FALLS, FUNCTIONAL ASSESSMENT & TRANSITIONS OF CARE

Jan 23, 2024

Rebecca Schonnop

OBJECTIVES

1. Describe an approach to the older ED patient who has fallen, including evaluation for potential causes of falls, management of injuries, coordination of safe disposition plan, and prevention of future falls
2. Identify the components of a functional assessment
3. Demonstrate the importance of an interdisciplinary team in assessing functional status of older patients with falls
4. Identify essential parts of a safe discharge plan for an older patient, and use this to guide your decision for patient disposition
5. List strategies for communicating with patient and care providers at transitions of care

FALLS - EPIDEMIOLOGY

- 28-35% of people ≥ 65 years will have at least 1 fall per year
- Up to 50% of people ≥ 80 years will have at least 1 fall per year
- >50% of residents in LTC have had at least 1 fall per year
- Previous fallers have 2/3 chance of falling again in subsequent year

- 20% of falls lead to serious injury
- 36-50% of patients have an adverse event (recurrent fall, ED revisit, or death) within 1 year after a fall

Carpenter et al., 2019; Masud & Morris, 2001

COMPONENTS TO ED VISIT FOR FALLS

1. Assess for underlying cause(s) for fall
2. Evaluate for injuries resulting from the fall
3. Safe disposition planning including fall prevention

HISTORY

- HPI
- PMHx
- Medications
- Previous falls
- Substance use
- Visual/hearing/neuro impairments
- Baseline cognitive and functional status
- About the fall*

ACEP guidelines 2014

HISTORY ABOUT THE FALL

Before the fall	During the Fall	After the fall
• What were they doing before the fall? • Prodromal symptoms • Presyncope, syncope, orthostasis • Recent illness/events – infectious sx, bleeding (melena/BRBPR), GI losses, etc. • Gait aids/footwear	• Mechanism • LOC • Witnessed?	• Time on floor • Able to get up? • Able to ambulate? • Associated injuries? Sites of pain.

ACEP guidelines 2014

PREDISPOSING FACTORS FOR FALLS

- CNS/PNS changes:
  - Slower nerve conduction, dec reflex responses
  - Cognitive impairment
  - Dec proprioception and vibration sense
- MSK changes:
  - Arthritis
  - Dec muscle mass
- Sensory impairment:
  - Visual
  - Hearing
- Polypharmacy and sensitivity to medications/substances
- GU changes:
  - Incontinence
  - Nocturia

CAUSES OF FALLS

INTRINSIC FACTORS

- Chronic illness (degenerative joint disease, Parkinson's, etc.)
- Visual impairment
- Hearing impairment
- Cognitive impairment
- Acute medical issues*
- Medications: benzodiazepines, hypoglycemic agents, muscle relaxants, antipsychotics, antidepressants, antihypertensive agents, diuretics, opioids, etc.
- Substance use

EXTRINSIC FACTORS

- Obstacles/spills/messes/loose rugs etc.
- Inappropriate footwear
- Inappropriate or non-compliance with gait aids
- Dim lighting
- Not using sensory aids

Carpenter et al., 2019

“MECHANICAL FALL”

A fall caused by an external force that would have happened regardless of age or comorbidity

Avoid this term

- This term normalizes the fall, and falling
- It causes premature diagnostic closure to search for other serious and/or preventable causes
- Almost no fall in older people is “mechanical”, and most have one or more intrinsic/extrinsic causes

PHYSICAL ASSESSMENT IN FALLS

- Head to toe trauma assessment – gown, full exposure
- Neuro exam
- Orthostatic vital signs
- Functional assessment*

POSTURAL HYPOTENSION

- Drop in systolic BP >20mmhg upon standing within 3 minutes
- Drop in diastolic BP >10mmhg upon standing within 3 minutes

- Increased risk with older age:
  - Impaired baroreceptor function, and decreased adrenergic sensitivity
  - Chronic vascular contraction
  - Medication effects
  - Bed rest and immobility

Dani et al., 2021

POSTURAL HYPOTENSION: MANAGEMENT

- Education on triggers, avoid hot environments
- Teach physical maneuvers
- Review medications
- Fluid repletion, salt intake
- Compression stockings, abdominal compression garments
- Head up sleeping
- Avoid heavy carb meals – postprandial hypotension
- Medications: fludrocortisone, midodrine

Dani et al., 2021

INJURIES WITH FALLS

- Significant injuries can occur from falls in older patients
- Important to do head to toe primary/secondary survey in these patients for blunt trauma assessment

FALL PREVENTION INTERVENTIONS

Cochrane Review: Interventions demonstrating effectiveness in community dwelling older people

1. Multidisciplinary/multifactorial screening/intervention programs in the community
2. Exercise program for muscle strengthening and balance retraining, individualized program
3. Home hazard assessment and modification
4. Withdrawal of psychotropic medication
5. Cardiac pacing for fallers with carotid sinus hypersensitivity
6. Tai chi group exercise
7. First cataract surgery

Others:

- Manage postural hypotension
- Medication review and intervention
- Supplement vitamin D
- Address foot/shoe problems
- Patient education and info about falls
- Suggest vision/hearing impairment interventions

Gillespie et al. 2012; Carpenter et al., 2019; AGS/BGS clinical practice guidelines

MULTIDISCIPLINARY CARE TEAM

- Physician
- Bedside nurses
- Physiotherapy
- Occupational therapy
- Pharmacist
- Transition coordinator/social work

ED FALL PREVENTION INTERVENTION TRIAL

GAPcare

- Randomized single-blinded study
- Older adults 65+ who presented to ED post-fall
- **Control:** standard ED care
- **Intervention**: standard ED care & PT and pharmacist consultation

Within 6 months, intervention participants:

- Half as likely to experience subsequent ED visit
- 1/3 as likely to have fall-related ED visits
- Half the rate of all hospitalizations
- Similar ED LOS

Annals of EM, 2020

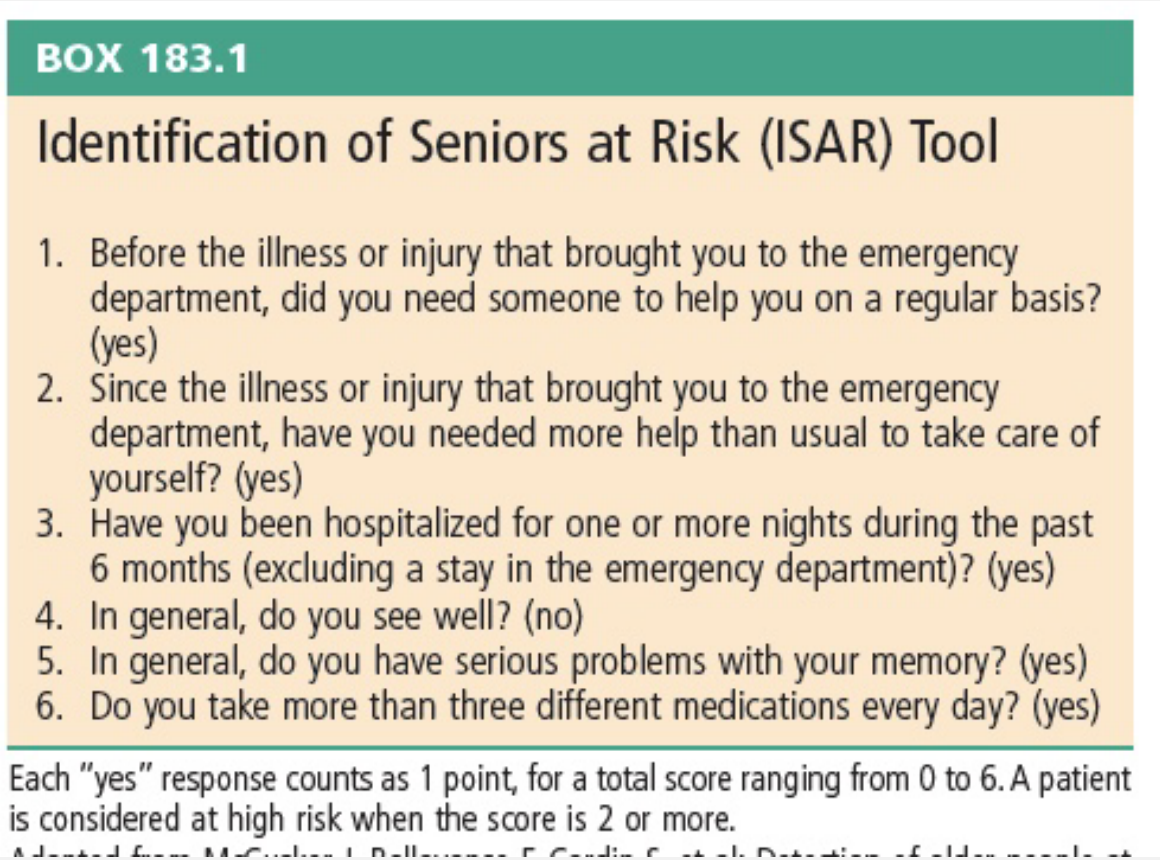
DISCHARGE PLANNING POST-FALL

- **ED PT/OT** to assess proper use or need of assistive devices, transfer skills, gait training
- Home assessment via home care **(transition coordinator)**:
  - OT can assess bed height, uneven flooring, need for grab rails, elevated toilet seat, nonslip bathmats, improve lighting etc.
- Outpatient PT for exercise and rehabilitation programs
- **Pharmacy** to assess inappropriate or potentially contributing medications
- Referral to geriatrics clinic, or if available, a falls clinic
- Send letter to GP, may not be aware of frequent falls
- Consider recommending Vitamin D supplementation

FUNCTIONAL ASSESSMENT

ASSESSING RISK OF FUNCTIONAL DECLINE

- ISAR (Identifying Seniors at Risk) score is a functional assessment tool that predicts:
  - Admission, readmission, inc hospital LOS in 6 months following ED visit
  - Functional decline at discharge
  - Current functional impairment
  - Mortality at 6 months following ED visit
  - Return ED visits
  - Use of community resources following ED visit
- Positive screen should have multidisciplinary care team involved: transition coordinator, PT/OT, pharmacy, etc.



BOX 183.1

Identification of Seniors at Risk (ISAR) Tool

1. Before the illness or injury that brought you to the emergency department, did you need someone to help you on a regular basis? (yes)
2. Since the illness or injury that brought you to the emergency department, have you needed more help than usual to take care of yourself? (yes)
3. Have you been hospitalized for one or more nights during the past 6 months (excluding a stay in the emergency department)? (yes)
4. In general, do you see well? (no)
5. In general, do you have serious problems with your memory? (yes)
6. Do you take more than three different medications every day? (yes)

Each "yes" response counts as 1 point, for a total score ranging from 0 to 6. A patient is considered at high risk when the score is 2 or more.

McCusker et al., 2022; Bissett et al., 2013; Galvin et al., 2017; McCusker et al., 1999

ISAR-R

	No	Yes
1) Before the illness or injury that brought you to the Emergency, did you need someone to help you on a regular basis?	0	+1
2) In the last 24 hours, have you needed more help than usual?	0	+1
3) Have you been hospitalized for one or more nights during the past six months?	0	+1
4) In general, do you have serious problems with your vision that cannot be corrected with glasses?	0	+1
5) In general, do you have serious problems with your memory?	0	+1
6) Do you take six or more different medications every day?	0	+1
Positive test is 2 or more	Total	/6

McCusker et al., 2022; Bissett et al., 2013;

COMPONENTS OF FUNCTIONAL ASSESSMENT

- ADL / IADLs
- Supine to sitting up
- Sitting up with stability
- Standing from seated position
- Gait assessment

ADL & IADL

ADLS

- Transferring
- Toileting
- Bathing*
- Dressing
- Feeding
- Continence

IADLS

- Meal prep
- Housekeeping
- Medication management
- Finances
- Transportation/driving
- Shopping
- Phone use

Quinn et al., 2011

TYPES OF MOBILITY ASSESSMENTS

FORMAL MOBILITY ASSESSMENT

- Timed Up and Go (TUG) test
- 30-sec sit to stand
- Gait speed

INFORMAL MOBILITY ASSESSMENT

- Road test
- Observation of mobility

PREPARING FOR ASSESSMENT:

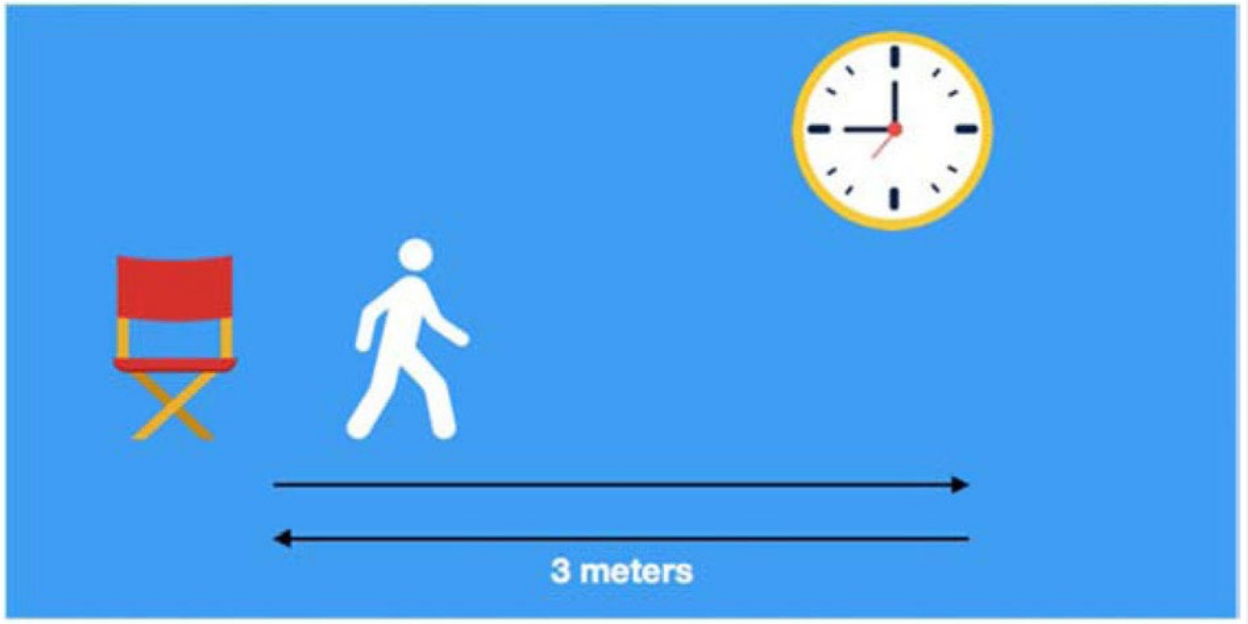
- Determine baseline mobility – provide gait aid if they use one at home
- Pain meds (if relevant) before assessment
- Walking shoes/footwear

WHAT TO WATCH FOR WITH A ROAD TEST?

- Excessive trunk movement or path deviation
- Wide stance
- Shuffling gait
- Furniture cruising or reaching for objects
- Slow gait speed
- How they use the gait aid

TIMED UP AND GO TEST

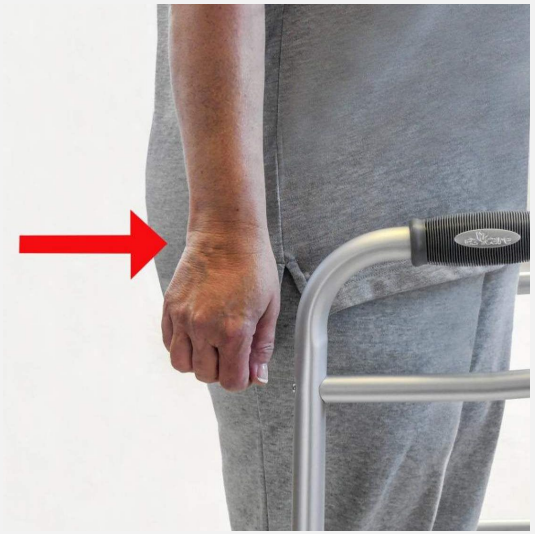
- Patient get out of bed, walk 10 feet, turn around, walk back and sit down
- Simultaneously assesses cognitive function to follow multi-step instructions
- ≥ 12 sec = at risk of falling
- ≥15 sec = older adults who may be at risk of adverse health outcomes



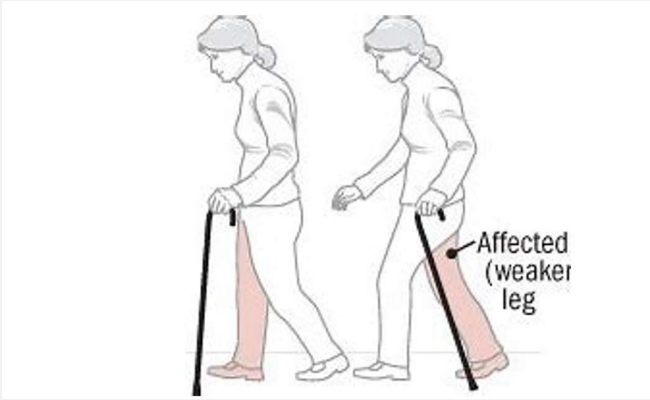
Podsiadlo et al., 1991; Bambach et al., 2021

GAIT AID TIPS

- Walker handhold height should align with the wrist crease when patient standing



- If injured/weaker leg, the cane should be used in the arm opposite of leg
- Cane should advance with the weaker leg
- If cane only used for balance, then side is just a patient preference



TRANSITIONS OF CARE & DISCHARGE PLANNING

RISKY TRANSITIONS WITH OLDER ADULTS

- Older adults discharged home from ED are at high risk of adverse outcomes
  - Within 3 months of ED visit, 1/3 older adults experience adverse outcome

- Only 1/5 older adults discharged from the ED can state their diagnosis (compared to 70-80% of younger patients)

- Negative impacts of transitions of care for older patients:
  - Medication errors
  - Unnecessary treatments / hospitalizations
  - Lack of timely coordination of follow-up

Kessler et al., 2013; Bambach et al., 2021

INCREASED RISK AT TRANSITIONS OF CARE

- Cognitive impairment
- Sensory barrier (hearing or visual impairment)
- Multiple comorbidities
- Multiple medications
- Numerous members of care team
- Numerous care settings

Bambach et al., 2021

TRANSITIONS FROM LTC

Box 1
The most common chief complaints leading to transfer from nursing home (NH) to ED

Fever (77.5%)

Poor oral intake (70.4%)

Altered mental status (68.7%)

Respiratory symptoms (67.0%)

Electrolyte or other laboratory test abnormalities (62.2%)

Neurologic problems (61.9%)

Data from Ackermann RJ, Kemle KA, Vogel RL, et al. Emergency department use by nursing home residents. Ann Emerg Med 1998;31(6):749–57.

Information is missing for 74% to 90% of the patients presenting from NHs

Kessler et al., 2013

TRANSITIONS FROM LTC

- Call the nursing home staff yourself
  - Inquire their knowledge of patient
  - What happened leading to transfer
  - Patients baseline cognition? Any changes noted recently?
  - Patients GOC
  - Patients functional status (ADL/IADL), mobility aids, etc.
  - Barriers to returning to their facility?

TRANSITIONS BACK TO LTC

Print your chart to send with patient back, *or*

Write quick letter to LTC staff to send with patient back, *or*

Document in discharge summary/AVS patient instructions and print

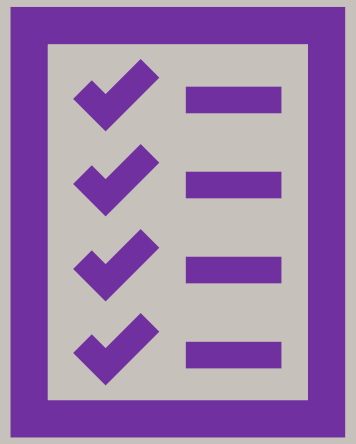
Include in this:

- Diagnosis
- Relevant labs/tests
- Medication changes
- Any necessary follow-up
- RTED instructions

HOLDING ORDERS

- If you need to hold a patient overnight/extended time in ED for safe discharge in AM, ensure you have appropriate orders:
  - Diet
  - Activity level / weight bearing status PRN
  - Vital signs qXh (i.e. don't keep tethered to equipment)
  - Order home medications
  - Have PRN medications for pain, nausea etc.

SAFE DISCHARGE CHECKLIST



- Complete medical workup (including review of physical, cognitive, social, functional components)
- Safe ambulation
- Ability to provide self-care (if not, plan in place to help)
- Home care arranged if needed (needs assessment, PT/OT, wound care etc.)
- Safe follow-up plan in place:
  - PCP follow-up
  - Specialist referral or follow-up PRN
- Written instructions (patient, caregiver, and PCP):
  - Diagnosis
  - Treatment / medication changes
  - RTED instructions
  - Follow-up care

QUESTIONS/COMMENTS?