

FALLS

AGS Geriatric Evaluation and Management Tools (Geriatrics E&M Tools) support clinicians and systems that are caring for older adults with common geriatric conditions.

From the AMERICAN GERIATRICS SOCIETY

Geriatrics Evaluation & Management Tools

DEFINITION

- Coming to rest inadvertently on the ground or at a lower level
- Falls literature usually excludes falls associated with loss of consciousness (syncope) (See AGS Geriatrics Evaluation and Management: Syncope)

BACKGROUND

- One of the most common geriatric syndromes
- Leading cause of death from injury in persons aged >65
- Causes are multifactorial
- 10%–15% of falls in older adults result in fracture or serious injury
- Falls are associated with:
 - Increased use of medical services
 - Decline in functional status
 - Nursing home placement

SCREENING

- All geriatric patients should be asked annually about recent falls
- If patient reports history of ≥ 2 falls (or 1 fall with injury) in prior year, then document a fall H&P

HPI

- Circumstances of fall:
 - Symptoms at the time of the fall
 - Frequency of falls
 - Injuries
- Mobility difficulties
- Use of assistive devices
- Ability to perform activities of daily living
- Rule out syncope (see AGS Geriatrics Evaluation and Management: Syncope)

PAST MEDICAL HX/REVIEW OF SYSTEMS

- Presence of conditions associated with falls or fall-related injuries:
- Osteoarthritis
 - Osteoporosis
 - Vision loss
 - Motor weakness
 - Cognitive impairment
 - Delirium
 - Urinary incontinence
 - Cardiovascular disease
 - Cerebrovascular disease
 - Neurological disorders (neuropathy, Parkinson's disease, normal-pressure hydrocephalus)
 - Vertigo
 - Diabetes mellitus
 - Seizure disorder

SOCIAL HX

- Alcohol intake
- Social support and supervision

MEDICATIONS

- Thorough evaluation of medications that can contribute to falls (including over-the-counter medications):
- Anticholinergics
 - Anticonvulsants
 - Antidepressants
 - Antihistamines
 - Antihypertensives
 - Antipsychotics
 - Benzodiazepines
 - Insulin and oral hypoglycemics
 - Narcotics
 - Sedative hypnotics
 - Systemic glucocorticoids

PHYSICAL EXAM

Comprehensive physical exam with focus on:

- Orthostatic vitals (orthostatic hypotension = drop in systolic blood pressure ≥ 20 mm Hg [or $\geq 20\%$] with or without symptoms, either immediately or within 3 min of rising from lying to standing)
- Cognitive assessment
- Eye examination, including visual acuity, visual fields, cataract examination
- Cardiovascular examination, including heart rate and rhythm
- Basic gait testing (Timed Get Up and Go Test)
- Balance testing, including postural sway and proprioception (Berg Balance Scale)
- Strength evaluation
- Neurological evaluation, including reflex examination, evaluation for focal deficits, neuropathy, tremor, rigidity
- Feet and footwear examination

LABS AND IMAGING

- Basic metabolic profile (dehydration, hypoglycemia)
- Complete blood count (infection, anemia)
- Vitamin D level
- Vitamin B12 level
- Bone densitometry in all women >65 years old, all men >70 years old
- Based on H&P results, may consider:
 - Electrocardiography
 - Neuroimaging (if head injury, new focal neurologic finding on exam, CNS process suspected)
 - Spinal imaging (in patients with abnormal gait, neuralgia examination, or lower-extremity spasticity or hyperreflexia)

MANAGEMENT STRATEGIES

- Discontinue or adjust doses of medications that can contribute to falls
- Optimize treatment of underlying medical conditions that can contribute to falls
- Recommend calcium and Vitamin D supplements to patients with proven or suspected deficiency
 - Daily supplementation of calcium carbonate (1200 mg) and Vitamin D (at least 800 IU) to achieve 25-hydroxy level > 30
- Correct visual deficits if possible
- Manage postural hypotension:
 - Educate patient to sit for 2–3 minutes before transferring from lying to standing
 - Educate patient to perform ankle pumps, or hand clenching prior to standing or when feeling light headed
 - Prescribe pressure stockings
 - If appropriate, liberalize salt intake
 - Add 1 cup of caffeinated coffee for postprandial hypotension
 - Consider medications to increase blood pressure (contraindicated in severe HTN, CHF, and hypokalemia)
 - Midodrine 2.5–10 mg q8 hours
 - Fludrocortisone 0.1 mg q8–24 hours
- Recommend proper footwear (good fit, non-slip, low heel height, large surface contact area)
- Offer physical therapy with gait, balance, strength, and/or endurance training
- Offer evaluation for assistive devices (cane, walker, wheelchair) if the patient demonstrates decreased balance or proprioception, or increased postural sway (often evaluated by physical therapist)
- Offer physical therapy with assistive device review for patients who have fallen while using an assistive device
- Recommend a home safety evaluation (often done by home health agency)
 - Potential environmental modifications:
 - Improve home lighting
 - Secure bathmats
 - Remove or secure rugs and floor mats
 - Minimize clutter
 - Rearrange furniture
 - Place electrical cords against the wall
 - Lower bed
 - Potential medical equipment (may need to be purchased by patient): toilet riser, bedside commode, urinal, shower chair, grab bars, railings, fall alert buttons (call bell, bed alarm)
 - Consider need for increased assistance/supervision from caregivers