

# FALLS

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*Cultivating a Culture  
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## Learning Objectives

- Know and Understand:
  - The importance of falls in older people
  - How to assess and prevent falls in an older person
  - How to assist the patient in getting up from a fall

## OLDER ADULT FALLS A Common Concern

IN 2014:



**1 in 4** older adults reported a fall.



More than  
**7 MILLION**

of those falls required medical treatment or restricted activity for at least a day.



More than  
**27,000**

older adults died as a result of falls — that's 74 older adults every day.

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

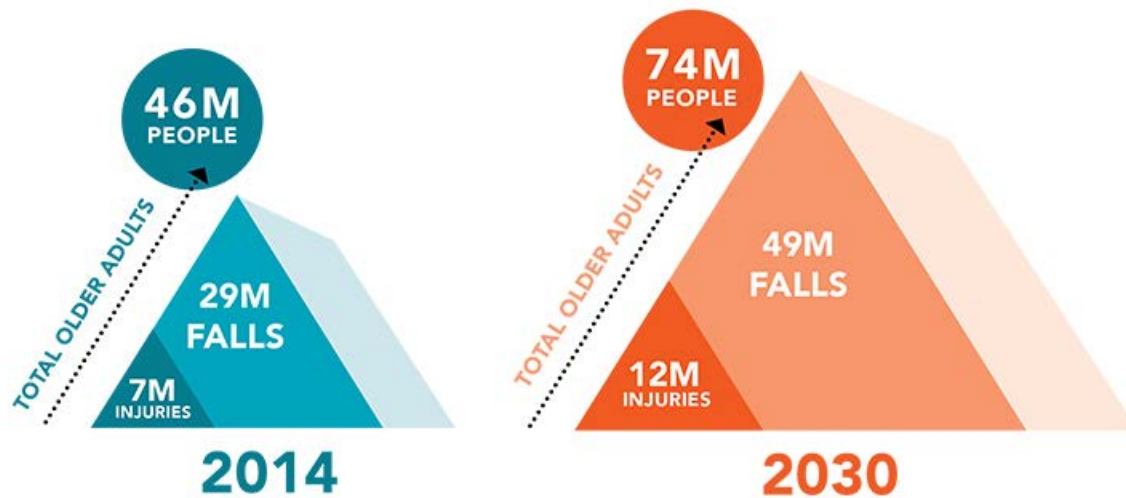
[www.cdc.gov/steady](http://www.cdc.gov/steady)



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## OLDER ADULT FALLS A Growing Burden



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## Sequelae of Falls

- Associated with:
  - Decline in functional status
  - Nursing home placement
  - Increased use of medical services
  - Fear of falling
- Half of those who fall are unable to get up without help (“long lie”)
- A “long lie” predicts lasting decline in functional status

## A Fall = Functional Decline

- Those who had at least one fall experienced a subsequent decline in ADL's and IADL's

Tinetti, ME. "The effects of falls and fall injuries on functioning in community dwelling older persons J gerontology A Biol SCi Med SCi 1998; 53:M112.

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## Other Outcomes of Falls

18% of all restricted activity days are related to fall injuries

42% of fallers reduce activity after fall

40- 73%of fallers report “fear of falling”

Falls are associated with NH entry

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## Cost of Falls

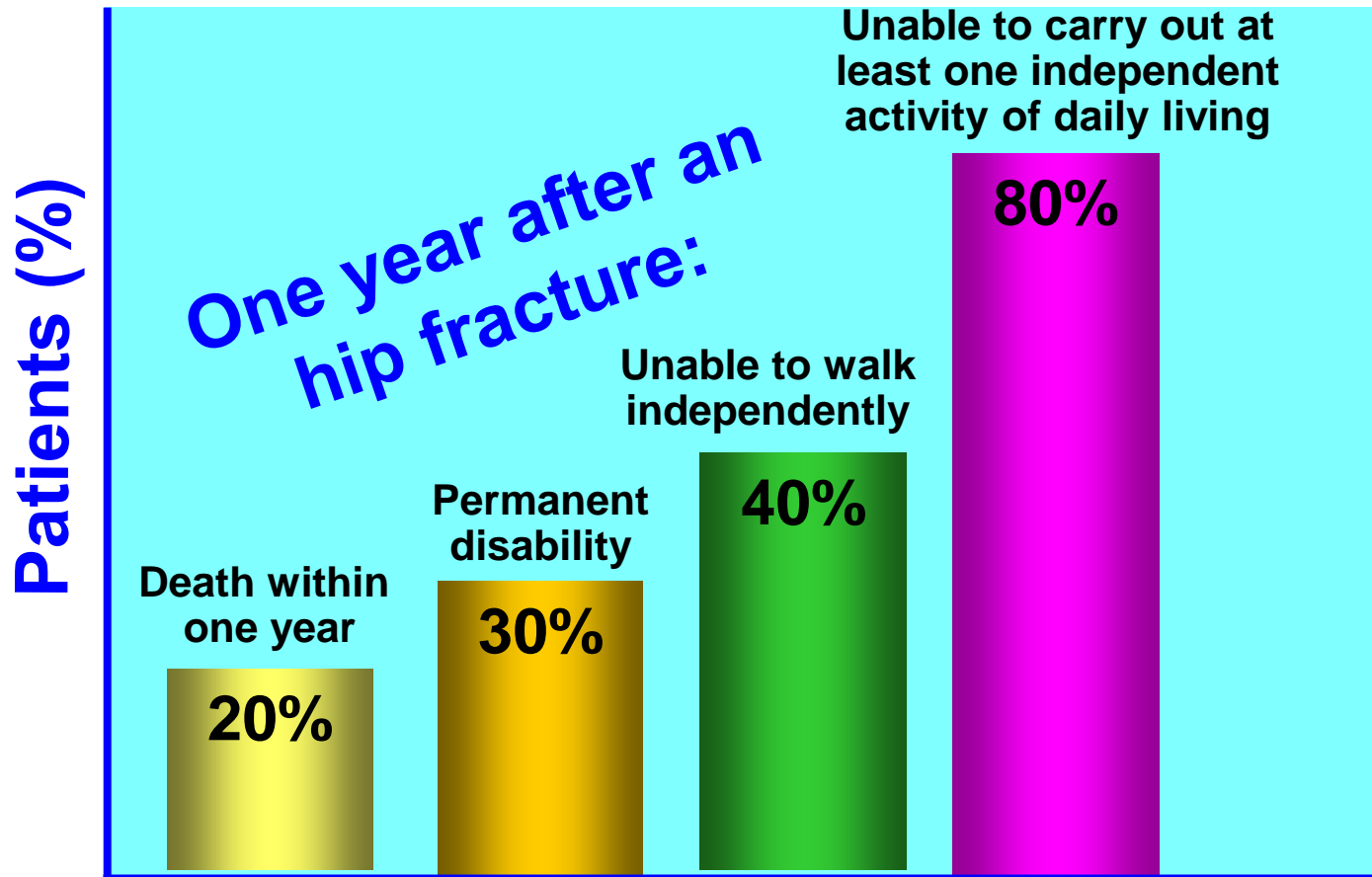
- ↑ Emergency department visits
- ↑ Hospitalizations
- Indirect costs from fall-related injuries such as hip fractures are substantial



## Morbidity After Vertebral Fractures

- Back pain
- Loss of height
- Deformity (kyphosis, protuberant abdomen)
- Reduced pulmonary function
- Diminished quality of life: loss of self-esteem, distorted body image, dependence on narcotic analgesics, sleep disorder, depression, loss of independence

## All fractures are associated with morbidity



Cooper C, Am J Med, 1997;103(2A):12S-17S

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# Aging Changes

- Gait changes
- Feet not picked up high
- Slower gait (~about 1% per year) shorter steps, decreased strength
- Broader based gait
- Postural instability
- Decreased proprioception and slowed processing (increased sway)
- Altered balance response “strategies”
- Impaired vision, hearing, memory

## 10 Most Common Reasons Seniors Shuffle When They Walk

- Weak hips and leg muscles
- Arthritis pain in joints
- Loss of flexibility in feet making it hard to flex them normally
- Decreased ability to maintain balance
- Decreased vision making it hard to see
- Fear because of a recent stumble or fall
- Slow reaction time when unbalanced which increases fear of falling
- Medication side effects
- Worn or poorly-fitting shoes or slippers
- Slippery floors

## Risk Factors

- Medications
- Alcohol
- Uneven or slippery surface
- Obstacles/Clutter in environment
- No handrails
- Poor lighting
- Improper shoes
- New surroundings

## Risk Factors

- Older Age
- Cognitive Impairment
- Vision
- Past history of a fall
- Leg weakness or gait problems
- Foot disorders
- Balance problems
- Vitamin D deficiency
- Pain
- Parkinson's disease
- Stroke
- Arthritis

**The risk of falling  
increases with the number  
of risk factors!**

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## Other Causes

- Chronic disease
  - Parkinson's disease
  - Strokes
  - Osteoarthritis, chronic pain
- Medication use

## Causes: Medication Use

- Specific classes, for example:
  - Benzodiazepines
  - Other sedatives
  - Antidepressants
  - Antipsychotic drugs
  - Cardiac medications
  - Hypoglycemic agents
- Recent medication dosage adjustments
- Total number of medications



# Guidelines For The Prevention of Falls In Older Persons

J Am Geriatr Soc 2001 May;49(5):664-72.

Particular attention to medication reduction should be given to older persons taking four or more medications and to those taking psychotropic medications.



Anti-Depressants

Anti-Psychotics

Anxiolytics

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# Fall History

- History of falls
- Activity at time of fall(s)
- Prodromal symptoms
- Location and time of fall(s)
- Injury
- Vision changes
- Fear of falling
- Footwear
- Lighting
- Floor coverings
- Railings
- Furniture
- Door thresholds
- Medication history (new, changed, high-risk meds)

# Functional Assessment

- ADLs assessed by open ended questions
  - How do you spend your days?
  - What do you like to do?
  - Have you traveled recently?
- Decline or cessation of ADLs may be due to a decline or a result of a personal choice

# Functional Assessment

- Two basic screening questions:
  1. Do you have difficulty climbing up 10 steps or walking 0.25 mile?
  2. Because of health or physical reasons have you modified the way you climb steps or walk?

- It's a pain in the gluties. But you gotta do it. Dying is easy, living is tough. I hate working out. Hate it. **But I like the results.**" - Jack Lalanne



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## Exercises for Balance

- Single leg stand
- Raise arm and leg together
- Heel to toe walk
- Chair rise

## How to get up from a fall

- [How to get up](#)



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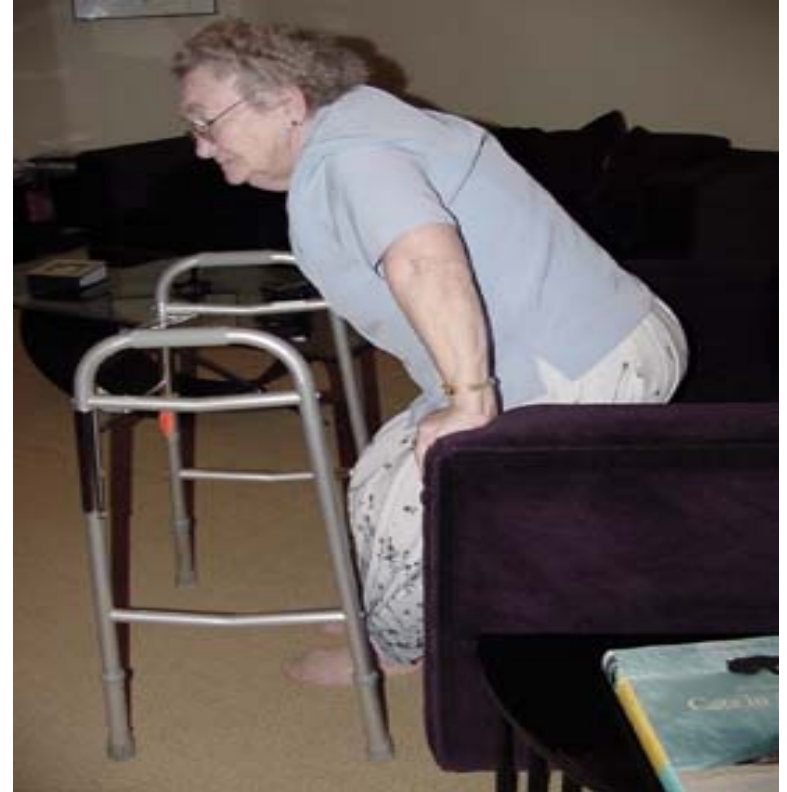
- Stay calm and don't move for a few minutes. Moving too quickly can cause more harm.
- Figure out if anything was injured. Slowly move hands and feet, arms and legs.
- Assuming there are no injuries, slowly roll onto your side. Rest a little.
- Slowly push up into a crawling position and crawl slowly toward a sturdy chair or furniture item. Don't rush. Rest as needed.
- Put one hand at a time on the seat of the chair.
- Supporting yourself with the chair, bring your strongest leg up to a 90 degree angle by putting that foot flat on the ground. The other leg stays in kneeling position.
- Slowly push up to standing using both arms and legs.
- Slowly turn around and lower yourself onto the chair.
- Sit and catch your breath for a few minutes before doing anything else.

## MacGyver

- [How to get up](#)

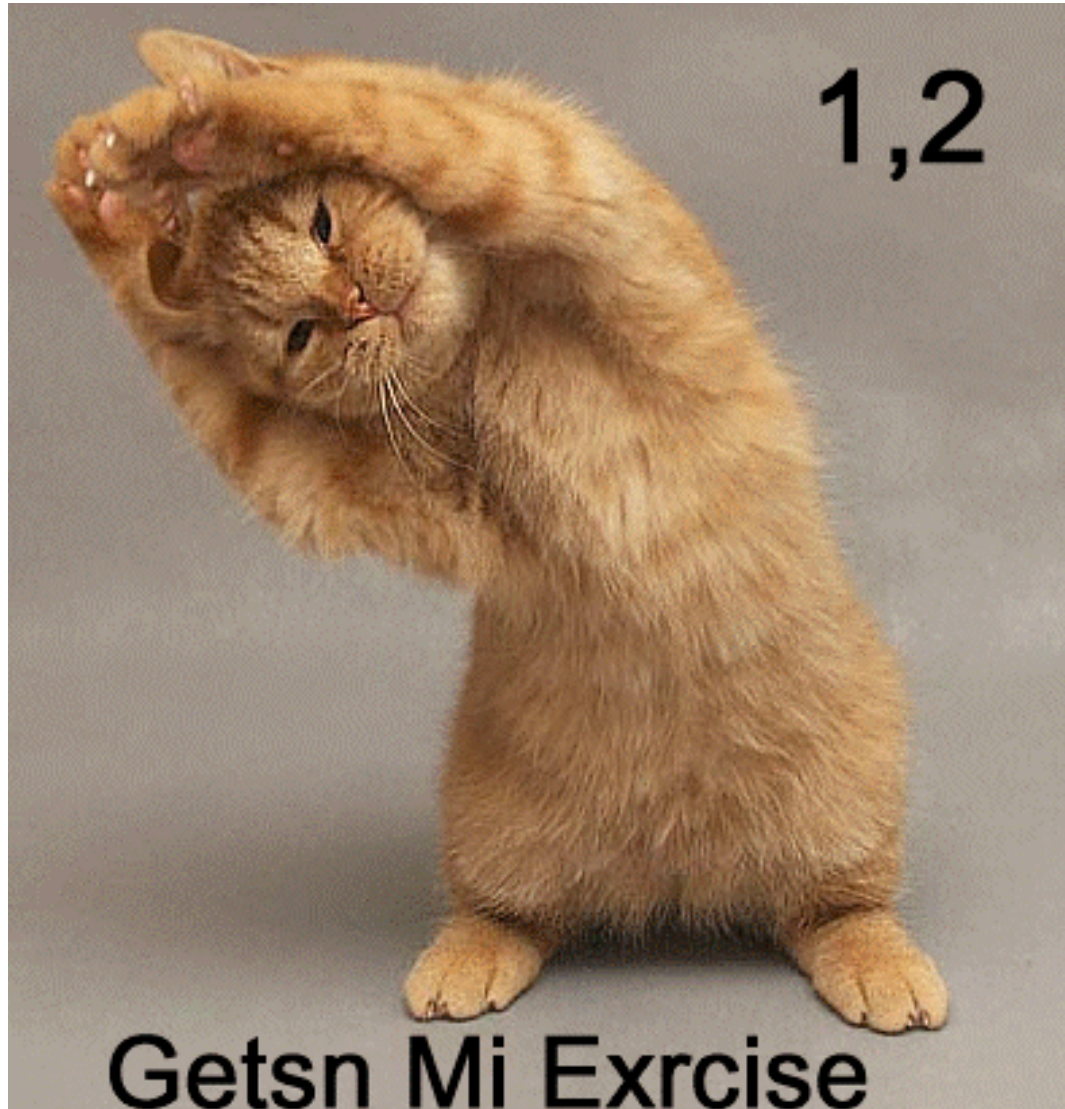
## Get Up and Go Test

- Have the patient rise from a sitting position, walk 10 feet, turn and return to the chair to sit
- Most adults can complete in 10 sec
- Most frail elderly adults can complete in 11 to 20 sec
- >15 seconds suggests increased risk of falling
- >20 sec comprehensive eval
- Results are strongly associated with functional independence in ADLs



- Geriatric Functional Assessment- Gait

- <https://www.nytimes.com/video/science/100000001658168/gait-changes-and-dementia.html>



# Interventions

- Individualized interventions targeting risk factors found to be more helpful than standardized
- Exercise:
  - Gait and balance training
  - Strength training
  - Flexibility
  - Movement (dance or Tai Chi)
  - General physical activity
  - Endurance

# Living Assessment

- Appropriate living arrangement:
- Is the patient safe at home or in the community or do they require a higher level of care?
  - Independent Living Facilities (ILF)
  - Assisted Living Facility (ALF)
  - Board and Care (BC)
  - Skilled Nursing Facility (SNF)



# Assistive Devices

- Front Wheel Walker (FWW): safer choice
  - If less cognitively aware
  - Gait disturbance
  - Impulsive behavior
- Rollator :
  - More cognitively aware
  - Able to ambulate short distances where may need rest period

# Assistive Devices

- Wheelchair
  - Non-ambulatory; self propelling, hand propelled, fully assisted
  - standard or transport
- 3:1 Bedside Commode (BSC)
  - Elevator and arms for toilet
  - Bedside commode
  - Shower chair

## Summary

- Falls by older adults are common and usually multifactorial
- Falls are associated with functional decline
- Screening and targeted preventive interventions are most effective
- Fall prevention strategies allow patient independence

## Summary

### OLDER ADULT FALLS A Preventable Problem



CDC, healthcare providers, and older adults and their caretakers can work together to prevent falls.

1.

#### SCREEN

Screen for fall risk using these 3 questions:

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

2.

#### REVIEW

Review and manage medications linked to falls.

3.

#### RECOMMEND

Recommend vitamin D for improved bone, muscle, and nerve health.

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**Don't let aging  
get you down.**

**It's too  
hard to  
get  
back up!**



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# Thank you!

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