Practical Assessment of Falls in the Elderly

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Disclosure of Financial Relationships

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Has no relationships with any entity producing, marketing, re-selling, or distributing health care goods or services consumed by, or used on, patients.
Our Patient

Mrs. Smith is a 75 yo woman, living independently in a senior apartment complex. She comes to your office with her daughter after being evaluated at a local urgent care center for a fall over the weekend. She tells you that she did not lose consciousness, but fell tripping over a stool. She did not sustain any acute injury. She has had 2 other accidental falls in the past 6 months. She has limited her activities due to a fear of falling again.

PMH: Hypertension, diabetes, mild cognitive impairment, mild depression, macular degeneration, congestive heart failure and osteoarthritis

Medications: Metformin 500mg BID, Lantus 10u at hs, Lisinopril 5 mg/d, metoprolol xl 50 mg/d, Paroxitene 20mg q hs, Donepezil 5 mg/d, ASA 81 mg/d, Ginko 500 mg/d
Who should be screened?

- All persons 65 years of age and older should be screened annually for falls

  • >50% of older individuals do not mention a fall unless they are asked

- AGS/BGS CPG for prevention of falls in older people

  - J Amer Geria Soc 2010
How to evaluate

- Identify patients at risk
  - Anyone who has fallen in the past year especially those who have fallen more than 2 times in the past year
  - Those who have gait or balance problems
  - Those who have a fear of falling
Risk Factors for Falls

- Advanced age
- Prior falls
  - Fear of falling
- Gait/balance problems
- Decreased vision
- Orthostatic hypotension
- Arthritis
- Depression
- Impaired cognition
- Decline in muscular strength
- Use of 4 or more medicines
Facts About Falls in the Elderly

- Approximately 1/3 of people 65 and older fall each year
- Leading cause of injury related visits to ER
- One in five falls causes serious injury
  - Head trauma
  - Hip fracture
- 70% of accidental deaths in those >75 yo related to falls
- Greater than 2 million 65 yo and older treated in ER for nonfatal falls each year
- 1/3 of community dwelling and about 2/3 of nursing home residents fall each year

CDC/STEADI
Is this someone who should be screened for falls?
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Our Patient

Mrs. Smith should be screened for falls:

1. 75 years old
2. 3 falls in past year
3. Diminished vision
4. Polypharmacy
5. Multiple medical conditions
6. Fear of falling
How is this done?

- **History**
  - **Circumstances**
    - LOC
    - Tripped/Stumbled
    - Lightheadness/dizziness
  - **Medications Review**
    - Anticholinergics
    - Antidepressants, Benzodiazepines, neuroleptics
    - New medication changes (Acetylcholinesterase inhibitor added to a Beta blocker)
  - **Alcohol use**
  - **Assessment of function including use of assistive devices**
  - **Medical conditions-CVA, CHF, significant arthritis**
Which Physical Exam Findings Predict Falls

- Functional reach greater than 12 inches
- Tandem stance less than 5 seconds
- Get Up and Go Test greater than 20 seconds
- Functional reach less than 6 inches
Examination

- Orthostatic blood pressure
- Gait
  - Timed get up and go
    - 10 feet up and back -> 12 secs abnormal
  - Quadraceps weakness, hesitant start, broad based gait, path deviation, arm swing
- Balance
  - Single leg stance-stand on one leg for 10 secs
  - Sharpened or tandem stance
    - Side by side for 10 secs
    - Semi tandem for 10 secs
    - Full tandem for 10 secs
  - Sternal nudge
  - Functional reach
    - Shoulder next wall arm outstretched, fist closed
      - Patient leans forward as far as possible without taking a step or falling forward -> 6 inches normal
4 Stage Balance Test

Instructions to the patient:

1. Stand with your feet side by side. Time: ________ seconds

2. Place the instep of one foot so it is touching the big toe of the other foot. Time: ________ seconds

3. Place one foot in front of the other, heel touching toe. Time: ________ seconds

4. Stand on one foot. Time: ________ seconds
Get Up and Go Test

**Directions:** Patients wear their regular footwear and can use a walking aid if needed. Begin by having the patient sit back in a standard arm chair and identify a line 3 meters or 10 feet away on the floor.

**Instructions to the patient:**
When I say “Go,” I want you to:

1. Stand up from the chair
2. Walk to the line on the floor at your normal pace
3. Turn
4. Walk back to the chair at your normal pace
5. Sit down again

On the word “Go” begin timing.

Stop timing after patient has sat back down and record.

**Time:** ________ seconds

*An older adult who takes ≥12 seconds to complete the TUG is at high risk for falling.*
Further History

- Her daughter feels her bathroom is not safe. She has difficulty getting in/out of tub and there are no handrails.
- In addition, her small apartment is cluttered with collectibles, furniture and throw rugs.
- She uses her cane on the right side due to right hip and knee pain.
- Labs show-Vit D -16, Vit B-12 < 100
Implement Key Interventions

- PT referral for strengthening exercises/assistive devices
- Balance improvement- Tai Chi
- Vitamin D supplementation
- OT referral for home safety evaluation
- Correcting orthostasis medications withdrawal
- Treating OA, Parkinson's, etc
- Vision-ophthalmologist
- Exercise guide for older adults
  - www.nih.nih.gov/healthinformatics/publications/exerciseguide
Major Evidence Based Interventions to Reduce Risk of Falling

- Most recent evidence based guidelines United States Preventive Service Task Force (USPSTF) 2012

- USPSTF found convincing evidence that exercise or physical therapy reduces the risk for falls by moderate amount
  - 13% reduction in falls (grade B)

- Found adequate evidence that vitamin D supplementation reduces the risk for falling by moderate amount
  - 17% reduction in falls (grade B)
AGS/BGS CPG in 2010-multifactorial interventions to include:

- Individualized exercise program as well as home assessment and modification to reduce potential fall hazards (grade A)
- Treating all individuals with Vit D deficiency (grade A)
- Considering Vit D supplements in those with higher risk of falls (grade B)
- Eliminating inappropriate medications (grade B)
- Treatment of vision impairment
  - If cataract surgery indicated in older women, should be done as it reduces risk of falling (grade B)
- Recommended assessment and treatment of postural hypotension (grade C)
- Addressing foot issues (grade C)
- Routine vision assessment not recommended to reduce falls (grade D)
REFERENCES


7. www.cdc.gov/injury/STEADI (Stopping Elderly Accidents, Deaths, and Injuries)
Evaluation

Responses remain anonymous!
Overall quality of this session:

1. Poor
2. Fair
3. Average
4. Good
5. Excellent
How well were the learning objectives met?

1. Poor
2. Fair
3. Average
4. Good
5. Excellent
Did speaker present a balanced view of therapeutic options?

0%  1. Yes
0%  2. No
0%  3. N/A
How useful will this session be in your practice?

1. Poor
2. Fair
3. Average
4. Good
5. Excellent
As a result of this program, do you intend to change your patient care?

1. Yes
2. No
Thank you!