

Contents

Fact sheets

Information about falls, medications & fall risk factors

Algorithm

Flow chart for fall risk assessment & interventions

Case studies

Illustrating patients with low, moderate & high fall risk

Orthostatic blood pressure

Instructions for measuring orthostatic blood pressure

Assessments

Directions for conducting standardized gait, strength & balance assessments

Checklist

A summary checklist of fall risk factors

Talking with patients

Guidance on talking about fall prevention with patients

Referral forms

For specialists & for recommended fall prevention classes

FALLS

Falls are a Major Threat for Your Patients



- One-third of people 65 and older fall each year.
- Less than half of the Medicare beneficiaries who fell in the previous year talked to their healthcare provider about it.
- Every 29 minutes an older adult dies from a fall.
- 1 out of 5 falls causes a serious injury such as a head trauma or fracture.
- Over 2 million older adults are treated in emergency departments for nonfatal fall injuries each year.
- Direct medical costs for fall injuries total over \$28 billion annually. Hospital costs account for two-thirds of the total.

The good news—as a healthcare provider, your efforts can prevent many of these injuries!

For more information, go to: www.cdc.gov/injury/STEADI



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FALLS

Medications

Linked to Falls



Although many medication classes have been linked to falls, the evidence is strongest for a few drug categories. Medication management can reduce interactions and side effects that may lead to falls.

Medication management means:

- Eliminating medications if there is no active indication
- Reducing doses of necessary medications (e.g., antihypertensives) to the lowest effective dose
- Avoiding prescribing medications for an older person where the risk from side effects outweighs the benefit (e.g., skeletal muscle relaxants)

The MOST important intervention is to reduce or eliminate:

- Psychoactive drugs, especially any benzodiazepines
- Any medications that have anticholinergic side effects
- Sedating OTCs, specifically Tylenol PM (which contains Benadryl) and Benadryl

There is more information on medications and medication classes at: www.cdc.gov/injury/STEADI.

For more information about geriatric medication management, go to the American Society of Consultant Pharmacists website at: www.ascp.com



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FALLS

Risk Factors For Falls



Research has identified many risk factors that contribute to falling—some of these are modifiable.

Most falls are caused by the interaction of multiple risk factors. The more risk factors a person has, the greater their chances of falling. Healthcare providers can lower a person's risk by reducing or minimizing that individual's risk factors.

To prevent falls, providers should focus **FIRST** on these modifiable risk factors:

- Lower body weakness
- Difficulties with gait and balance
- Use of psychoactive medications
- Postural dizziness
- Poor vision
- Problems with feet and/or shoes
- Home hazards

Fall risk factors are categorized as intrinsic or extrinsic.

Intrinsic	Extrinsic
Advanced age	Lack of stair handrails
Previous falls	Poor stair design
Muscle weakness	Lack of bathroom grab bars
Gait & balance problems	Dim lighting or glare
Poor vision	Obstacles & tripping hazards
Postural hypotension	Slippery or uneven surfaces
Chronic conditions including arthritis, diabetes, stroke, Parkinson's, incontinence, dementia	Psychoactive medications
Fear of falling	Improper use of assistive device

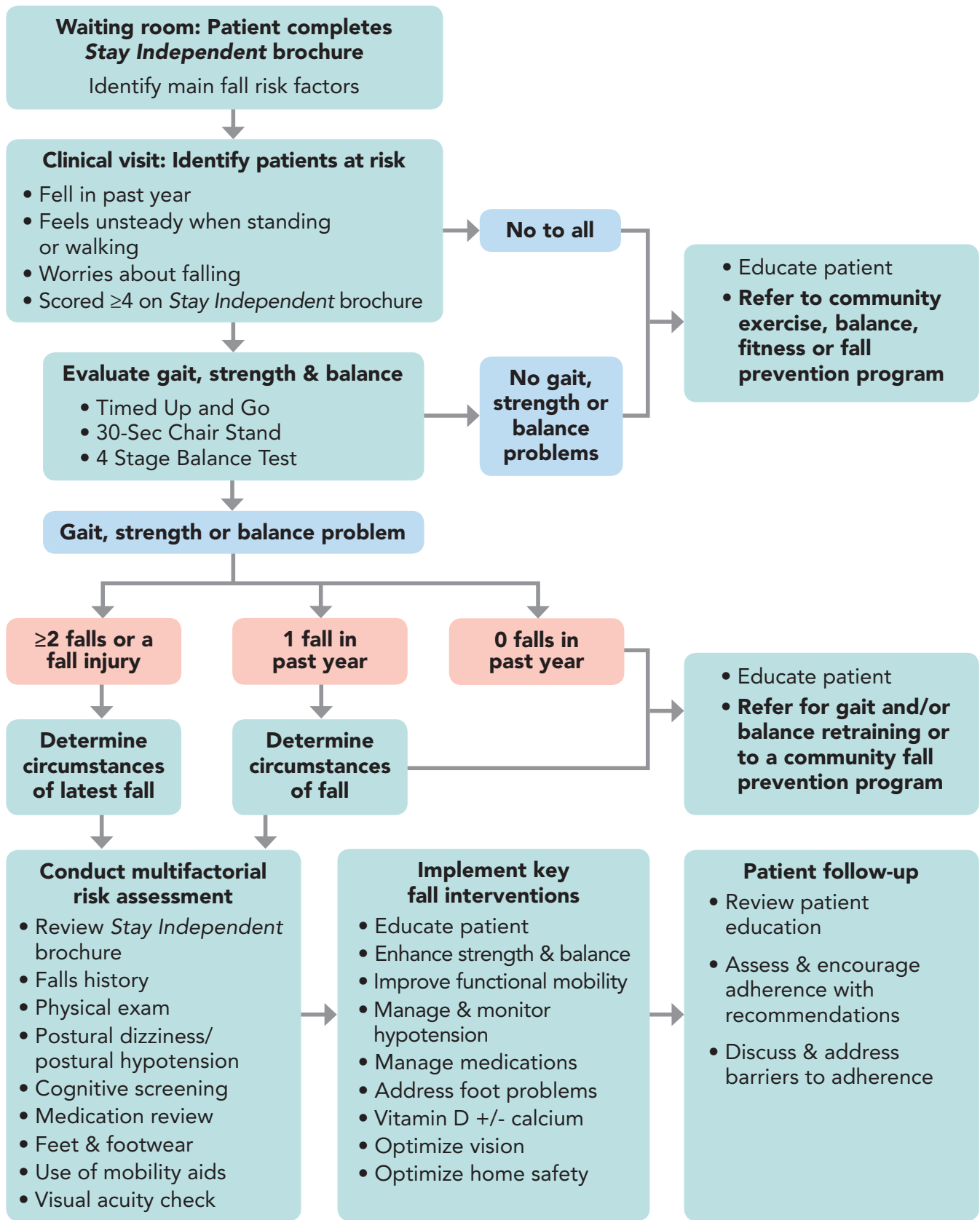
For more information, go to: www.cdc.gov/injury/STEADI



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Algorithm for Fall Risk Assessment & Interventions



CASE STUDY 1

Mrs. Booker is a 76 year-old woman who lives independently in her own home. She has come in to your primary care clinic for a wellness visit.

Self-Risk Assessment

Mrs. Booker completes the *Stay Independent* brochure in the waiting room. She circles "Yes" to the questions, "I have fallen in the last 6 months" and "I take medicine to help me sleep or improve my mood." Her risk score is 3.

Gait, Strength & Balance Assessment (Completed and documented by medical assistant)

Timed Up and Go: 12 seconds. Gait: decreased arm swing but otherwise normal.

30-Second Chair Stand Test: Able to rise from the chair without using her arms to push herself up. Score of 14 stands.

4-Stage Balance Test: Able to hold a full tandem stance for 10 seconds unsupported without postural sway.

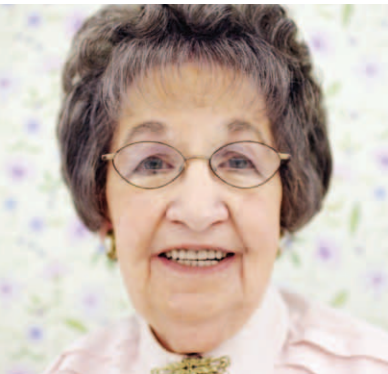
History

When asked, Mrs. Booker reports she fell the previous week but wasn't hurt and so didn't seek medical attention. She says she was out walking with a friend, they were talking and she wasn't looking where she was going, and she tripped over a crack in the sidewalk. This was her first fall.

Mrs. Booker reports that she usually walks about 2 miles each day around her neighborhood. She feels steady when walking at all times, even when out of doors. She tries to avoid potholes and usually watches out for cracks in the sidewalk so she won't trip. She's not afraid of falling. Walking is her only form of exercise.

Medical Problem List

- Seizure disorder
- Schizoaffective disorder
- Chronic kidney disease stage 3
- Hypothyroidism



CASE STUDY 1 (cont.)

Medications

1. Depakote 250 mg twice daily
2. Zyprexa 12.5 mg daily
3. Ativan 0.5 mg twice daily
4. Levothyroxine 750 mcg daily
5. Colace 250 mg daily
6. Tylenol 500 mg 4 times daily as needed for pain

Review of Systems

Positive for poor eyesight, urinary incontinence, and nocturia >2 times a night.

Physical Exam

Constitutional:	Well-developed, well-nourished, irritable but cooperative with exam.
Vitals:	Supine – 130/91, 107; Sitting – 138/78, 107; Standing – 146/95, 115. BMI 21.0.
Head:	Normocephalic / atraumatic.
ENMT:	Wearing glasses. Acuity 20/30 R, 20/40 L.
CV:	Regular rhythm, tachycardic S1/S2 without murmurs, rubs, or gallops.
Respiratory:	Clear to auscultation bilaterally.
GI:	Normal bowel tones, non-tender, non-distended.
Musculoskeletal:	Strength: 5/5 throughout UE; LE strength 5/5 throughout except 4-/5 at bilateral hip flexors. No knee joint laxity. Foot exam shows no calluses, ulcerations, or deformities.
Neurology:	Cognitive screen: recalls 3/3 items.
Tone/abnormal movements:	No tremor, bradykinesia, or rigidity. Sensation, proprioception, and DTRs normal.
Psych:	PHQ-2 = 0/6.

Identified Fall Risk Factors

Mrs. Booker's answers on the *Stay Independent* brochure indicate she has fallen in the past year. The results of the assessment tests indicate that her gait speed is somewhat slower than normal but her balance and strength tests are both within normal limits.

- She is taking two psychoactive medications, Zyprexa and Ativan.
- She is complaining of vision problems.
- She has issues with incontinence and gets up during the night to void.

CASE STUDY 1 (cont.)

Fall Prevention Recommendations

- Discuss fall prevention, tailoring your suggestions based on the “Stages of Change” model. Emphasize that a fall is not simply “bad luck” or an “accident” that will never happen again.
- Provide the CDC fall prevention brochures, *What You Can Do to Prevent Falls* and *Check for Safety*.
- Provide the *Chair Rise Exercise* handout and suggest she begin doing this exercise daily.
- Refer to a community exercise, fitness, or fall prevention program to optimize leg strength and balance by including strength and balance exercises as part of her exercise routine.
- Consider whether doses of her psychoactive medications could be reduced or any eliminated.
- Refer to an ophthalmologist for eye exam and updated prescription. Suggest she discuss with her ophthalmologist getting a pair of single lens distance glasses for walking outside.
- Recommend night lights or leaving hall and/or bathroom lights on overnight to reduce the risk of falling when getting up to void.
- Recommend DEXA scan to assess her bone mineral density and add 1,000 IU vitamin D as a daily supplement for both osteoporosis and fall risk reduction.
- Recommend having grab bars installed inside and outside the tub or shower.



CASE STUDY 2

Mr. Ying is an 84 year-old Asian male who lives in an apartment that adjoins his son's house. Mr. Ying is accompanied to this clinic visit by his son, who assists with the history. Although previously outgoing and social, Mr. Ying recently has been limiting his outside activities.

Self-Risk Assessment

Mr. Ying completes the *Stay Independent* brochure in the waiting room. He circles "Yes" to the questions, "I use or have been advised to use a cane or walker to get around safely," "Sometimes I feel unsteady when I am walking," and "I am worried about falling." His risk score is 4.

Gait, Strength & Balance Assessment (Completed and documented by medical assistant)

- Timed Up and Go:** 15 seconds using his cane. Gait: slow with shortened stride and essentially no arm swing. No tremor, mild bradykinesia.
- 30-Second Chair Stand Test:** Able to rise from the chair without using his arms to push himself up. Score of 9 stands in 30 seconds.
- 4-Stage Balance Test:** Able to stand with his feet side by side for 10 seconds but in a semi-tandem stance loses his balance after 3 seconds.

History

Mr. Ying stated that for the past year he has felt dizzy when he stands up after sitting or lying down and that he often needs to "catch himself" on furniture or walls shortly after standing. His dizziness is intermittent but happens several times per week.

Mr. Ying cannot identify any recent changes in his medications or other changes to his routine that would explain his symptom. He says there is no pattern and he experiences dizziness at different times during the day and evening. He denies experiencing syncope, dyspnea, vertigo, or pain accompanying his dizziness.



CASE STUDY 2 (cont.)

Mr. Ying also remarks that, independent of his dizziness symptoms, he feels unsteady on his feet when walking. His son mentions that he often sees his father “teetering.” Mr. Ying requires help with bathing. He has started using a cane but doesn’t like to use it inside.

When asked about previous falls, he says he hasn’t fallen. However, he says his elderly neighbor recently fell and is now in a nursing home. Now he’s fearful about falling and becoming a burden to his family.

Although Mr. Ying has spinal stenosis, a recent steroid injection has relieved severe low back pain. Now he suffers only from lower back stiffness for several hours in the morning. He denies any specific weakness in his legs.

Medical Problem List

- Hypertension
- L3-5 spinal stenosis and chronic low back pain and leg numbness/paresthesias
- Depression
- Benign prostatic hypertrophy, with 3-4x/night nocturia and occasional incontinence
- Hyperlipidemia
- Gastroesophageal reflux disease
- B12 deficiency
- Allergic rhinitis
- Glaucoma
- Nummular eczema

Medications

1. Valsartan 80 mg daily
2. Citalopram 40 mg daily
3. Flomax 0.8 mg at bedtime
4. Finasteride 5 mg daily
5. Lipitor 40 mg at bedtime
6. Omeprazole 20 mg daily
7. Cyanocobalamin 1 mg daily
8. Claritin 10 mg daily
9. Flonase nasal spray two puffs to each nostril daily

CASE STUDY 2 (cont.)

10. Gabapentin 300 mg tabs 2 tabs three times daily
11. Tylenol 500 mg one to two four times daily prn
12. Brimonidine tartrate 0.15% ophth 1 drop OU twice daily
13. Cosopt 2%-0.5% 1 drop OU at hs
14. Latanoprost 0.005% 2 drops OU at hs
15. Trazodone 25 mg at hs
16. Calcium carbonate 500 mg 1-2 tabs three times daily

Review of Systems

Positive for fatigue, poor vision in his left eye, constipation, nocturia 3-4 times a night, frequent urinary incontinence, low back stiffness, difficulty concentrating, depression, dry skin, hoarseness, and nasal congestion.

Physical Exam

- Constitutional:** This is a thin, alert, older Asian male in no apparent distress, pleasant and cooperative, but with a notably flat affect.
- Vitals:** Supine – 135/76, 69; Sitting – 112/75, 76; Standing – 116/76, 75. BMI 19.
- Head:** Normocephalic / atraumatic.
- ENMT:** Wearing glasses. Acuity 20/30 R, 20/70 L.
- CV:** Regular rate and rhythm normal S1/S2 without murmurs, rubs, or gallops.
- Respiratory:** Clear to auscultation bilaterally.
- GI:** Normal bowel tones, soft, non-tender, non-distended.
- Musculoskeletal:** Strength: UE strength 5/5 B biceps, triceps, deltoids; LE strength 4+/5 bilateral hip flexors and abductors; 4+/5 bilateral knee flexors/extensors; 5/5 bilateral AF/AE; 5/5 bilateral DF and PF.
No knee joint laxity. Foot exam shows no calluses, ulcerations, or deformities.
- Neurology:** Cognitive screen: recalled 3/3 items.
- Whisper test for hearing:** Intact.
- Tone/abnormal movements:** Tone is mildly increased in both legs; normal tone in both arms. Sensation is intact to light touch and pain throughout. Reflexes are normal and symmetric.
- Psych:** PHQ-2 = 4/6.

CASE STUDY 2 (cont.)

Identified Fall Risk Factors

Mr. Ying's answers on the *Stay Independent* brochure and the results of the assessment tests indicate gait, strength, and balance impairments and a fear of falling.

He is currently taking two sedating medications, Claritin and Gabapentin.

His orthostatic blood pressure results indicate postural hypotension. Other fall risk factors are poor vision, nocturia >2 times a night, incontinence, and depression.

Fall Prevention Recommendations

- Discuss fall prevention, tailoring your suggestions using the "Stages of Change" model.
- Provide the CDC fall prevention brochures, *What You Can Do to Prevent Falls* and *Check for Safety*.
- Attempt to lower the dose of the blood pressure medication Valsartan.
- Counsel on self-management of orthostatic hypotension (drink 6-8 glasses of water a day, do ankle pumps and hand clenches for a minute before standing, do not walk if dizzy), and provide the patient brochure, *Postural Hypotension: What It Is and How to Manage It*.
- Attempt to lower the dose and/or eliminate the sedating medications.
- Refer for physical therapy for gait assessment, to increase leg strength and improve balance, and for instruction on how to use a cane correctly.
- Add 1,000 IU vitamin D as a daily supplement to help optimize muscle strength.
- Refer to an ophthalmologist for eye exam, glaucoma assessment, and updated prescription.
- Recommend using night lights or leaving the hall and/or bathroom lights on overnight to reduce the risk of falling when getting up to void.
- Recommend having grab bars installed inside and outside the tub, next to the toilet, and in the hallway that leads from his bedroom to the bathroom.



CASE STUDY 3

Mrs. White is an outgoing 81 year-old white woman who lives in an assisted living facility. She has come in with her son for a routine follow-up visit. Her son reports that she was just seen in the hospital emergency room a week ago because she fell when she was getting out of the shower. She fell backwards and bumped the back of her head against the wall.

Her son remarks that in the past year his mother has had “too many falls to count.” Mrs. White agrees that she falls a lot but she’s fatalistic. “Old people fall, that’s just how it is,” she says.

Mrs. White has a history of hypertension, hyperlipidemia, diabetes, coronary artery disease, and congestive heart failure.

Self-Risk Assessment

Mrs. White completes the *Stay Independent* brochure in the waiting room. She circles “Yes” to the following questions, “I have fallen in the last 6 months,” “I use or have been advised to use a cane or walker to get around safely,” “I am worried about falling,” “I need to push with my hands to stand up from a chair,” “I have some trouble stepping up onto a curb,” “I often have to rush to the toilet,” and “I take medicine to help me sleep or improve my mood.” Her risk score is 9.

Gait, Strength & Balance Assessment (Completed and documented by medical assistant)

Timed Up and Go: 18 seconds with her rollator walker. Gait: wide-based with minimal hip extension and arm swing and markedly kyphotic posture.

30-Second Chair Stand Test: Unable to rise from the chair without using her arms.

4-Stage Balance Test: Able to stand with her feet side by side for 10 seconds but in a semi-tandem stance loses her balance after 4 seconds.



CASE STUDY 3 (cont.)

History

Mrs. White reports that she used to walk “just fine,” but about two years ago, she began falling for no apparent reason. Sometimes she’ll trip on a carpet, other times she just loses her balance when she’s walking or turning. Once she fell off a chair face first into a wall. Another time she rolled out of bed.

Mrs. White has fallen indoors both during the day and at night. Sometimes she’s fallen at night when she’s gotten up to void. She sleeps deeply but is restless, so for the past eight years has been taking Clonazepam to help her sleep.

For the past two years, she has been using a rollator walker. Before that she had a front-wheeled walker but couldn’t get used to it. She used to go to the Silver Sneakers exercise classes at her local gym but stopped going about five years ago when she developed numbness in her feet and knee pain. She used to enjoy walking but reports that she hardly ever goes outside now because she’s so afraid of falling and breaking her hip.

Medical Problem List

- Type 2 diabetes
- Coronary artery disease status post myocardial infarction
- Paroxysmal atrial fibrillation
- Congestive heart failure
- Hypertension
- Hypertriglyceridemia
- Depression
- Osteoarthritis of hips and knees
- Chronic kidney disease stage 3
- Macular degeneration
- Rotator cuff syndrome
- Sciatica
- Diverticulosis
- Osteopenia
- Gastroesophageal reflux disease
- Cognitive disorder not otherwise specified

Medications

1. Novolog 3 units subq before meals and at bedtime
2. Lantus 20 units subcutaneous in the morning and at bedtime
3. Lisinopril 20 mg daily

CASE STUDY 3 (cont.)

4. Metoprolol 200 mg daily
5. Eplerenone 50 mg daily
6. Furosemide 20 mg daily
7. KCl 20 milli-equivalents daily at bedtime
8. Digoxin 125 mcg daily
9. Gemfibrozil 600 mg twice daily
10. Fluoxetine 50 mg daily
11. Clonazepam 0.5 mg at hs for sleep
12. Aggrenox 200/25 mg twice daily for stroke prevention

Review of Systems

- Constitutional:** Lack of energy.
- Eyes:** Wears bifocals. Prescription recently updated but still has occasional blurriness despite new prescription. Sometimes glasses slip down her nose, causing her to have problems judging depth.
- ENMT:** Has hearing difficulty subjectively but has passed hearing tests.
- GI:** Frequent bladder infections, incontinence of urine, urinary frequency, and nocturia 4 times a night.
- Neurology:** Balance problems when walking, memory problems.
- Musculoskeletal:** Orthopedists have recommended knee replacements but she has declined. She wears braces on her knees to manage the pain and reports these help.
- Psych:** Afraid of falling, difficulty concentrating, feeling blue, memory trouble.

Physical Exam

- Constitutional:** This is a frail, alert, elderly woman, very pleasant and in no apparent distress.
- Vitals:** Supine – 129/53, 59; Sitting – 103/40, 60; Standing – 101/51, 62. BMI 18.5.
- Head:** Contusion with resolving ecchymosis and swelling at the posterior occiput on the right side.
- ENMT:** Wearing glasses. Acuity testing deferred due to recent eye exam/new glasses.
- CV:** Regular rate and rhythm normal S1/S2 without murmur, rub, gallop, lift, or heave.
- Respiratory:** Clear to auscultation throughout.

CASE STUDY 3 (cont.)

GI:	Normal bowel tones, soft, non-tender, non-distended.
Musculoskeletal:	No knee joint laxity or joint swelling. Feet with diffuse clawing of toes.
Neurology:	Alert and oriented x 3. Cranial nerves II-XII grossly intact.
Tone/abnormal movements:	Tone normal throughout. She has diminished sensation and proprioception in both feet. Deep tendon reflexes are normal and symmetric.
Psych:	PHQ-2 depression screen = 6/6. Cognitive screen 0/3 items recalled.

Identified Fall Risk Factors

Mrs. White's answers on the *Stay Independent* brochure and the results of the assessment tests indicate decreased lower body strength, serious impairments in her gait and balance, and a fear of falling.

Other fall risk factors are postural hypotension, vision issues (depth perception difficulty and blurry vision) despite corrective lenses, foot problems including diminished sensation in both feet, incontinence, urinary frequency, and nocturia >2 times a night.

She is moderately cognitively impaired and her depressive symptoms are not controlled despite prescription of the antidepressant Fluoxetine.

Fall Prevention Recommendations

- Discuss fall prevention, tailoring your suggestions using the "Stages of Change" model. Emphasize that many falls can be prevented.
- Provide the CDC fall prevention brochures, *What You Can Do to Prevent Falls* and *Check for Safety*.
- Refer for physical therapy for gait assessment, to increase leg strength and improve balance, and for instruction on how to use the rollator walker most effectively.
- Consider whether dose of either Lisinopril or Metoprolol can be reduced.
- Consider whether dose of Furosemide can be reduced.
- Consider tapering off the Clonazepam.
- Refer to podiatrist for foot exam and prescription/customized footwear.
- Add 1,000 IU vitamin D as a daily supplement to help optimize muscle strength.
- Consider screening for B12 deficiency as a cause of the diminished sensation in her lower extremities.
- Refer to her optician to have her glasses adjusted so they don't slip.
- Discuss home modifications such as removing tripping hazards to reduce her chances of falling.
- Recommend having grab bars installed inside and outside the tub and next to the toilet.




Patient: _____ Date: _____ Time: _____ AM/PM

Measuring Orthostatic Blood Pressure



1. Have the patient lie down for 5 minutes.
2. Measure blood pressure and pulse rate.
3. Have the patient stand.
4. Repeat blood pressure and pulse rate measurements after standing 1 and 3 minutes.

A drop in bp of ≥ 20 mm Hg, or in diastolic bp of ≥ 10 mm Hg, or experiencing lightheadedness or dizziness is considered abnormal.

Position		Time	BP	Associated Symptoms
Lying Down		5 Minutes	BP _____ / _____ HR _____	
Standing		1 Minute	BP _____ / _____ HR _____	
Standing		3 Minutes	BP _____ / _____ HR _____	

For relevant articles, go to: www.cdc.gov/injury/STEADI



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Patient: _____ Date: _____ Time: _____ AM/PM

The Timed Up and Go (TUG) Test

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.

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.

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

Circle 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

Notes:

For relevant articles, go to: www.cdc.gov/injury/STEADI



Patient: _____ Date: _____ Time: _____ AM/PM

The 30-Second Chair Stand Test

Purpose: To test leg strength and endurance

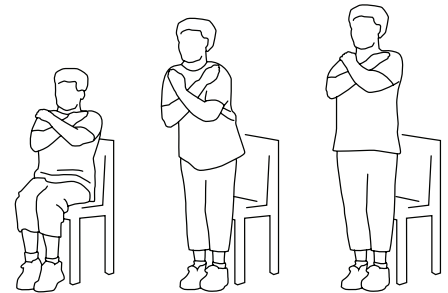
Equipment:

- A chair with a straight back without arm rests (seat 17" high)
- A stopwatch



Instructions to 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 and then sit back down again.
6. Repeat this for 30 seconds.



On **"Go,"** begin timing.

If the patient must use his/her arms to stand, stop the test. Record "0" for the number and score.

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.

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

Number: _____ **Score** _____ **See next page.**

A below average score indicates a high risk for falls.

Notes: _____

For relevant articles, go to: www.cdc.gov/injury/STEADI



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

Patient: _____ Date: _____ Time: _____ AM/PM

The 4-Stage Balance Test

Purpose: To assess static balance

Equipment: A stopwatch

Directions: There are four progressively more challenging positions. Patients should not use an assistive device (cane or walker) and keep their eyes open.

Describe and demonstrate each position. Stand next to the patient, hold his/her arm and help them assume the correct foot position.

When the patient is steady, let go, but remain ready to catch the patient if he/she should lose their balance.

If the patient can hold a position for 10 seconds without moving his/her feet or needing support, go on to the next position. If not, stop the test.

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. Hold this position until I tell you to stop.

For each stage, say "**Ready, begin**" and begin timing.

After 10 seconds, say "**Stop.**"

See next page for detailed patient instructions and illustrations of the four positions.

For relevant articles, go to: www.cdc.gov/injury/STEADI



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**

An older adult who cannot hold the tandem stance for at least 10 seconds is at increased risk of falling.

Notes:

Fall Risk Checklist

Patient: _____ Date: _____ Time: _____ AM/PM

Fall Risk Factor Identified	Factor Present?	Notes
Falls History		
Any falls in past year?	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Worries about falling or feels unsteady when standing or walking?	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Medical Conditions		
Problems with heart rate and/or rhythm	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Cognitive impairment	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Incontinence	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Depression	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Foot problems	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Other medical conditions (Specify)	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Medications		
Any psychoactive medications, medications with anticholinergic side effects, and/or sedating OTCs? (e.g., Benadryl, Tylenol PM)	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Gait, Strength & Balance		
Timed Up and Go (TUG) Test >14 seconds	<input type="checkbox"/> Yes <input type="checkbox"/> No	
30-Second Chair Stand Test Below average score (See table on back)	<input type="checkbox"/> Yes <input type="checkbox"/> No	
4-Stage Balance Test Full tandem stance <10 seconds	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Vision		
Acuity <20/40 OR no eye exam in >1 year	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Postural Hypotension		
A decrease in systolic BP \geq 20 mm Hg or a diastolic bp of \geq 10 mm Hg or lightheadedness or dizziness from lying to standing?	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Other Risk Factors (Specify)		
	<input type="checkbox"/> Yes <input type="checkbox"/> No	
	<input type="checkbox"/> Yes <input type="checkbox"/> No	



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

Talking about Fall Prevention with Your Patients



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

- Attending a fall prevention program
- Doing prescribed exercises at home
- 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
- Contraceptive use
- Smoking cessation
- 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

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:
<p>The patient doesn’t view him or herself as being at risk of falling.</p> <p>Goal: The patient will begin thinking about change.</p> <p>To move the patient to the contemplation stage, provide information and explain the reasons for making changes.</p>	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 that 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.

Contemplation stage	Patient says:	Provider says:
<p>The patient is considering the possibility that he or she may be at risk of falling.</p> <p>Goal: Patient will examine benefits and barriers to change.</p> <p>To move the patient to the preparation stage, make specific suggestions, be encouraging, and enlist support from the family.</p>	<p>I'd like to exercise but I don't because I'm afraid I'll get too tired.</p>	<p>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.</p> <p>You can do these exercises at home or I can recommend some exercise classes near you.</p>
	<p>My friend down the street fell and ended up in a nursing home.</p>	<p>Preventing falls can prevent broken hips and help you stay independent.</p>
	<p>I have so many other medical appointments already.</p>	<p>I have patients very much like you who do these exercises to prevent falls.</p> <p>These types of exercises only take a few minutes a day.</p>
	<p>I already walk for exercise.</p>	<p>Walking is terrific exercise for keeping your heart and lungs in good condition, but it may not prevent you from falling.</p>
	<p>I don't want to ask my daughter to drive me to the exercise class.</p> <p>Getting to the senior center is so hard now that I don't drive.</p> <p>I have to take care of my husband. I don't have time for this.</p>	<p>There are quite a few simple exercises you can do to keep yourself from falling.</p> <p>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.</p>

Note: The National Institute on Aging has a free exercise book for healthy older adults to use at home. Go to: www.nia.nih.gov/HealthInformation/Publications/ExerciseGuide.

Preparation stage	Patient says:	Provider says:
<p>The patient considers him or herself to be at risk of falling and is thinking about doing something about it.</p> <p>Goal: Patient will begin to consider specific changes.</p> <p>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.</p>	<p>I'm worried about falling. Do you think there's anything I can do to keep from falling?</p>	<p>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.</p> <p>Here's a brochure from the CDC about preventing falls. Why don't you go over it with your spouse?</p>
	<p>I read that some medicines can make you dizzy. Do you think any of mine might be a problem?</p>	<p>Many seniors say they'd prefer to take fewer medicines.</p> <p>Let's go over yours and see if we can reduce or eliminate any of them.</p>
Action stage	Patient says:	Provider says:
<p>The patient considers him or herself to be at risk of falling and is ready to do something about it.</p> <p>Goal: Patient will take definite action to change.</p> <p>Facilitate change. Provide specific resources, support, and encouragement to help the patient to adopt new behaviors.</p>	<p>I know a fall can be serious. What can I do to keep from falling and stay independent?</p>	<p>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].</p> <p>Someone from the office will call you in about a month to see how you're doing.</p>
	<p>I want to take a fall prevention class. What do you recommend?</p>	<p>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.</p>
	<p>I know I'd feel safer if I had grab bars put in my shower.</p>	<p>I'm glad that you're thinking of installing grab bars.</p> <p>Here's the CDC home safety checklist. It can help you identify home hazards and suggest ways to make other changes to prevent falls.</p>

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.

Fall Prevention Patient Referral Form

Patient:	Referred to:
Sex: DOB:	
Address:	Address:
Phone:	Phone:
Email:	Email:
Diagnosis:	
Type of Referral	
Type of specialist (See back of form):	
Exercise or fall prevention program (See nurse for options):	
Reason for Referral	
Gait or mobility problems	Medication review & consultation
Balance difficulties	Inadequate or improper footwear
Lower body weakness	Foot abnormalities
Postural hypotension	Vision <20/40 in R L Both
Suspected neurological condition (e.g., Parkinson's disease, dementia)	Home safety evaluation
Other reason:	
Other relevant information:	
Referrer signature:	Date:

Reasons for referral	Suggested specialists
Gait or mobility problems, balance difficulties, lower body weakness	Physical therapist
Postural hypotension, medication review & consultation	Subspecialty provider
Foot abnormalities, inadequate or improper footwear	Podiatrist or pedorthist
Suspected neurological condition	Neurologist or geriatrician
Vision impairment	Ophthalmologist or optometrist
Home safety evaluation	Occupational therapist
Other	

Recommended Fall Prevention Programs

Programs	Location	Day & Time	Cost

Notes:

Research shows that to reduce falls, exercises MUST focus on improving balance and strength, be progressive (get more challenging over time), and be practiced for at least 50 hours. This means, for example, taking a 1-hour class 3 times a week for 4 months, or a 1-hour class 2 times a week for 6 months.

The National Institute on Aging has created an exercise guide for healthy older adults to use at home. You can order this free book by going to:

www.nia.nih.gov/HealthInformation/Publications/ExerciseGuide.

