DENVER HEALTH MEDICAL PLAN INC.™

PREVENTIVE CARE GUIDELINE

Guideline Number: DHMP_DHMC_PG1008 **Effective Date: 11/1/2021**

Guideline Subject: Fall Prevention Guideline for 65+ & Above **Revision Date: 11/1/2022**

Gregg Kamas 10/1/2021

Quality Management Committee Chair **Date**

I. PURPOSE:

Falls are the leading cause of injury in adults age 65 years and older, and one fourth of older adults fall each year. Falls go without clinical attention for many reasons: the patient doesn't report the fall to a health care provider, there is no injury at the time of the fall, the provider fails to ask about falls, or either the provider or patient erroneously believes that falls are a part of the aging process. Many times, treatment of injuries as a result of a fall does not include an assessment about the cause of the fall. A number of physical conditions and environmental stimuli that predispose older individuals to falls are modifiable. Providers need to routinely ask about falls, assess for fall risk, and address modifiable underlying risk factors.

The incidence of falls increases with age and varies according to living status. 30-40% of community-dwelling people over age 65 fall each year. For those over age 80 that number increases to 50%. Fall related injuries are associated with a decline in functional status, increased likelihood of nursing home placement, greater use of medical services, and is the 5th leading cause of death in older adults. Source: www.uptodate.com

II. POPULATION:

Older adult's ≥65 years with an encounter with a health care provider. This is designed to be used in the clinical setting for assessment and intervention to reduce falls.

III. GUIDELINE:

A. Screening:

Fall risk screening is a required element of the annual visit. It is one of the topics members are asked about for Medicare Star Rating assessment of plan performance.

1. Screening should occur at least once a year. Information can be obtained from the individual member or caregiver necessary. All older adult members (≥65years) should be asked:
   - Have you fallen in the past year?
   - Do you have any difficulties with walking or balance?

2. If the member reports a fall they should be asked about the frequency and circumstances of the fall(s.)

3. If the member presents for medical attention because of a fall, reports recurrent falls in the past year, or reports difficulties in walking or balance a multifactorial fall risk assessment should be completed. (See below)

4. Gait and balance should be evaluated for members who have fallen. Deficits in gait and balance are the most predictive risk factors for falls. If the member performs poorly, has difficulty, demonstrates unsteadiness in gait and balance evaluation, or is unable to perform the standardized gait and balance test, they should receive a multifactorial fall risk assessment. Gait and balance can be evaluated using one of the available assessment tools such as:
   - Timed up / Get up and go test
   - Functional Reach Test
   - Berg balance scale
   - 4-Stage Balance Test
   - 30-second Chair Stand Test
   - Performance-oriented mobility assessment (POMA)

5. Members reporting only a single fall and reporting or demonstrating no difficulty or unsteadiness during the evaluation of gait and balance do not require a fall risk assessment.

NOTE:

This guideline is designed to assist providers by providing an analytical framework for the evaluation and treatment of patients, and is not intended either to replace a clinicians judgment or to establish a protocol for all patients with a particular condition.

B. Multi-factorial Fall Risk Assessment:
The multifactorial fall risk assessment is to be performed by a clinician (or clinicians) with appropriate skills and training. The assessment should include the following:
1. Focused History:
- History of falls: detailed description of the circumstances of the fall(s), frequency, symptoms at time of fall, injuries, other complications
- Medication review: all prescribed and over-the-counter medications with dosages
- History of relevant risk factors: acute or chronic medical problems, risk factors

2. Physical Examination:
- Detailed assessment of gait, balance, mobility levels, and lower extremity joint function
- Neurological function: cognitive evaluation, lower extremity peripheral nerves, proprioception, reflexes, tests of cortical, extrapyramidal and cerebellar function
- Muscle strength (lower extremities)
- Cardiovascular status: heart rate and rhythm, postural pulse and blood pressure, and if appropriate, heart rate and blood pressure responses to carotid sinus stimulation
- Assessment of visual acuity
- Examination of the feet and footwear

3. Environmental Assessment:
- Environmental assessment including home safety

4. Functional Assessment:
- Assessment of activities of daily living (ADL) skills including use of adaptive equipment and mobility aids, as appropriate
- Assessment of the individuals perceived functional ability and fear related to falling
- Assessment of current activity levels with attention to the extent to which concerns about falling are protective or contributing to deconditioning and/or compromised quality of life.

C. Identification of Risk Factors:
If identified as high risk for falls, the patient should be assessed for known risk factors. The purpose of the assessment is to allow the provider to develop an intervention plan and follow-up to the individual risk. Risk factors can be extrinsic or intrinsic.
1. Known risk factors include (can be intrinsic or extrinsic):
- Past history of a fall, taking multiple medications, psychotropic drug use, problems with gait/balance/mobility, lower-extremity weakness, age, female gender, history of stroke, orthostatic hypotension, anemia, impaired vision, neurologic impairment, functional/cognitive impairment, reduced muscle strength, problems with heart rate or rhythm, foot problems, depression, dizziness, low body mass, urinary incontinence, >80years of age, environmental hazards, lack of safety equipment, vitamin D deficiency

2. Factors associated with increased risk for falls with major injuries:

- Fall associated with syncope, history of previous fall with injury, decreased executive function
- Osteoporosis

3. The risk assessment should be followed by interventions to modify any identified risks. An appropriate physical activity program should also be included in the plan of care.
4. Many risk factors can be changed or modified to help prevent falls. Falls are typically caused by a combination of risk factors. Higher risk for falls is associated with more risk factors present.

D. Interventions:
1. The multifactorial fall risk assessment should be followed by direct interventions tailored to the identified risk factors, coupled with an appropriate exercise program.
2. Effective interventions include:

- Adaptation or modification of home environment: mitigation of hazards in the home, evaluation and intervention to promote safe performance of daily activities
  - Home Safety evaluations can be ordered and accessed through a home health referral
  - Referral for/use of appropriate DME in the home (may vary depending on member coverage)
- Medication review/poly-pharmacy: withdrawal or minimization of psychoactive medications and other medications
- Management of postural hypotension
- Evaluation and management of cardiovascular status and risk/presence of recurrent unexplained falls
- Management of foot problems and footwear
- Exercise: particularly balance, strength, and gait training such as Tai chi
- Education: not as a single intervention, but as an additional tool to address issues specific to the intervention provided and tailored to the needs of the individual (cognitive function and language).

3. Fitness: exercise has been shown to reduce the risk for fall. All members at risk of falling should be offered resources to coordinate an exercise program incorporating balance, gait, and strength training. Flexibility and endurance should also be emphasized, but not as sole components of the program.

- Fitness Programs:
  - Silver Sneakers: provides access to participating gyms (specifically through the City of Denver)
  - Denver Parks and Recreation provides free gym memberships for Denver residents ages 60 and up
  - Health Coaching: educational classes; learn & burn, etc.
  - Physical Therapy
  - Other resources/information can be accessed through member services, patient navigators, provider office or DHMP website
  - Can be either group or individual
  - Tailored to the physical capabilities/health of the member
  - Completed by a qualified professional
  - Re-evaluated for effectiveness, progression, and adjustment

4. Vitamin D: All adults aged 65 and older should receive an adequate daily intake of vitamin D (800-2000 IU per day), which has been associated with a reduced risk of falls. There is no need to screen healthy older adults for vitamin D deficiency; supplementation is the most cost-effective strategy.

IV. ATTACHMENTS:

STEADI Provider Pocket Guide
STEADI Falls Algorithm
STEADI Fall Risk Checklist
STEADI Fact Sheet Talking with Your Patients
STEADI 4 Stage Balance Test
STEADI 30 Second Chair Stand Assessment
STEADI Timed Up and Go Assessment
Functional Reach Test
Get Up and Go Assessment
Tinetti- Performance Oriented Mobility Assessment (POMA)

V. REFERENCES:

Kiel, D. M. (2021, July 12). *Up to Date*. (K. E. Schmader, Editor) Retrieved July 2021, from Falls in Older Persons: Risk factors and patient evaluation: https://www.uptodate.com/contents/falls-in-older-persons-risk-factors-and-patient-evaluation?source=see_link

Kiel, D. M. (2021, March 03). *UpToDate*. (K. E. Schmader, Editor) Retrieved July 2021, from Falls: Prevention in community-dwelling older persons: https://www.uptodate.com/contents/falls-prevention-in-community-dwelling-older-persons

STEADI (Stopping Elderly Accidents, Deaths & Injuries) Tool Kit for Health Care Providers. Retrieved July 2021, from STEADI- Older Adult Fall Prevention:https://www.cdc.gov/steadi/index.html

Talking With Your Patients About Falls

- Help patients understand their own unique fall risk.
- Educate patients on their modifiable risk factors and corresponding fall prevention strategies.
- Emphasize that fall prevention can help them remain independent.
- Discuss with patients which strategies they might be willing to do.
- Work with patients and caregivers to develop a plan for fall prevention.

STEADI Resources for Your Patients

Available patient-friendly brochures:

- Stay Independent
- Postural Hypotension: What it is & How to Manage it
- Check for Safety
- What YOU Can Do to Prevent Falls

Key Facts About Falls

- One in four older adults age 65+ falls every year.
- Falls are the leading cause of injury deaths for older adults.
- Many patients who have fallen do not bring it up at medical appointments, so providers need to ask.

Each year, ask your older patients:

- Have you **fallen in the past year?**
- Do you feel **unsteady** when standing or walking?
- Do you **worry** about falling?

For more patient and provider resources, visit www.cdc.gov/steadi.

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POCKET GUIDE

Preventing Falls in Older Patients

STEADI

Stopping Elderly Accidents, Deaths & Injuries

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 • 30-Second Chair Stand • 4-Stage Balance Test
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)

RESOURCE

Algorithm

for Fall Risk Screening, Assessment, and Intervention

As a healthcare provider, you are already aware that falls are a serious threat to the health and well-being of your older patients.

More than one out of four people 65 and older fall each year, and over 3 million are treated in emergency departments annually for fall injuries.

The CDC's STEADI initiative offers a coordinated approach to implementing the American and British Geriatrics Societies' clinical practice guideline for fall prevention. STEADI consists of three core elements: **Screen**, **Assess**, and **Intervene** to reduce fall risk.

The **STEADI Algorithm for Fall Risk Screening, Assessment, and Intervention** outlines how to implement these three elements.

Additional tools and resources include:

- Information about falls
- Case studies
- Conversation starters
- Screening tools
- Standardized gait and balance assessment tests (with instructional videos)
- Educational materials for providers, patients, and caregivers
- Online continuing education
- Information on medications linked to falls
- Clinical decision support for electronic health record systems

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.

You play an important role in caring for older adults, and you can help reduce these devastating injuries.

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STEADI Stopping Elderly Accidents, Deaths & Injuries

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

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  - **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
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- 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
- 30-Second Chair Stand
- 4-Stage Balance Test

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.

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- 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
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- 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)

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CHECKLIST

Fall Risk Factors

Patient _____

Date _____

Time _____ ☐ AM ☐ PM

Fall Risk Factor Identified	Present?		Notes
FALLS HISTORY			
Any falls in past year?	☐ Yes	☐ No	
Worries about falling or feels unsteady when standing or walking?	☐ Yes	☐ No	
MEDICAL CONDITIONS			
Problems with heart rate and/or arrhythmia	☐ Yes	☐ No	
Cognitive impairment	☐ Yes	☐ No	
Incontinence	☐ Yes	☐ No	
Depression	☐ Yes	☐ No	
Foot problems	☐ Yes	☐ No	
Other medical problems	☐ Yes	☐ No	
MEDICATIONS (PRESCRIPTIONS, OTCs, SUPPLEMENTS)			
Psychoactive medications	☐ Yes	☐ No	
Opioids	☐ Yes	☐ No	
Medications that can cause sedation or confusion	☐ Yes	☐ No	
Medications that can cause hypotension	☐ Yes	☐ No	
GAIT, STRENGTH & BALANCE			
Timed Up and Go (TUG) Test ≥12 seconds	☐ Yes	☐ No	
30-Second Chair Stand Test: Below average score based on age and gender	☐ Yes	☐ No	
4-Stage Balance Test: Full tandem stance <10 seconds	☐ Yes	☐ No	
VISION			
Acuity <20/40 OR no eye exam in >1 year	☐ Yes	☐ No	
POSTURAL HYPOTENSION			
A decrease in systolic BP ≥20 mm Hg, or a diastolic BP of ≥10 mm Hg, or lightheadedness, or dizziness from lying to standing	☐ Yes	☐ No	
OTHER RISK FACTORS (SPECIFY BELOW)			
	☐ Yes	☐ No	

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FACT SHEET

Talking about Fall Prevention with Your Patients

Many fall prevention strategies call for patients to change their behaviors by:

- Changing their medications
- Attending a fall prevention program
- Doing prescribed exercises
- Changing their home environment

We know that behavior change is difficult. Traditional advice and patient education often does not work.

The Stages of Change model is used to assess an individual's readiness to act on a new, healthier behavior. Research on the change process depicts patients as always being in one of the five "stages" of change.

Behavior change is seen as a dynamic process involving both cognition and behavior that moves a patient from being uninterested, unaware, or unwilling to make a change (precontemplation); to considering a change (contemplation); to deciding and preparing to make a change (preparation); to changing behavior in the short term (action); and to continuing the new behavior for at least 6 months (maintenance).

The Stages of Change model has been validated and applied to a variety of behaviors, including:

- Exercise behavior
- Smoking cessation
- Contraceptive use
- Dietary behavior

Stages of Change Model

STAGE OF CHANGE:	PATIENT COGNITION AND BEHAVIOR:
Precontemplation	Does not think about change, is resigned or fatalistic Does not believe in, or downplays personal susceptibility
Contemplation	Weighs benefits vs. costs of proposed behavior change
Preparation	Experiments with small changes
Action	Takes definitive action to change
Maintenance	Maintains new behavior over time

Adapted from: Prochaska JO, Velicer WF. The transtheoretical model of health behavior change. *Am J Health Promot* 1997;12(1):38-48.

When talking with a patient, applying the Stages of Change model can help you match your advice about fall prevention to your patient's stage of readiness.

The following sections give examples of patient-provider exchanges for each of the first four stages, and offer possible responses to help move the patient from one stage to another. The maintenance stage is not included because older adults are most often in the early stages of behavior change for fall prevention.

Examples of Conversations about Fall Prevention

PRECONTEMPLATION STAGE:	PATIENT SAYS:	PROVIDER SAYS:
The patient doesn't view him or herself as being at risk of falling. Goal: The patient will begin thinking about change. **To move the patient to the contemplation stage, provide information, and explain the reasons for making changes.**	Falls just happen when you get old.	It's true that falling is very common. About a third of all seniors fall each year, but you don't have to fall. There are specific things you can do to reduce your chances of falling.
	Falling is just a matter of bad luck. I just slipped. That could have happened to anybody.	As we age, falls are more likely for many reasons, including changes in our balance and how we walk.
	My 92-year-old mother is the one I'm worried about, not myself.	Taking steps to prevent yourself from falling sooner rather than later can help you stay independent.
	It was an accident. It won't happen again because I'm being more careful.	Being careful is always a good idea, but it's usually not enough to keep you from falling. There are many things you can do to reduce your risk of falling.
	I took a Tai Chi class, but it was too hard to remember the forms.	Maybe you'd enjoy taking a balance class instead.

Examples of Conversations about Fall Prevention

CONTEMPLATION STAGE:	PATIENT SAYS:	PROVIDER SAYS:
The patient is considering the possibility that he or she may be at risk of falling. Goal: Patient will examine benefits and barriers to change. **To move the patient to the preparation stage, make specific suggestions, be encouraging, and enlist support from the family.**	I'd like to exercise, but I don't because I'm afraid I'll get too tired.	You can reduce your chances of falling by doing strength and balance exercises as little as 3 times a week, and you don't have to overexert yourself to benefit. You can do these exercises at home, or I can recommend some exercise classes near you.
	My friend down the street fell and ended up in a nursing home.	Preventing falls can also prevent broken hips and help you stay independent.
	I have so many other medical appointments already.	I have patients very much like you who do these exercises to prevent falls. These types of exercises only take a few minutes a day.
	I already walk for exercise.	Walking is terrific exercise for keeping your heart and lungs in good condition, but it may not prevent you from falling.
	I don't want to ask my daughter to drive me to the exercise class. Getting to the senior center is so hard now that I don't drive. I have to take care of my husband. I don't have time for this.	There are quite a few simple exercises you can do to keep yourself from falling. They don't take a lot of time and you don't have to rely on other people. You don't even have to leave your own home.

The National Institute on Aging has free exercise and physical activity resources for older adults.
Go to: www.nia.nih.gov/health/publication/exercise-physical-activity/introduction

Examples of Conversations about Fall Prevention

PREPARATION STAGE:	PATIENT SAYS:	PROVIDER SAYS:
The patient considers him or herself to be at risk of falling and is thinking about doing something about it. Goal: Patient will begin to consider specific changes. **To move the patient to the action stage, help the patient set specific goals and create an action plan. Reinforce the progress the patient has made.**	I'm worried about falling. Do you think there's anything I can do to keep from falling?	Let's look at some factors that may make you likely to fall, and talk about what you could do about one or two of them. Here's CDC's *What YOU Can Do to Prevent Falls* brochure. Why don't you go over it with your spouse?
	I read that some medicines can make you dizzy. Do you think any of mine might be a problem?	Many seniors say they'd prefer to take fewer medicines. Let's go over yours and see if we can reduce or eliminate any of them.

ACTION STAGE:	PATIENT SAYS:	PROVIDER SAYS:
The patient considers him or herself to be at risk of falling and is ready to do something about it. Goal: Patient will take definite action to change. **Facilitate change. Provide specific resources, support, and encouragement to help the patient to adopt new behaviors.**	I know a fall can be serious. What can I do to keep from falling and stay independent?	I'm going to fill out a referral form for a specialist who can help you [increase your balance; improve your vision; find shoes that make walking easier]. Someone from the office will call you in about a month to see how you're doing.
	I want to take a fall prevention class. What do you recommend?	I'm glad that you're interested in taking a class. Please see the nurse before you leave. She'll give you a list of recommended programs near you.
	I know I'd feel safer if I had grab bars put in my shower.	I'm glad that you're thinking of installing grab bars. CDC's *Check for Safety* brochure can help you identify home hazards, and suggest ways to make other changes to prevent falls.

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.

Adapted from: Zimmerman GL, Olsen CG, Bosworth MF. A 'Stages of Change' approach to helping patients change behavior. *American Family Physician* 2000;61(5):1409-1416.

ASSESSMENT

The 4-Stage Balance Test

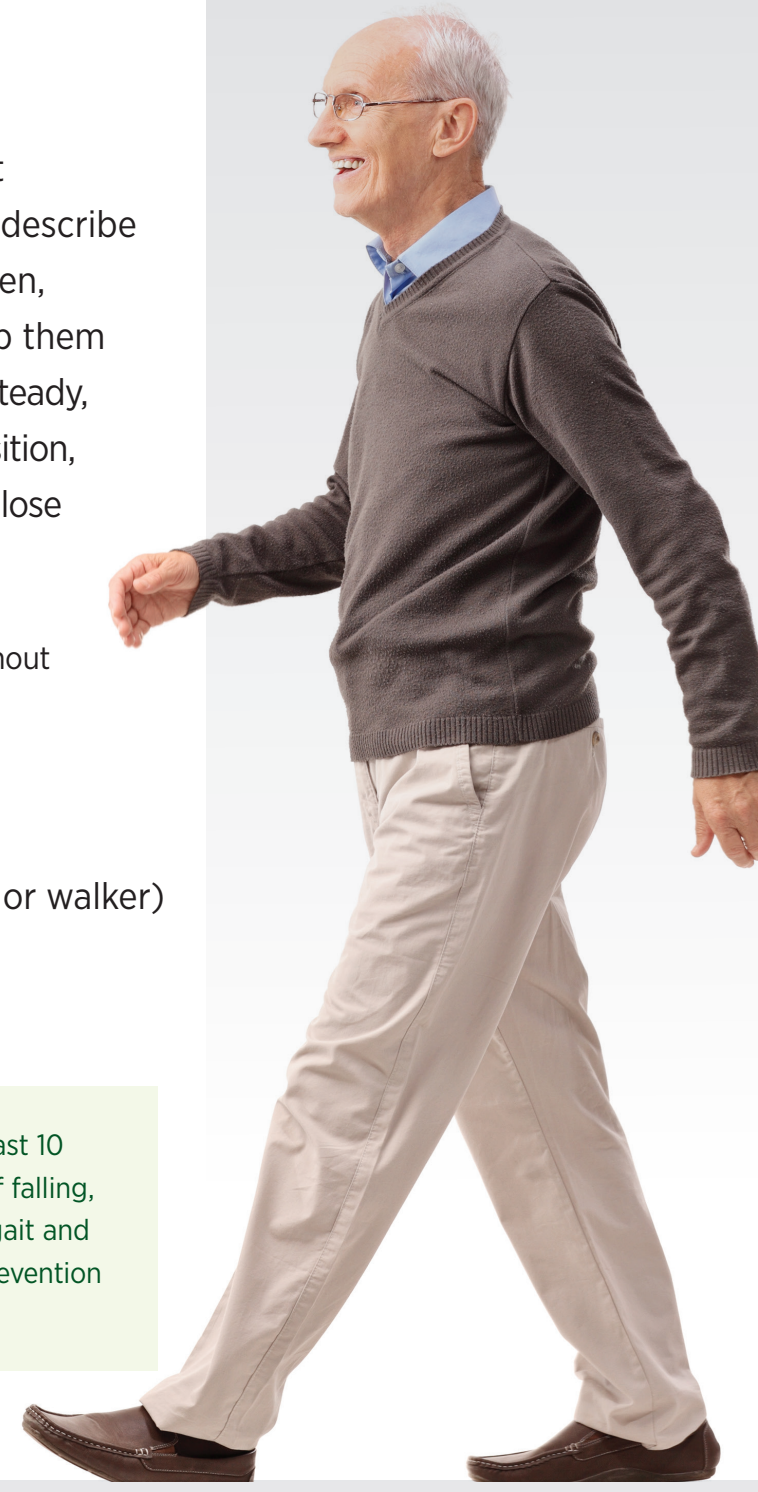
Purpose: To assess static balance

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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ASSESSMENT

30-Second Chair Stand

Patient _____

Date _____

Time _____ ☐ AM ☐ PM

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: _____

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.

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

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ASSESSMENT

Timed Up & Go (TUG)

Patient _____

Date _____

Time _____ ☐ AM ☐ PM

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.

NOTE: Always stay by the patient for safety.

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.

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.

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

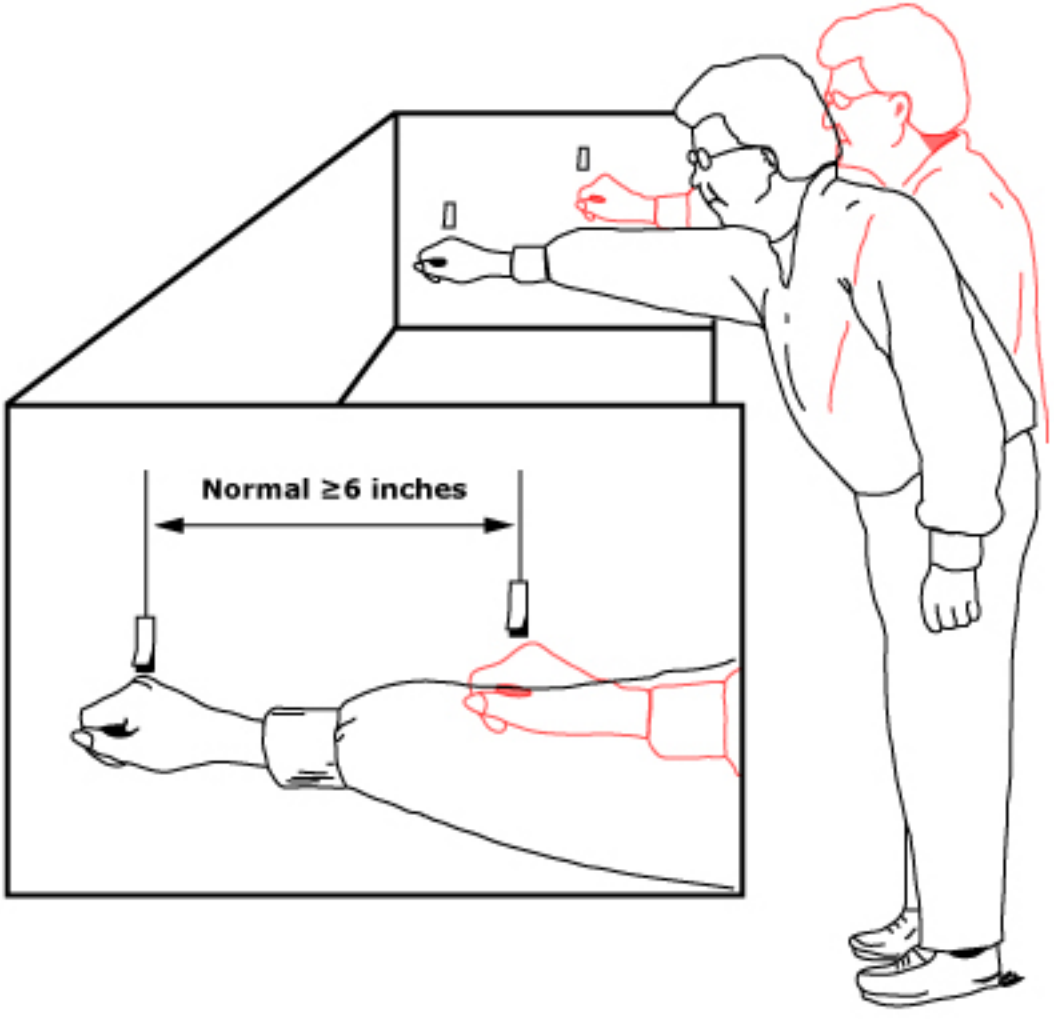
These changes may signify neurological problems that require further evaluation.

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

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

2017

STEADI Stopping Elderly Accidents, Deaths & Injuries


Normal ≥6 inches

The "Get up and go" test for gait assessment in older adult patients

The "Get up and go" test for gait assessment in older adult patients [1]	
Have the patient sit in a straight-backed high-seat chair	
Instructions for patient:	
Get up (without use of armrests, if possible)	
Stand still momentarily	
Walk forward 10 feet (3 meters)	
Turn around and walk back to chair	
Turn and be seated	
Factors to note:	
Sitting balance	
Transfers from sitting to standing	
Pace and stability of walking	
Ability to turn without staggering	
Modified qualitative scoring [2]	
(1) No fall risk	Well-coordinated movements, without walking aid
(2) Low fall risk	Controlled, but adjusted movements
(3) Some fall risk	Uncoordinated movements
(4) High fall risk	Supervision necessary
(5) Very high fall risk	Physical support of stand by physical support necessary
Timed test reference values (record time from initial rising to re-seating) [3]	
Age (years)	**Mean time in seconds (95% CI)**
60 to 69	8.1 (7.1 to 9.0)
70 to 79	9.2 (8.2 to 10.2)
80 to 99	11.3 (10.0 to 12.7)

Sources:

1. *Reproduced with permission from: Fleming KC, Evand JM, Weber DC, Chutka DS. Practical Functional Assessment of Elderly Persons: A Primary-Care Approach [Symposium on Geriatrics-Part III]. Mayo Clinic Proceedings 1995; 70:890. Copyright © 1995 Mayo Foundation.*
2. *From: Nordin E, Lindelöf N, Rosendahl E. Prognostic validity of the Timed Up-and-Go test, a modified Get-Up-and-Go test, staff's global judgement and fall history in evaluating fall risk in residential care facilities. Age Ageing 2006; 37:442. By permission of the British Geriatrics Society. Copyright © 2013 Oxford University Press.*
3. *Data from: Bohannon RW. Reference Values for the Timed Up and Go Test: A Descriptive Meta-Analysis. J Geriatr Phys Ther 2006; 29:64.*

Tinetti Performance Oriented Mobility Assessment (POMA)*

Description:
The Tinetti assessment tool is an easily administered task-oriented test that measures an older adult's gait and balance abilities.

Equipment needed: Hard armless chair
Stopwatch or wristwatch
15 ft walkway

Completion:

Time: 10-15 minutes

Scoring: A three-point ordinal scale, ranging from 0-2. "0" indicates the highest level of impairment and "2" the individuals independence.
Total Balance Score = 16
Total Gait Score = 12
Total Test Score = 28

Interpretation:

25-28 = low fall risk
19-24 = medium fall risk
< 19 = high fall risk

* Tinetti ME. Performance-oriented assessment of mobility problems in elderly patients. *JAGS* 1986; 34: 119-126. (Scoring description: PT Bulletin Feb. 10, 1993)

Tinetti Performance Oriented Mobility Assessment (POMA)

- Balance Tests -

Initial instructions: Subject is seated in hard, armless chair. The following maneuvers are tested.

1.	**Sitting Balance**	Leans or slides in chair	=0	
		Steady, safe	=1	_____
2.	**Arises**	Unable without help	=0	
		Able, uses arms to help	=1	
		Able without using arms	=2	_____
3.	**Attempts to Arise**	Unable without help	=0	
		Able, requires > 1 attempt	=1	
		Able to rise, 1 attempt	=2	_____

4. **Immediate Standing Balance** (first 5 seconds)

Unsteady (swaggers, moves feet, trunk sway)	=0	
Steady but uses walker or other support	=1	
Steady without walker or other support	=2	_____

5. **Standing Balance**

Unsteady	=0	
Steady but wide stance(medial heals > 4 inches apart) and uses cane or other support	=1	
Narrow stance without support	=2	_____

6. **Nudged** (subject at maximum position with feet as close together as possible, examiner pushes lightly on subject's sternum with palm of hand 3 times)

Begins to fall	=0	
Staggers, grabs, catches self	=1	
Steady	=2	_____

7. **Eyes Closed** (at maximum position of item 6)

Unsteady	=0	
Steady	=1	_____

8.	**Turing 360 Degrees**	Discontinuous steps	=0	
		Continuous steps	=1	_____
		Unsteady (grabs, staggers)	=0	
		Steady	=1	_____

9. **Sitting Down**

Unsafe (misjudged distance, falls into chair)	=0	
Uses arms or not a smooth motion	=1	
Safe, smooth motion	=2	_____

BALANCE SCORE: _____/16

Tinetti Performance Oriented Mobility Assessment (POMA)

- Gait Tests -

Initial Instructions: Subject stands with examiner, walks down hallway or across room, first at "usual" pace, then back at "rapid, but safe" pace (using usual walking aids)

10. **Initiation of Gait** (immediately after told to "go"

Any hesitancy or multiple attempts to start =0
No hesitancy =1 _____

11. **Step Length and Height**

Right swing foot

Does not pass left stance foot with step =0
Passes left stance foot =1 _____
Right foot does not clear floor completely
With step =0
Right foot completely clears floor =1 _____

Left swing foot

Does not pass right stance foot with step =0
Passes right stance foot =1 _____
Left foot does not clear floor completely
With step =0
Left foot completely clears floor =1 _____

12. **Step Symmetry**

Right and left step length not equal (estimate) =0
Right and left step length appear equal =1 _____

13. **Step Continuity**

Stopping or discontinuity between steps =0
Steps appear continuous =1 _____

14. **Path** (estimated in relation to floor tiles, 12-inch diameter; observe excursion of 1 foot over about 10 ft. of the course)

Marked deviation =0
Mild/moderate deviation or uses walking aid =1
Straight without walking aid =2 _____

15. **Trunk**

Marked sway or uses walking aid =0
No sway but flexion of knees or back or
Spreads arms out while walking =1
No sway, no flexion, no use of arms, and no
Use of walking aid =2 _____

16. **Walking Stance**

Heels apart =0
Heels almost touching while walking =1 _____

GAIT SCORE = _____/12

BALANCE SCORE = _____/16

TOTAL SCORE (Gait + Balance) = _____/28

{< 19 high fall risk, 19-24 medium fall risk, 25-28 low fall risk}

Tinetti Performance Oriented Mobility Assessment (POMA)	Date	Date	Date	Date
Balance Tests: Subject is seated on hard, armless chair				
SITTING BALANCE Leans or slides in chair =0, Steady, safe =1				
ARISES Unable without help =0; Able, uses arms =1, Able without using arms = 2				
ATTEMPTS TO RISE: Unable w/o help=0; Able, requires > 1 attempt =1; Able in 1 attempt =2				
IMMEDIATE STANDING BALANCE (first 5 seconds) Unsteady (sway/stagger/feet move)=0; Steady, w/ support =1;Steady w/o support =2				
STANDING BALANCE Unsteady =0; Steady, stance > 4 inch BOS & requires support =1; Narrow stance, w/o support =2				
STERNAL NUDGE (feet close together) Begins to fall =0; Staggers, grabs, catches self =1; Steady =2				
EYES CLOSED (feet close together) Unsteady =0; Steady =1				
TURNING 360 DEGREES Discontinuous steps =0; Continuous steps =1				
TURNING 360 DEGREES Unsteady (staggers, grabs) =0;Steady =1				
SITTING DOWN Unsafe (misjudges distance, falls) =0;Uses arms, or not a smooth motion =1; Safe, smooth motion =2				
BALANCE SCORE TOTAL	/16	/16	/16	/16
GAIT INITATION (immediate after told "go) Any hesitancy, multiple attempts to start =0; No hesitancy =1				
STEP LENGTH R swing foot passes L stance leg =1; L swing foot passes R =1				
FOOT CLEARANCE R foot completely clears floor =1; L foot completely clears floor =1				
STEP SYMMETRY R and L step length unequal =0; R and L step length equal=1				
STEP CONTINUITY Stop/discontinuity between steps =0; Steps appear continuous =1				
PATH (excursion) Marked deviation =0; Mild/moderate deviation or use of aid =1; Straight without device=2				
TRUNK Marked sway or uses device =0; No sway but knee or trunk flexion or spread arms while walking =1; None of the above deviations=2				
BASE OF SUPPORT Heels apart =0; Heels close while walking =1				
GAIT SCORE TOTAL	/12	/12	/12	/12
ASSISTIVE DEVICE				
TOTAL SCORE (BALANCE + GAIT) **FALL RISK** **(minimal >23, Mod. 19-23, High < 19)**	/28	/28	/28	/28
Therapist initials				