

**UCLA**

**Health**

**Family Medicine**

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# Geriatric Patients: Breaking Their Falls

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# “The Single Most Serious Threat”

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## EXCERPT FROM *BEING MORTAL* BY ATUL GAWANDE:

“Mainstream doctors are turned off by geriatrics, and that’s because they do not have the faculties to cope with the Old Crock.” Felix Silverstone, the geriatrician, explained. ‘The Old Crock is deaf. The Old Crock has poor vision. The Old Crock’ memory might be somewhat impaired. With the Old Crock, you have to slow down, because he asks you to repeat what you are saying or asking. And the Old Crock doesn’t just have a chief complaint- the Old Crock has fifteen chief complaints. How in the world are you going to cope with all them?’

There is, however, a skill to it, a developed body of professional expertise. **And until I visited my hospital’s geriatrics clinic and saw the work the clinicians there did, I did not fully grasp the nature of expertise involved, or how important it could be for all of us.”**

# “The Single Most Serious Threat”

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## EXCERPT FROM *BEING MORTAL* BY ATUL GAWANDE:

“‘What brings you here today?’ The doctor asked Ms. G. She was 85 years old...she said her internist recommended that she come. About anything in particular? The doctor asked. The answer, it seemed, was yes and no.

The first thing she mentioned was the lower back pain that she had for months, which shot down her leg and some has made it difficult to get up out of bed or up from a chair. She also had bad arthritis... and both knees replaced the decade earlier. She had high blood pressure ‘from stress.’ She never used to have ‘bathroom problems,’ but lately she’d started wearing a pad. She also had surgery for colon cancer and, by the way, she now had a lung nodule that the radiology report that could be in metastasis - a biopsy was recommended.”

# “The Single Most Serious Threat”

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## EXCERPT FROM *BEING MORTAL* BY ATUL GAWANDE:

“Bludau asked her to tell him about her life... She lives alone, except for her Yorkshire terrier. Her husband died of lung cancer 23 years ago. She did not drive. She had a son living in the area who did her shopping once a week and checked on her each day – ‘just to see if I’m alive,’ she joked. Another son and two daughters lived farther away, but they helped as well. Otherwise, she took care of herself quite capably. She did her own cooking and cleaning. She managed her medicine and her bills.

The doctor asked about her day in great detail. She would get out of bed, if the back pain allowed, take a shower, and get dressed. Downstairs, she take her medicines, feeds the dog, and eats breakfast. Bludau asked what she had for breakfast that day. Cereal and a banana – she hated bananas but heard they were a good source for her potassium and was afraid to stop. After breakfast, she took her dog for little walk in the yard. She did chores– laundry, cleaning, and the like. If the weather was nice, she’d sit out in the yard afterward.”

# “The Single Most Serious Threat”

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## EXCERPT FROM *BEING MORTAL* BY ATUL GAWANDE:

“The afternoons were slow. She might do some more chores. She might nap or talk on the phone. Eventually, she would make dinner – a salad and maybe a baked potato or a scrambled egg. At night, she watched the Red Sox– she loved sports. She usually went to bed around midnight.

Bludau asked her to sit on the examining table. She struggled to climb up, her balance teetering on the step, the doctor held her arm. He checked her blood pressure, which was normal... he examined her eyes and ears and had her open her mouth. He listened to her heart and lungs briskly... he began to slow down only when he looked at her hands. The nails were neatly trimmed.”

# “The Single Most Serious Threat”

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## EXCERPT FROM *BEING MORTAL* BY ATUL GAWANDE:

“I tried to think what could be accomplished in this visit. She was in good condition for her age, but she face everything from advancing arthritis and incontinence to what might be metastatic colon cancer. It seems to me that, with just a 40 minute visit, Bludau needed to triage by zeroing in on either the most potentially life-threatening problem (colon cancer) or the problem that bothers her the most (back pain). ***But this was evidently not what he thought. Instead, he spent much of the exam looking at her feet.***

When he got her socks off, he looked at her feet in his hands, one at a time. He inspected them inch by inch— the soles, the toes, the web spaces. Then he helped her get her socks and shoes back on and gave her and her daughter’s assessment

She was doing impressively well, he said. She was mentally sharp and physically strong. The danger for her was losing what she had. **The single most serious threat she faced was not the long nodule or back pain. It was falling. ”**

# Falls in Older Adults

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## PER AAFP:

- Falls are the leading cause of fatal and nonfatal injuries in persons older than 65 years
- In a survey, 37.5% of fallers responded that they required medical treatment or activity restriction
- Fall injuries result in 2.8 million emergency department visits annually, and 25% of falls cause serious injuries, such as fractures or traumatic brain injury
- The risk of falls and resulting serious injury increases with age
- Injuries, such as hip fracture, and falls are risk factors for placement in a nursing home, where the fall risk is nearly three times that of persons living in the community
- A history of falls is associated with a two- to sixfold increased risk of a future fall
- Noninjurious falls are a harbinger of potentially life-threatening events and are an opportunity for physicians to intervene

# Risk Factors for Falls in Older Adults

The strongest modifiable risk factors are:

- (1) **Balance impairment\***
- (2) **Gait impairment**
- (3) **Muscle weakness**
- (4) **Medication use\***

(\* ) Seen in Ms. G

**Table 2. Risk Factors for Falls in Older Persons**

Potentially modifiable	Potentially modifiable (continued)	Nonmodifiable
Cardiac	Neurologic	Age older than 80 years
Cardiac arrhythmias	Delirium	Arthritis
Congestive heart failure	Dizziness or vertigo	Cognitive impairment/dementia
Hypertension	Parkinson disease and other movement disorders	Female sex
Environmental hazards	Peripheral neuropathy	History of cerebrovascular accident/transient ischemic attack
Medication use (see Table 3; risk is higher when four or more medications are used simultaneously) *	Psychological	History of falling
Metabolic	Depression	History of fractures
Diabetes mellitus	Fear of falling	Recently discharged from the hospital (within one month)
Low body mass index	Sensory impairment	White race
Vitamin D deficiency	Auditory impairment	
Musculoskeletal	Multifocal lens	
Balance impairment *	Visual impairment	
Foot problems	Other	
Gait impairment *	Acute illness	
Impaired activities of daily living	Anemia	
Limited activity	Cancer	
Lower extremity muscle weakness *	Inappropriate footwear	
Musculoskeletal pain	Nocturia	
Use of an assistive device	Obstructive sleep apnea	
	Postural hypotension	
	Urinary incontinence	

*Adapted with permission from Moncada LV. Management of falls in older persons: a prescription for prevention. Am Fam Physician. 2011;84(11):1267-1268, with additional information from references 6, and 11 through 15.*



# Practice Guidelines for Fall Prevention

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PER AMERICAN GERIATRICS SOCIETY/BRITISH GERIATRICS SOCIETY (AGS/BGS) CLINICAL PRACTICE GUIDELINES:

The CDC developed the Stopping Elderly Accidents, Deaths, and Injuries (STEADI) toolkit for physicians based on the AGS/BGS guideline.

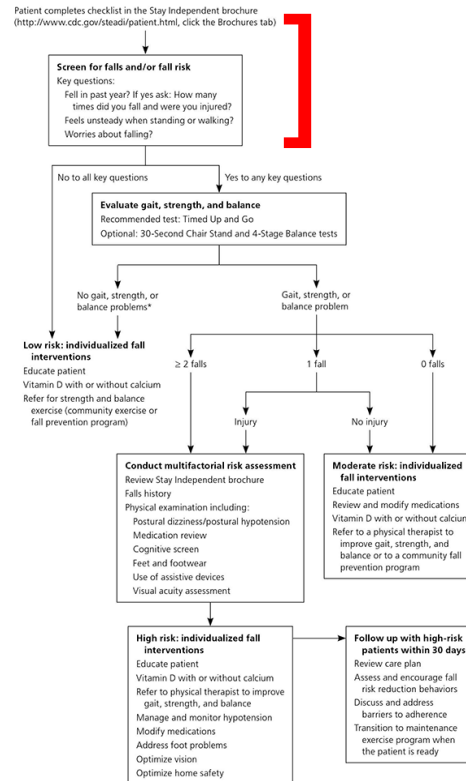
The tool-kit includes:

**(1) Fall risk assessment and interventions algorithm**

**(2) Stages of Change Model**

FYI, fall prevention is reimbursed as part of the Medicare Annual Wellness Visit.

# (1) Fall Risk Assessment: History



\*—Consider additional risk assessment (e.g., medication review, cognitive screen, syncope).

# (1) Fall Risk Assessment: History

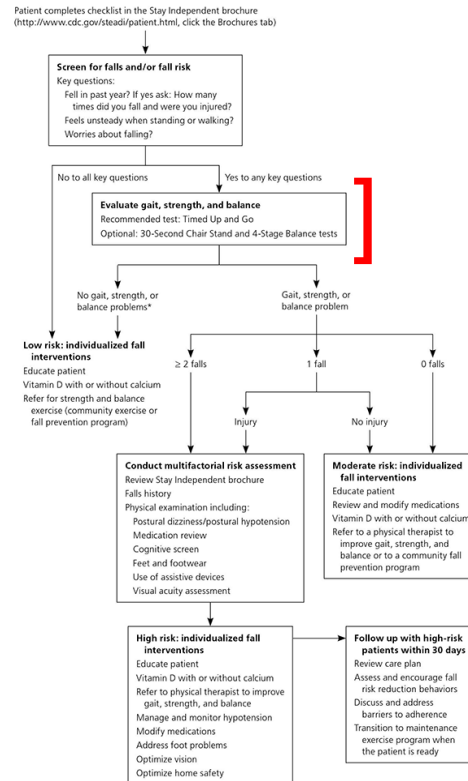
Per CDC's Stopping Elderly Accidents, Deaths & Injuries (STEADI) initiative:

## 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.
<b>Total</b>			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.

# (1) Fall Risk Assessment: Physical Exam



\*—Consider additional risk assessment (e.g., medication review, cognitive screen, syncope).

# Fall Risk Assessment: Physical Exam

- Visual acuity
- Orthostatic blood pressure
- CV examination
- Musculoskeletal strength
- Gait + Timed up and go (“TUG”)
- Feet examination/footwear
- Neuro exam
- Cognitive exam

## 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.

**NOTE:** Always stay by the patient for safety.

① **Instruct the patient:**

**When I say “Go,” I want you to:**


- Stand up from the chair.
- Walk to the line on the floor at your normal pace.
- Turn.
- Walk back to the chair at your normal pace.
- 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.

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](http://www.cdc.gov/steadi)



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

2017

**STEADI** Stopping Elderly Accidents,  
Deaths & Injuries

**Patient** \_\_\_\_\_

**Date** \_\_\_\_\_

**Time** \_\_\_\_\_  AM  PM

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**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

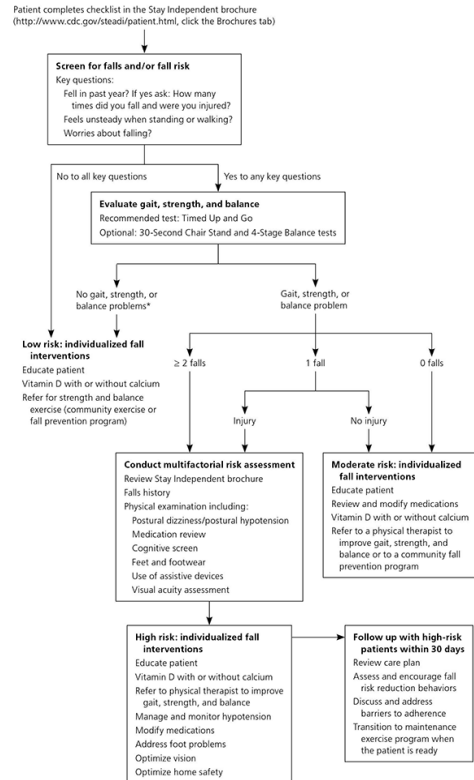
These changes may signify neurological problems that require further evaluation.

# Fall Risk Assessment: Physical Exam

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- A 2013 meta-analysis of 53 studies (n= 12,800) showed that the timed “Up and Go” test in adults  $\geq 60$  years of age **did not show a difference in scores between fallers and non-fallers who were living independently.**
- Mean difference of 3.59 seconds between institutionalized fallers and non-fallers, cutoff points distinguishing fallers and non-fallers showed considerable variation between studies, and **the diagnostic accuracy in most studies was poor to moderate.**
- The "Get Up and Go" test is **best used as part of a global assessment of an individual's fall risk**

# Risk Assessment and Management



\*—Consider additional risk assessment (e.g., medication review, cognitive screen, syncope).

# Practice Guidelines for Fall Prevention

## SCREENED, NOT AT RISK (NO FALLS, NO INJURIES)

- Educate patient
- Assess Vitamin D intake →  
Draw Vitamin D →  
Supplement
  - Considerations:  
Summer-time elevation  
in Vitamin D – no need  
to adjust dosing

### SORT: KEY RECOMMENDATIONS FOR PRACTICE

<i>CLINICAL RECOMMENDATION</i>	<i>EVIDENCE RATING</i>	<i>REFERENCES</i>
Vitamin D supplementation of 700 to 800 IU per day reduces falls in older adults.	B	<a href="#">12, 13</a>
Vitamin D supplementation of 700 to 800 IU per day reduces fractures in older adults.	A	<a href="#">16–18</a>
To prevent vitamin D deficiency, the recommended intake of vitamin D is 400 IU per day for infants and children with inadequate sun exposure, and 400 to 600 IU per day for adults with inadequate sun exposure. Maintenance dosages of 800 to 1,000 IU of vitamin D per day are recommended for adults with vitamin D deficiency, except in those with malabsorption syndromes.	C	<a href="#">1, 8, 29</a>



# Practice Guidelines for Fall Prevention

## SCREENED, NOT AT RISK (NO FALLS, NO INJURIES)

- Referral to PT/evidence-based fall prevention exercises
  - <https://lafallsprevention.org/category/laf-library/laf-videos/purposeful-exercise/>
- Reassess yearly, or as needed if patient with fall history



LAF LIBRARY | LAF VIDEOS | PURPOSEFUL EXERCISE

### 5-Minute Exercise – Standing Exercises with walker – Session One

MAY 3, 2020

LA Falls Prevention has created a landing page for short, introductory and evidence based programs for your communities! Check out Gretchen demonstrating simple routines, produced by LAFP partner, Pools of Hope.

# Interventions for At-Risk Individuals

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SCREENED, AT RISK ( $\geq 2$  FALLS, ANY FALL WITH INJURIES, ABNORMAL TUG)

- Educate patient
- Assess Vitamin D intake → **Vitamin D 800IU daily**
- Poor strength, gait, balance → **Referral to PT/evidence-based fall prevention exercises (eg: Tai Chi)**
- Identify medications that increase fall risk (Beer's criteria) → **Stop, switch, or reduce doses**
- Measure orthostatic BP → **Educate on exercises (eg: foot pumps), establish BP goal, ?compression stockings, encourage hydration**
- Visual impairment → **Referral to Optometry/Ophthalmology**
- Ask about potential home hazards (eg: throw rugs, slippery tub floor)
- Assess feet/footwear → **Educate on shoe fit, traction, insoles, heel height & Referral to Podiatry**
- Identify comorbidities (eg: depression, osteoporosis) → **Optimize treatment**

# Interventions for At-Risk Individuals

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AAFP: Key Recommendations for Practice

## **CLINICAL RECOMMENDATION**

## **EVIDENCE RATING**

The following components should be included in multifactorial interventions for falls in older persons:

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Exercise, particularly balance, strength, and gait training	A
Vitamin D <sup>3</sup> supplementation of at least 800 IU daily	B
Withdrawal or minimization of psychoactive and other medications	B
Adaptation or modification of the home environment for those who have fallen or have visual impairment	B
Management of foot problems and footwear	B
Management of postural hypotension	B
Dual chamber cardiac pacing should be considered in patients with carotid sinus hypersensitivity who experience unexplained recurrent falls.	B

# Other Intervention Considerations:

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## DIAGNOSTIC TESTING:

- Consider per HPI, physical examination, including evaluation of postural stability, gait, and mobility.
- There is no standard diagnostic evaluation of an individual with a history of or at high risk for falls.
- Labs to consider:
  - Hgb, BUN, creatinine, and A1c → can help to rule out causes of falling such as anemia, dehydration, and autonomic neuropathy related to diabetes.
- **No proven value of routinely performing Holter monitoring** in individuals who have fallen
- Echocardiography, brain imaging, or radiographic studies of the spine should not be considered routine *but should be driven by findings during the history and physical examination.*
  - Eg: Echo: heart murmur
  - MRI: gait disorder, abnormal neurologic exam, lower-extremity spasticity, to rule out cervical spondylosis or lumbar stenosis.

# Other Intervention Considerations:

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## PREVENTING COMPLICATIONS OF FALLS:

- **Hip protectors**, per Cochrane review:
  - In those living in nursing care facilities:
    - *Probably* decreases the chance of hip fractures slightly
    - *May increase* the small chance of a pelvic fracture slightly
    - Probably has little or no effect on other fractures or falls
  - In those living at home, providing a hip protector:
    - Probably has *little to no effect* on hip fractures
- **Osteoporosis screening** and management reduces hip fracture incidence <sup>1</sup>
- **Assistive devices (canes/walkers)** → evidence that these reduce the risk of falls is lacking
- **Time on floor**: A study of 1100 individuals over age 72 found that 47 percent of the 313 who experienced non-injurious falls were unable to get up for at least one hour after falling<sup>2</sup> → Call alarm systems?
  - **99% had an alarm system, 97% did not use the device**

# “The Single Most Serious Threat”

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## EXCERPT FROM *BEING MORTAL* BY ATUL GAWANDE:

“Ms. G had at least two risk factors. Though she didn’t need a walker, she had a splay-footed gait, her feet were swollen, her toenails were unclipped, there were sores between her toes, and the balls of her feet have thick, rounded calluses. She was also on five medications, including a diuretic. She seem to drink few liquids, risking dehydration and dizziness. Her tongue was bone dry on exam. She did not have significant muscle weakness- but did not seem to be eating enough calories to maintain that strength. Upon questioning, she admitted losing 7 pounds in the last six months.

The job of any doctor is to support quality-of-life, by which he meant two things: *as much freedom from the ravages of disease as possible* and *the retention of enough function for active engagement in the world*. Most doctors treat disease and figure out the rest will take care of itself. And if it doesn’t—if the patient is becoming infirm heading toward the nursing home—well, that isn’t really a *medical* problem, is it?”

# “The Single Most Serious Threat”

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## EXCERPT FROM *BEING MORTAL* BY ATUL GAWANDE:

“To a geriatrician, though it is a medical problem. People can’t stop aging of their bodies and minds, but there are ways to make it more manageable and to avert at least some of the worst effects. So Bladau referred Ms. G to a podiatrist, whom he wanted her to visit once every four weeks, for better care of her feet. He switched her diuretic to a blood pressure medicine that would not cost dehydration. He recommended that she eat a snack during the day, and to see whether family or friends to join her for meals.

Almost a year later, I checked in with Ms. G. she’d turned 86. She was eating better and have gained a pound or two. She still lived comfortably and independently in her home and she had not had a single fall.”

# Dot Phrase

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**Please use my dot-phrase: .HCFALLS**



# Thank You

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