendation for the intervention) to D (recommendation against routinely providing the intervention to asymptomatic patients) for each recommendation.
- Changes made to the 2001 guidelines included recommending a multifactorial fall assessment for all older adults who present with a fall or gait problems and for those who report gait or balance problems.
- Current data support exercise programs only for community-dwelling older persons, in contrast to earlier guidelines, which recommended long-term exercise and balance training for all older people who have had recurrent falls.
- New specific recommendations included examination of the foot and footwear; functional assessment, including of mobility aids and equipment; and fear of falling, environmental, and home safety assessments.
- Fall assessments should include focused history, medication review, and history of relevant risk factors including acute or chronic medical problems.
- Physical examination should include gait, balance, and mobility assessment; joint function; neurological and cognitive function assessment; muscle strength; cardiovascular status; assessment of visual acuity; and foot and footwear.
- Cataract surgery on the eye should be expedited in older persons in whom the surgery is indicated.
- However, the new guidelines recommend against vision assessment or intervention as an individual approach outside of a multifactorial assessment and interventions strategy.
- Medication reduction or withdrawal is stressed for all older people — not only those taking 4 or more medications, as in the earlier guidelines.
- Assessment and treatment of postural hypotension should be included as part of a multifactorial intervention approach.
- Dual-chamber cardiac pacing should be considered for older persons with cardioinhibitory carotid sinus hypersensitivity who experience unexplained recurrent falls.
- Vitamin D (800 IU) is recommended as a daily supplement for all older adults at risk for falls.
- It is also recommended for all older adults with known vitamin D deficiency.
- There is strong evidence for vitamin D supplementation (800 IU daily) in patients residing in long-term care who have known vitamin D deficiency.
- Vitamin D should be considered for those with problems of gait or balance or who are otherwise at risk for falls in long-term care.
- Community-dwelling adults who report recurrent falls or difficulties with gait or balance, or who seek medical attention for falls, should receive a fall risk assessment.
- Multifactorial or multicomponent interventions have been used in long-term settings and shown to be effective in fall prevention, especially for environmental adaptation, balance, transfer, strength and gait training, reduction in medications, management of visual deficits, postural hypotension, and other cardiovascular and medical problems.
- Exercise programs are associated with fewer falls in multicomponent studies.
- Treatment of tachyarrhythmia (such as using cardiac pacing) is also effective as a component of fall prevention programs.
- Installation of safety devices such as handrails on stairs, grab bars on bathrooms, and improvements in lighting can reduce falls.
- Education of patients and caregivers can be considered as primary and secondary prevention and is important for implementation and sustained use of fall prevention strategies.
- There is insufficient evidence to recommend for or against multifactorial or single interventions to prevent falls in older persons with known dementia living in the community of long-term care facilities.

Clinical Implications

- Fall assessments should include focused history; medication review; physical examination, including visual acuity; and footwear, gait and balance, and neurological and cardiovascular examination.
- Multicomponent interventions that include multiple interventions such as exercise, medication adjustment, environmental corrections, and treatment of medical conditions have been shown to be effective in fall prevention.

CME Test

An 80-year-old man is at risk for falls. Which of the following are considered new recommendations for fall assessment in the 2010 guidelines?

- Examination of foot and footwear
- History of acute or chronic medical conditions
- Gait assessment
- Cognitive assessment

Which of the following is *least* likely to be considered an aspect of multicomponent intervention for fall prevention?

- Environmental adaptation
- Gait training
- Medication adjustment
- Psychiatric consultation

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