Geriatrics Evaluation and Management: FALLS

AGS

Developed by the American Geriatrics Society (AGS), Geriatrics Evaluation and Management is a resource for clinicians to use as they work through the evaluation and management of geriatric conditions. For more information on this resource and the AGS, visit www.americangeriatrics.org.

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 ≥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

 Sources: Pacala JT, Sullivan GM, eds. Geriatrics Review Syllabus: A Core Curriculum in Geriatric Medicine. 7th ed. New York, NY: American Geriatrics Society; 2010; and GRS Teaching Slides Web site http://www.frycomm.com/ags/teachingslides.