Mobility and Geriatrics

Meridee Danks DPT, NCS
University of North Dakota
Department of Physical Therapy
Geriatric and Age Friendly Care teleECHO Series
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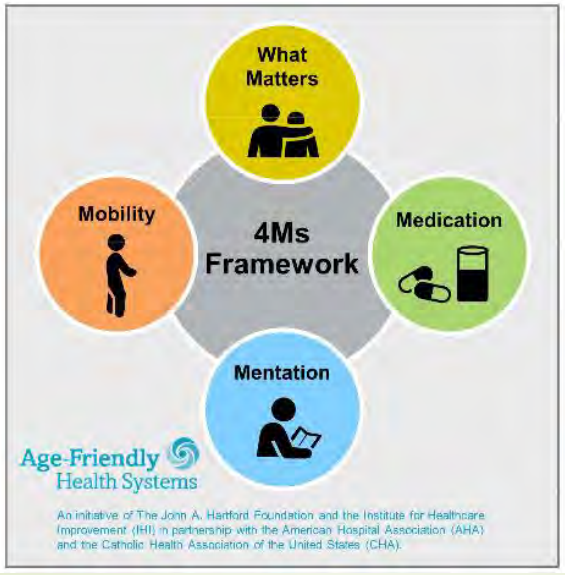
Objectives

Be able to:

- Identify appropriate mobility and fall risk screening and assessments that can be used in the elderly population.
- Describe ways to intervene to allow older adults to move safely in order to maintain function & participation in what matters to them.
- List the benefits of promoting & maintaining mobility of the older individual.

4Ms Framework of an Age-Friendly Health System



What Matters
Know and align care with each older adult's specific health outcome goals and care preferences including, but not limited to, end-of-life care, and across settings of care.

Medication
If medication is necessary, use Age-Friendly medication that does not interfere with What Matters to the older adult, Mobility, or Mentation across settings of care.

Mentation
Prevent, identify, treat, and manage dementia, depression, and delirium across settings of care.

Mobility
Ensure that older adults move safely every day in order to maintain function and do What Matters.

The **4Ms**: What Matters, Medication, Mentation & Mobility (+ Multi-complexity)

- Evidence-based practices that incorporate the 4Ms together to provide age-friendly care
- Focuses on "What Matters" to:
  - the older adult and family caregivers
- 5th "M" = Multi-complexity (Molnear/Huag/Tinetti)
  - Helping older adults manage a variety of health conditions and assessing living conditions

Mobility

- Ensure that each older adult moves **safely** every day to maintain function and do **"What Matters"**
  - Screen for mobility limitations and document results
  - Ensure early, frequent, and safe mobility of those who are require medical care

What Matters

- Know and align care with each older adult's specific health outcome goals and care preferences including, but not limited to end-of-life, and across settings of care
  - Ask the older adult **What Matters** most, document it, and share **What Matters** across the care team
  - Align the care plan with **What Matters** most

What is **Mobility**?

- Mobility is the ability to get where you want to go, when you want to go there. (CDC)
- Mobility is an indicator of how well an older person successfully ages!
- When mobility declines it seems to lead to a decline in all areas – social, psychological and physical consequences,
  - i.e., health, nutrition, independence, etc.
- Loss of mobility may make the difference between living at home or living in a facility.
- Mobility problems have been linked closely to **falls**, chronic illness, decreased bone density & ultimately mortality. (Brown & Flood, 2013)

Most Common Risk Factors for Mobility Deficits:

- Older age,
- Little physical activity,
- Obesity,
- Strength or balance impairment,
- Chronic diseases such as diabetes or arthritis.
- Other less common red flags - depression, memory deficits, female, recent hospitalization, drinking alcohol or smoking and feelings of helplessness.

(Brown & Flood, 2013)

Major **Mobility** Concern = "Fall Risk"

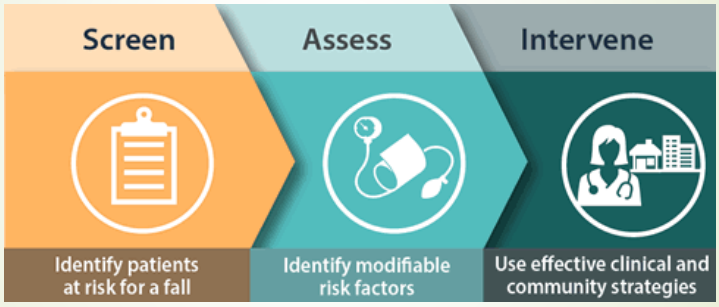
- Falls are the leading cause of injury & injury related deaths in adults 65+ (CDC, 2019)
  - Between 2007–2016, fall death rates increased **31%** (Burns, 2018)
  - 30 million falls/year (Florence, 2018); a fall death every 20 min
- Economic impact of falls = $50 billion medical costs/yr
- Falls can lead to decrease in health, social interactions & mobility. Falls -> Fear of Falling -> decrease Mobility
- Primary care practices need to systematically identify & address fall risk among their older patients.
- **EBP** – interventions (i.e., exercise), reduced medications & improve home safety. (Syst Rev -Gillespie, 2012/Tricco, 2017)

CDC **STEADI**

Stopping
Elderly
Accidents,
Deaths &
Injuries

Coordinated Care Plan to Prevent Older Adult Falls

- Fall prevention start-up in primary care
- Clinical fall prevention program components:
  - **Screen -> Assess -> Intervene**



- Follow-Up and Care Coordination (Eckstrom, 2019)

Case Study #1 – Mrs. Brown

78-year-old female who lives in her own home independently. She has come to your clinic for an annual senior wellness visit.

- **Medical History:**
  - What do you want to know?

Mrs. Brown – Medical History

- Poor vision (wears corrective bifocals)
- Orthostatic hypotension
- Hypothyroidism
- Urinary incontinence (nocturia 2x/night)
- Depression and anxiety
- Tachycardia
- Mild Stroke – 3 yrs ago

What are your concerns regarding Mrs. Brown's medical history in relation to her recent fall?

Mobility

What questions about Mrs. Brown mobility would you ask?

Primary Care Quick Screen of Mobility

- 1. **For health or physical reasons, do you have difficulty climbing up 10 steps or walking a ¼ of a mile?**
  - **Mrs. Brown – answered "No"**
- 2. **Because of underlying health or physical reasons, have you modified the way you climb 10 steps or walk ¼ of a mile?**
  - **Mrs. Brown – answered "No"**
- If yes, referral to healthcare for further **assessment/intervene** to address loss of mobility
  - PT – strength, balance, mobility & assistive devices
  - OT – daily living activities & living environment
  - Social support – to deal with lack of transportation/mobility barriers (Hardy, 2011)

Fall-Risk Screening

What would be an appropriate question to ask to screen for fall-risk?

Identify a self-assessment screening tool you might incorporate into her wellness visit to screen for fall risk?

Screen for Fall Risk

- **Three (3) key questions**: a "yes" response indicates that a person may be at increased risk of falling but, will need to be assessed further to identify specific fall risk factors (postural hypotension, medication, co-morbidities, etc.)
  - Have you fallen in the past year? (If so, how often?, how did it happen?)
  - Do you feel unsteady when standing or walking?
  - Are you worried about falling?
- **CDC's *Stay Independent Questionnaire/Checklist***
  - *4 or > "yes" responses may indicate > risk of falls*
- *If not at risk -> **Intervene**: educate in fall prevention, refer to community exercise program i.e., Senior Center or fall prevention program i.e., Stepping On.* *(CDC, 2019)*

Mrs. Brown's Fall History

- When asked, Mrs. Brown reports she fell outside when walking last week. She didn't get physically hurt but her pride was bruised. She wasn't paying attention to where she was stepping and tripped on a sidewalk crack. Mrs. Brown usually walks about 1/2 mile each day and feels fairly steady when walking. She usually tries to watch out for obstacles when not distracted (i.e., talking to walking partner, etc.) She's not afraid of falling when she is out walking on firm surface like the sidewalk. She has been wearing her sandals when walking. Mrs. Brown reports walking is her only real exercise presently.

CDC Fall Risk Checklist (Rubenstein 2011)

Check Your Risk for Falling

Circle "Yes" or "No" for each statement below			Why it matters
Yes (2)	No (0)	I have fallen in the past year.	People who have fallen once are likely to fall again.
Yes (2)	No (0)	I use or have been advised to use a cane or walker to get around safely.	People who have been advised to use a cane or walker may already be more likely to fall.
Yes (1)	No (0)	Sometimes I feel unsteady when I am walking.	Unsteadiness or needing support while walking are signs of poor balance.
Yes (1)	No (0)	I steady myself by holding onto furniture when walking at home.	This is also a sign of poor balance.
Yes (1)	No (0)	I am worried about falling.	People who are worried about falling are more likely to fall.
Yes (1)	No (0)	I need to push with my hands to stand up from a chair.	This is a sign of weak leg muscles, a major reason for falling.
Yes (1)	No (0)	I have some trouble stepping up onto a curb.	This is also a sign of weak leg muscles.
Yes (1)	No (0)	I often have to rush to the toilet.	Rushing to the bathroom, especially at night, increases your chance of falling.
Yes (1)	No (0)	I have lost some feeling in my feet.	Numbness in your feet can cause stumbles and lead to falls.
Yes (1)	No (0)	I take medicine that sometimes makes me feel light-headed or more tired than usual.	Side effects from medicines can sometimes increase your chance of falling.
Yes (1)	No (0)	I take medicine to help me sleep or improve my mood.	These medicines can sometimes increase your chance of falling.
Yes (1)	No (0)	I often feel sad or depressed.	Symptoms of depression, such as not feeling well or feeling slowed down, are linked to falls.
Total _____		Add up the number of points for each "yes" answer. If you scored 4 points or more, you may be at risk for falling.	

This checklist was developed by the Greater Los Angeles VA Geriatric Research Education Clinical Center and affiliates and is a validated fall risk self-assessment tool (Rubenstein et al. J Safety Res; 2011: 42(6)493-499). Adapted with permission of the authors.

Activities-Specific Balance Confidence (ABC) Scale – (Powell & Meyers, 1995)

- Self-report - Items are rated on a 0% to 100% whole number rating scale.
- Scores reflect overall perceived confidence.
  - 0 = no confidence; 100 = complete confidence.
- Total the ratings (possible range = 0-1600) and divide by 16 (number of items) to get the patient's overall % of balance confidence. Total ÷ 16 =_____ % of self-confidence (ABC score)
- At least 12 of the 16 items must be answered to calculate an ABC score. If items are skipped, only divide by the number of items completed.

ABC Scale

- Instructions: For each of the following, please indicate your level of confidence in doing the activity without losing your balance or becoming unsteady by choosing one of the percentage points on the scale from 0% to 100%. If you **do not currently do** the activity in question, try and imagine how confident you would be if you had to do the activity. If you **normally** use a walking aid to do the activity or hold onto someone, rate your confidence as if you were using these supports. If you have any questions about answering any of the items, please ask the administrator.
  0% 10 20 30 40 50 60 70 80 90 100%
  No Confidence Completely Confident

"How confident are you that you can maintain your balance and remain steady when you..."

- 1: ... walk around the house? ___%
- 2: ... walk up or down stairs? ___%
- 3: ... bend over and pick up a slipper from the front of a closet floor? ___%
- 4: ... reach for a small can off a shelf at eye level? ___%
- 5: ... stand on tip toes and reach for something above your head? ___%
- 6: ... stand on a chair and reach for something? ___%
- 7: ... sweep the floor? ___%
- 8: ... walk outside the house to a car parked in the driveway? ___%
- 9: ... get into or out of a car? ___%
- 10: ... walk across a parking lot to the mall? ___%
- 11: ... walk up or down a ramp? ___%
- 12: ... walk in a crowded mall where people rapidly walk past you? ___%
- 13: ... are bumped into by people as you walk through the mall? ___%
- 14: ... step onto or off of an escalator while you are holding onto a railing? ___%
- 15: ... step onto or off an escalator while holding onto parcels such that you cannot hold onto the railing? ___%
- 16: ... walk outside on icy sidewalks? ___%

Activities-Specific Balance Confidence (ABC) Scale

- Older Adults: Scores < 67% indicate risk for falling; accurately classify people who fall 84% of the time
  - >80% = high level of physical functioning;
  - 50-80% = moderate level of physical functioning;
  - < 50% = low level of physical functioning

(Lajoie, 2004; Meyers, 1998)

Mrs. Brown's Screening/Self-Assessment Results

- Three (3) Questions – Mrs. Brown answered "yes" to 1 of 3
- STEADI Fall Risk Checklist - Mrs. Booker circled "yes" to:
  - "I have fallen in the past year"
  - "I often have to rush to the toilet"
  - "I take medicine that sometimes makes me feel light-headed"
  - "I take medication to help me sleep or to improve my mood"
  - Fall Risk Score = 5
- Activity Balance Confidence (ABC) Scale = 70%
  - Lower scores with walking in crowds & when balance is challenged

Assess: Physical Exam

- What should be included in her physical examination during the wellness visit?
- What other factors should be assessed regarding Mrs. Brown's fall risk and balance?
- Identify an easy-to-use standardized assessment that could be used to assess Mrs. Brown's mobility and/or balance?

Assess Fall Risk & Mobility

https://www.cdc.gov/steadi/pdf/STEADI-Poster-Integrating-508-2019.pdf

- Early identification of mobility limitations is key! As loss of mobility is often preventable or treatable!
- Fall history - circumstances of the fall - where/when/how?
- Identify medications that may increase fall risk
- Assess Vitamin D intake
- Environmental assessment
  - https://www.cdc.gov/steadi/pdf/STEADI-Brochure-CheckForSafety-508.pdf
- Check vision acuity - ? bifocals
- Assess feet and footwear; posture
- Identify comorbidities that increase fall risk
  - cognitive, orthostatic hypotension, depression, etc.
- *Gait, strength, & **balance/mobility** tests
  - https://www.cdc.gov/steadi/pdf/STEADI-Form-RiskFactorsCk-508.pdf

Mrs. Brown – Physical Exam

- Vitals - Supine – 131/90, 105; Sitting – 139/77, 105; Standing – 145/96, 116. BMI 23.0.
- Posture – mild kyphosis, forward head; Height 5'5"
- Vision – wears bifocals, acuity R 20/30, L 20/40
- CV – regular rhythm, tachycardic
- Respiratory – clear
- GI – normal
- MS - Strength UE 5/5 & LE 5/5 except hip abd/flex & DF 4-/5
- NM – Mini-Cog = 2/3; tone/sensation/proprio/DTR's normal
- PHQ – 2 = 0/6

Mrs. Brown's – Current Medications
What are your concerns with these meds?

MEDICATION	DOSE	TIMING
Divalproex sodium DR	250 mg daily	daily
Warfarin	5 mg	daily
Lorazepam	.5 mg	BID
Levothyroxine	75 mcg	daily
Docusate	200 mg	daily
Acetaminophen	500 mg	4x daily

Mobility/Fall Risk Assessments

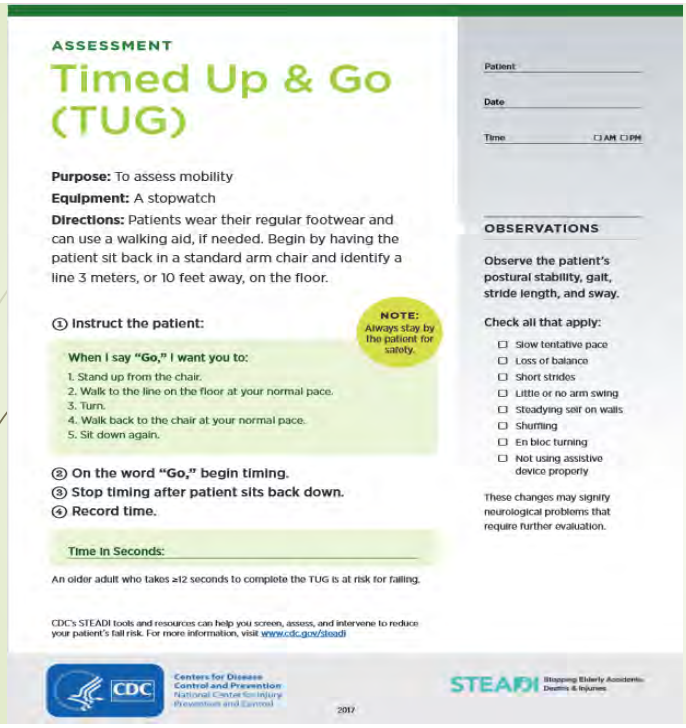
- **Timed Up & Go** (TUG) test
- **30-Second Chair Stand Test** (30sCST or 30sSTS)
  - (or) 5-times Sit to Stand Test (5xSTS/FTSTS)
- **4-Stage Balance Test** (FSBT) - standing
  - Feet together, semi-tandem, tandem and single leg stance

https://www.cdc.gov/steadi/materials.html

- **10-meter Walk Test (10MWT)**
  - Gait speed (m/sec) – "The 6th vital sign"

Timed Up and Go (TUG) Test

- Purpose: To assess mobility (Gait/Balance)
- Patient is asked to sit in a chair (17-18" in height), stand up, walk 10 ft (3m), turn around, walk back to the chair, and sit down. https://www.cdc.gov/steadi/pdf/STEADI-Assessment-TUG-508.pdf
- TUG instructional video on CDC STEADI site
  - https://youtu.be/BA7Y_oLEIGY
- Tester times the activity & observes movement quality
  - **12 seconds or >** indicates increased risk of falls
  - Slow tentative pace; Loss of balance; Short strides; Little or no arm swing; Steadying self on walls; Shuffling; En bloc turning; Not using assistive device properly.
- Barry (2015) – more useful to "rule in" falls than "rule out"



ASSESSMENT

Timed Up & Go (TUG)

Purpose: To assess mobility
Equipment: A stopwatch
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.

① **Instruct 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.

NOTE: Always stay by the patient for safety.

② **On the word "Go," begin timing.**
③ **Stop timing after patient sits back down.**
④ **Record time.**

Time in Seconds: _____

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

CDC's STEADI tools and resources can help you screen, assess, and intervene to reduce your patient's fall risk. For more information, visit www.cdc.gov/steadi

Patient _____
Date _____
Time ☐ AM ☐ PM

OBSERVATIONS

Observe the patient's postural stability, gait, stride length, and sway.

Check all that apply:
- ☐ Slow tentative pace
- ☐ Loss of balance
- ☐ Short strides
- ☐ Little or no arm swing
- ☐ Steadying self on walls
- ☐ Shuffling
- ☐ En bloc turning
- ☐ Not using assistive device properly

These changes may signify neurological problems that require further evaluation.

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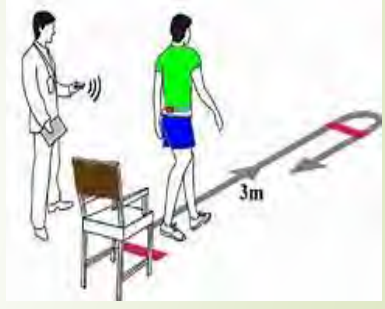
2017



30-second Chair Stand Test

- Purpose: To quantify functional leg strength/endurance & transfer skill.
- Individual is asked to sit in middle of a chair without arms (17" seat height), with feet flat on floor, cross arms on chest, when tester says "go" the person stands fully up & sit down repeatedly until the tester says "stop."
- The tester counts number of stands in 30 sec. If the individual is unable to stand with arms crossed the score = 0. A score below age norms is considered a fall risk. Instructional video - https://youtu.be/Ng-UOHjTejY

Age	Men	Women
65-69	<12	<11
70-74	<12	<10
75-79	<11	<10
80-84	<10	< 9
85-90	< 8	< 8
90-94	< 7	< 4

ASSESSMENT

30-Second Chair Stand

Purpose: To test leg strength and endurance

Equipment: A chair with a straight back without arm rests (seat 17" high), and a stopwatch.

NOTE: Stand next to the patient for safety.

① **Instruct the patient:**

1. Sit in the middle of the chair.
2. Place your hands on the opposite shoulder crossed, at the wrists.
3. Keep your feet flat on the floor.
4. Keep your back straight, and keep your arms against your chest.
5. On "Go," rise to a full standing position, then sit back down again.
6. Repeat this for 30 seconds.

② **On the word "Go," begin timing.**
If the patient must use his/her arms to stand, stop the test. Record "0" for the number and score.

③ **Count the number of times the patient comes to a full standing position in 30 seconds.**
If the patient is over halfway to a standing position when 30 seconds have elapsed, count it as a stand.

④ **Record the number of times the patient stands in 30 seconds.**

Number: Score:

CDC's STEADI tools and resources can help you screen, assess, and intervene to reduce your patient's fall risk. For more information, visit www.cdc.gov/steadi

Patient

Date

Time ☐AM ☐PM

SCORING

Chair Stand
Below Average Scores

AGE	MEN	WOMEN
60-64	< 14	< 12
65-69	< 12	< 11
70-74	< 12	< 10
75-79	< 11	< 10
80-84	< 10	< 9
85-89	< 8	< 8
90-94	< 7	< 4

A below average score indicates a risk for falls.

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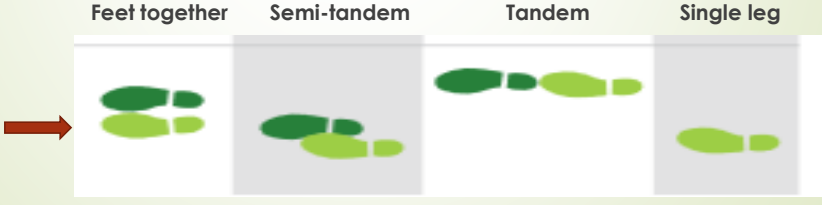
2017

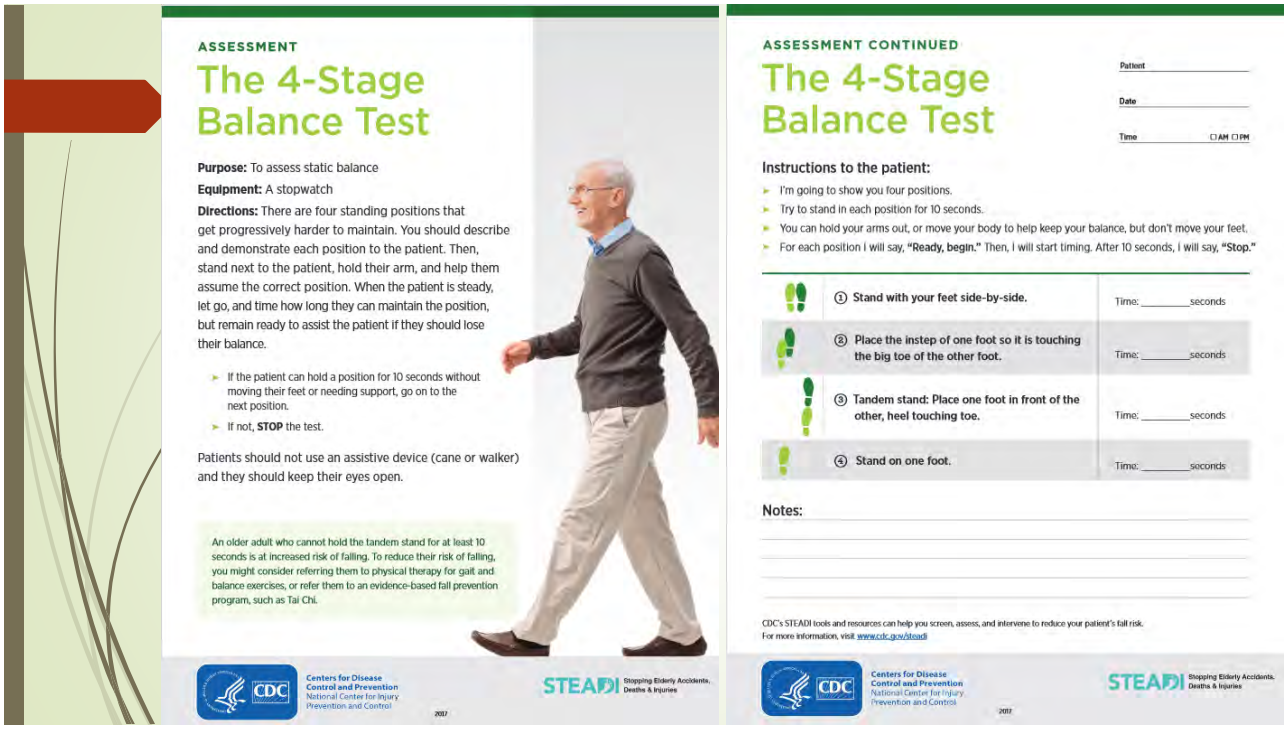
(or) Five Time Sit to Stand Test (5xSTS)

- Purpose: to assess functional lower extremity strength, transitional movements, balance, and fall risk
- Individual sits with their back against chair (17" height). Instruction are to "stand up straight as quickly as you can 5 times, without stopping in between. Keep your arms folded across your chest." Time with stopwatch & stop the test when the body touches down on 5th repetition. If unable to stand without use of arms score = 0.
- Age-Matched Norms:
  - Lower times = Better scores
  - **60-69** =11.4 sec; **70-79** =12.6 sec; **80-89** =14.8 sec
  - Fall Risk & need for further assessment: ≥ 12 sec (MCID = 2.3 sec)

Four Stage Balance Test (FSBT)

- Purpose: To assess static standing balance
- Individual is instructed to stand in four different positions (feet together, semi-tandem, tandem & one-legged stance) for 10 seconds each. The foot positions are in a progressive fashion, so testing can be stopped if the individual is unable to hold a position for the 10 seconds. Instructional video - https://youtu.be/3HvMLLIGY6c
- An older person that is unable to hold a Tandem position for 10 sec is at an increased risk of falling.





ASSESSMENT

The 4-Stage Balance Test

Purpose: To assess static balance

Equipment: A stopwatch

Directions: There are four standing positions that get progressively harder to maintain. You should describe and demonstrate each position to the patient. Then, stand next to the patient, hold their arm, and help them assume the correct position. When the patient is steady, let go, and time how long they can maintain the position, but remain ready to assist the patient if they should lose their balance.

- If the patient can hold a position for 10 seconds without moving their feet or needing support, go on to the next position.
- If not, **STOP** the test.

Patients should not use an assistive device (cane or walker) and they should keep their eyes open.

An older adult who cannot hold the tandem stand for at least 10 seconds is at increased risk of falling. To reduce their risk of falling, you might consider referring them to physical therapy for gait and balance exercises, or refer them to an evidence-based fall prevention program, such as Tai Chi.

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ASSESSMENT CONTINUED

The 4-Stage Balance Test

Patient _____

Date _____

Time _____ ☐ AM ☐ PM

Instructions to the patient:

- I'm going to show you four positions.
- Try to stand in each position for 10 seconds.
- You can hold your arms out, or move your body to help keep your balance, but don't move your feet.
- For each position I will say, **"Ready, begin."** Then, I will start timing. After 10 seconds, I will say, **"Stop."**

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 **Tandem stand: Place one foot in front of the other, heel touching toe.**	Time: _____seconds
④ **Stand on one foot.**	Time: _____seconds

Notes:

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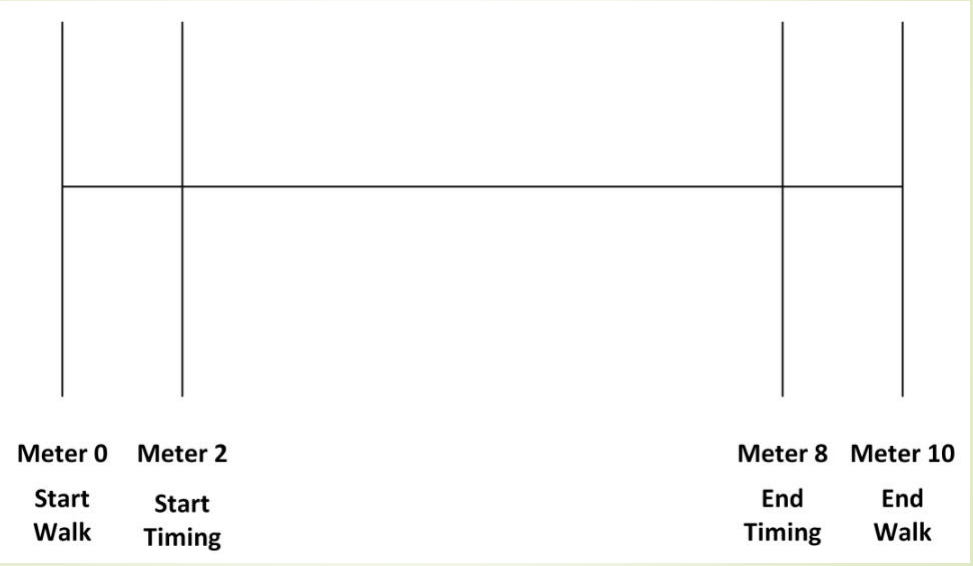
2017

10-Meter Walk Test (10MWT)

- Purpose: to assess walking speed over a short distance (m/sec)
- Individual walks without assistance 10 meters (32.8 ft) & the time is measured for the middle 6m (19.7 ft) to allow for 2m for acceleration & deceleration, timing starts when lead foot toes cross 2m mark, timing stops when lead foot toes cross 8m mark.
- Assistive devices can be used but should be kept consistent & documented test to test; no physical assistance given
- Preferred &/or fast walking speed can be tested. Collect 3 trials & calculate the average walking speed; 6m/avg sec
- Cutoff Scores (Healthy older adults): **< 0.7 m/s** is indicative of increased risk of adverse events (fall, hospitalization, etc.)
- **3-meter Walk Test (10ft)** if space is limited

(Montero-Odasso, 2005/Studenski, 2011/Guralmk,1994)

10MWT Layout



10MWT

Norms for Healthy Older Adults (Bohannon, 2011)

Decade	Men	Women
60s	1.34	1.24
70s	1.26	1.13
80's/90s	0.97	0.94

Case Study: Mrs. Brown's Test Results

- **TUG score** = 12.5 sec
- **30-sec Chair Stand Test** = 7 stands or **5xSTS** = 14 sec
- **FSBT**: Single-limb Stance = 3 sec; Tandem Stance = 7 sec; Semi-tandem = 10 sec; & Feet Together = 10 sec
- **10 MWT** = 0.9 m/sec without any assistive device

Identify which test results would indicate fall risk for Mrs. Brown?

Evidence-based Findings:

- Lusardi (2017) – Systematic Review/Meta-Analysis of community-dwellers 65 and older, found no single test predicted falls, but use of **history questions, self-reported measures** (i.e., **ABC scale**); **TUG >12 sec, 5xSTS >12 sec** and Berg Balance Scale score <50 pts **were the most evidenced supported measures to determine risk of future falls.**

What would be your recommendations for Mrs. Brown to help her maintain (improve) mobility & prevent future falls?

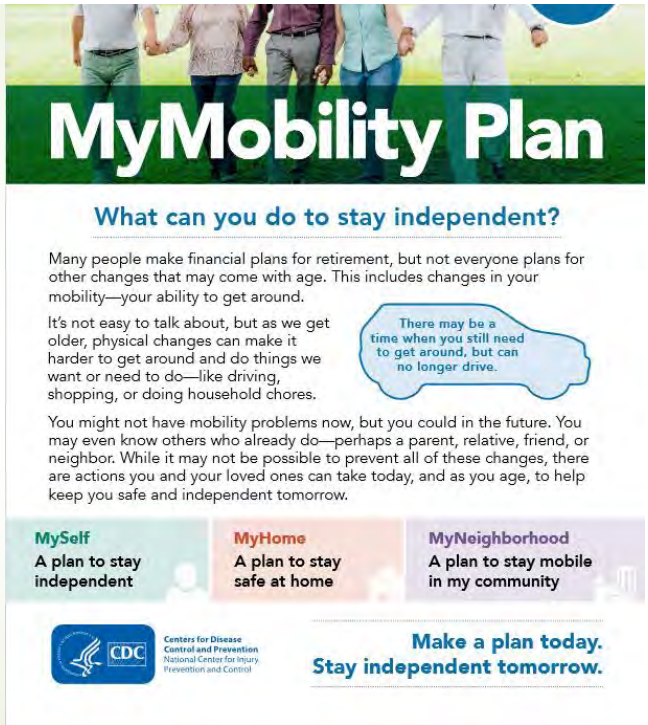
Intervene - Creating an individual mobility plan & environment that enables safe mobility for Mrs. Brown.

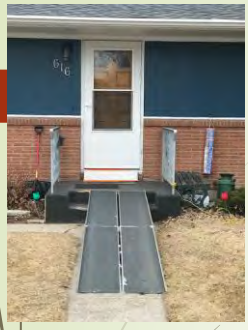
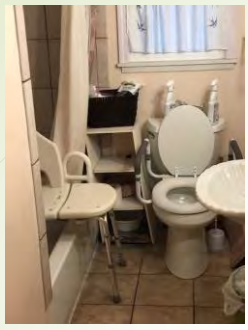
- 1. Evaluate **medications** & side effects. ? non-pharmacologic options for symptom & condition management.
- 2. Implement strategies to address urinary urgency & incontinence. Possible referral.
- 3. Recommend at least 800 IU of vitamin D daily supplement for fall risk reduction.
- 4. Educate on fall prevention & emphasize that a fall is not simply an "accident." Provide CDC fall prevention brochures "What YOU Can Do to Prevent Falls."
- 5. Recommend making home safe i.e., night lights in hall/bathroom, grab bars in bathroom, rails on stairs, no throw rugs, footwear, etc. (CDC Check for Safety brochure.)

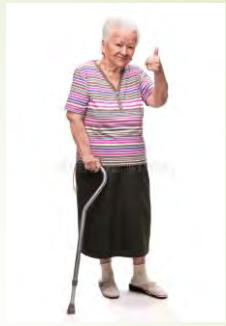
- 6. Chair rise exercise program to do daily to increase LE strength and balance. Refer to therapy if needed for more specific exercise program for impairments (hip abd/flex & ankle DF weakness).
  - Strong evidence supports resistance & balance exercises for improving mobility.
- 7. Refer to a 2-3x/wk community exercise, fitness, or fall prevention program to optimize leg strength & balance with exercises, instead of just walking. (CDC My Mobility)
- 8. Refer to an eye doctor for eye exam & updated prescription. ??getting a pair of single lens distance glasses for walking outside.
- 9. Identify and *set a daily mobility goal* with older adult that supports What Matters; review and support progress toward the goal. Follow up!

CDC: STEADI Program MyMobility Plan

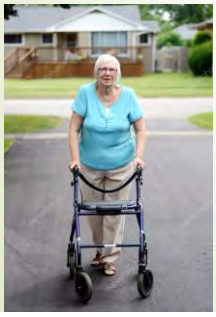
- MySelf
- MyHome
- MyNeighborhood

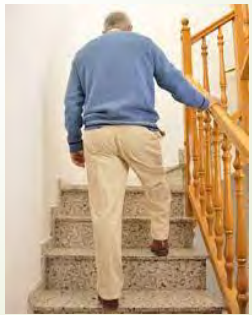





Case: **Mobility**, What Matters, Mentation & Medication






STEADI Algorithm for Fall Risk Screening, Assessment, and Intervention among Community-Dwelling Adults 65 years and older

START HERE

1 SCREEN for fall risk yearly, or any time patient presents with an acute fall.

Available Fall Risk Screening Tools:

- **Stay Independent: a 12-question tool** [at risk if score ≥ 4]
  - **Important:** If score < 4, ask if patient fell in the past year (If **YES** → patient is at risk)
- **Three key questions** for patients [at risk if **YES** to any question]
  - Feels unsteady when standing or walking?
  - Worries about falling?
  - Has fallen in past year?
    - If **YES** ask, "How many times?" "Were you injured?"

SCREENED NOT AT RISK

PREVENT future risk by recommending effective prevention strategies.

- Educate patient on fall prevention
- Assess vitamin D intake
  - If deficient, recommend daily vitamin D supplement
- Refer to community exercise or fall prevention program
- Reassess yearly, or any time patient presents with an acute fall

SCREENED AT RISK

2 ASSESS patient's modifiable risk factors and fall history.

Common ways to assess fall risk factors are listed below:

Evaluate gait, strength, & balance
Common assessments:
- Timed Up & Go
- 4-Stage Balance Test
- 30-Second Chair Stand

Identify medications that increase fall risk
(e.g., Beers Criteria)

Ask about potential home hazards
(e.g., throw rugs, slippery tub floor)

Measure orthostatic blood pressure
(Lying and standing positions)

Check visual acuity
Common assessment tool:
- Snellen eye test

Assess feet/footwear

Assess vitamin D intake

Identify comorbidities
(e.g., depression, osteoporosis)

3 INTERVENE to reduce identified risk factors using effective strategies.

Reduce identified fall risk
- Discuss patient and provider health goals
- Develop an individualized patient care plan (see below)

Below are common interventions used to reduce fall risk:

Poor gait, strength, & balance observed
- Refer for physical therapy
- Refer to evidence-based exercise or fall prevention program (e.g., Tai Chi)

Medication(s) likely to increase fall risk
- Optimize medications by stopping, switching, or reducing dosage of medications that increase fall risk

Home hazards likely
- Refer to occupational therapist to evaluate home safety

Orthostatic hypotension observed
- Stop, switch, or reduce the dose of medications that increase fall risk
- Educate about importance of exercises (e.g., foot pumps)
- Establish appropriate blood pressure goal
- Encourage adequate hydration
- Consider compression stockings

Visual impairment observed
- Refer to ophthalmologist/optometrist
- Stop, switch, or reduce the dose of medication affecting vision (e.g., anticholinergics)
- Consider benefits of cataract surgery
- Provide education on depth perception and single vs. multifocal lenses

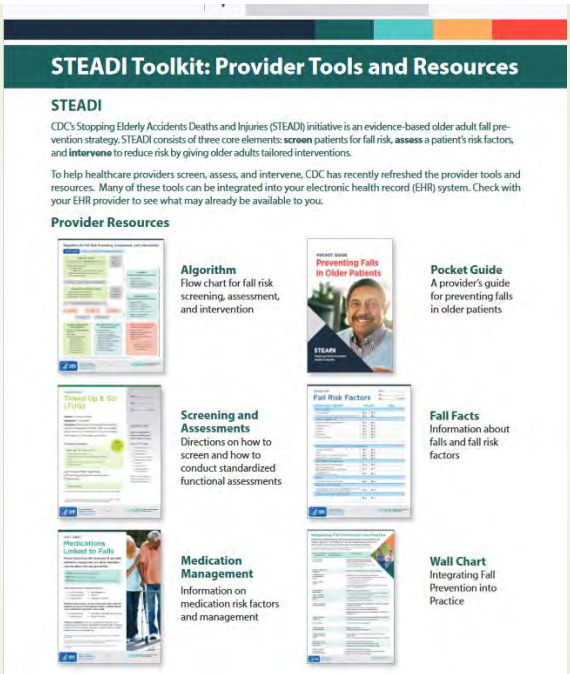
Feet/footwear issues identified
- Provide education on shoe fit, traction, insoles, and heel height
- Refer to podiatrist

Vitamin D deficiency observed or likely
- Recommend daily vitamin D supplement

Comorbidities documented
- Optimize treatment of conditions identified
- Be mindful of medications that increase fall risk

FOLLOW UP with patient in 30-90 days.
Discuss ways to improve patient receptiveness to the care plan and address barrier(s)

CDC Centers for Disease Control and Prevention National Center for Injury Prevention and Control



STEADI Toolkit: Provider Tools and Resources

STEADI

CDC's Stopping Elderly Accidents Deaths and Injuries (STEADI) initiative is an evidence-based older adult fall prevention strategy. STEADI consists of three core elements: **screen** patients for fall risk, **assess** a patient's risk factors, and **intervene** to reduce risk by giving older adults tailored interventions.

To help healthcare providers screen, assess, and intervene, CDC has recently refreshed the provider tools and resources. Many of these tools can be integrated into your electronic health record (EHR) system. Check with your EHR provider to see what may already be available to you.

Provider Resources

Algorithm
Flow chart for fall risk screening, assessment, and intervention

Pocket Guide
A provider's guide for preventing falls in older patients

Screening and Assessments
Directions on how to screen and how to conduct standardized functional assessments

Fall Facts
Information about falls and fall risk factors

Medication Management
Information on medication risk factors and management

Wall Chart
Integrating Fall Prevention into Practice

What are the benefits of encouraging mobility and educating fall prevention to Mrs. Brown?

Benefits of Encouraging & Promoting Mobility in the Older Population

- Decrease risk of falls
- Improve cardiovascular condition
- Weight control
- Mental health benefits
- Increase social engagement
- Improve flexibility
- Bone density improved
- Improved overall function (i.e., self-care & independence)

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