

## 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.



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### 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

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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.

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