A Home To Fit You
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Fall Prevention and Home Modification Guide

Practical guidance for families and caregivers

Identifying fall risks and making your home safer

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Welcome

Wrinkles, gray hair, and bone loss are a normal part of aging. Falls, on the other hand, are **not** considered a normal part of aging. Nevertheless, the number of seniors who experience falls is staggering, and fall prevention is an important topic among professionals working with older adults.

Many aging adults who live at home lead active lives and never experience falls. But if your loved one is one of the millions of people who fall every year, I understand the worry that comes with that. The statistics can be frightening. But a fall does not always necessitate a move into a senior care community, and it is most certainly not a death sentence.

Through my thirty-plus years of experience in geriatrics and rehabilitation as a physical therapist, I have worked with hundreds of patients who have experienced falls. I have taught patients and their families how to identify fall risks and implement practical solutions to help minimize them.

This guide is organized into three parts:

- The first part covers practical statistics related to fall risk factors.
- The second part walks through each internal risk factor and its solutions.
- The third part covers external risk factors, including fall risks in the home, and guides you room by room through simple modifications.

I will be the first to tell you that no method or intervention can guarantee that your loved one will never fall. But this guide will give you many tools to help minimize fall risks.

With care,
Ronit Cohen, PT
Senior Living Advisor

Questions about fall prevention or senior care options? Contact me whenever you're ready.

Numbers and Facts

Numbers

- Thirty million adults fall every year
- Three million adults are treated every year for fall injuries
- Three hundred thousand older people (age 65+) are hospitalized for hip fractures every year
- Thirty thousand adults die as a result of a fall every year

Facts

- 95% of all hip fractures are caused by falling, usually by falling sideways
- Women experience three-quarters of all hip fractures
- One out of three adults age 50+ who suffer a hip fracture die within 12 months
- Falls are the most common cause of traumatic brain injuries
- Other common injuries from falls include shoulder fractures, wrist fractures, compression fractures, and spinal cord injuries

Long-Term Effects of Hip Fracture

- Loss of physical function
- Decreased independence
- Decreased social engagement
- Decreased quality of life
- Depression
- Dementia

Increased Death Risk After Hip Fracture

- Surgery complications
- Infection
- Internal bleeding
- Heart or pulmonary blood clot (embolism)
- Pneumonia
- Stroke

For young and healthy people, the outcome of a hip fracture is usually full recovery. For the older adult, especially one who has experienced declined health or cognition, the prognosis is often more complicated.

Fall Risk Factors

The following are the most common fall risk factors in older adults. Understanding which factors apply to your loved one is the first step toward reducing fall risk.

1. Greater Than Four Medications (Polypharmacy)

Older adults are at greater risk for adverse drug reactions because of metabolic changes and reduced drug clearance associated with aging. This risk increases with the number of medications taken. Symptoms may include tiredness, decreased alertness, constipation, diarrhea, incontinence, loss of appetite, confusion, depression, weakness, tremors, hallucinations, anxiety, and dizziness. Most of these symptoms are directly associated with increased fall risk.

Solutions:

- Your primary care physician should manage all medications and consolidate prescriptions from multiple doctors or specialists.
- Bring your most updated medication list to every medical appointment.
- Ask your physician to review medications at least twice a year, or whenever a new medication is prescribed.
- Consult with your pharmacist about potential adverse drug reactions.

2. Impaired Balance

Poor balance is one of the major risk factors for falls in older adults, affecting between 20% and 50% of those aged 65 or older. Poor balance has been shown to cause a three-fold increased risk of falling.

Solutions:

- Consult with a physical therapist (PT) through an outpatient clinic or home health.
- The PT will assess your balance and your need for a walking device.
- Follow a treatment program that includes a home exercise program in addition to therapy sessions.
- When practicing balance exercises at home, always have someone nearby for safety.
- Consult with a PT to be fitted with the appropriate walking device.
- Consider hip protection underwear to help decrease the risk of hip fracture.

3. Low Blood Pressure

Low blood pressure can cause orthostatic hypotension, a drop in blood pressure when changing positions such as from lying to sitting or standing. Common symptoms include dizziness, lightheadedness, blurred vision, weakness, and fatigue. Dehydration can also create low blood volume and contribute to low blood pressure.

Solutions:

- Get your blood pressure checked by your primary care provider.
- Ask your doctor about current medications and whether they may be contributing to low blood pressure.
- Drink plenty of fluids to help maintain blood volume.
- Reduce alcohol consumption, which can cause dehydration.
- Eat smaller meals to help maintain normal blood pressure.
- Wear compression stockings to prevent blood pooling in the legs.
- Move slowly when changing positions, especially when standing.

4. Impaired Strength and Flexibility

Strong and flexible muscles allow us to maintain good posture and perform daily activities. Weak muscles, especially core and large leg muscles, lead to poor balance. Tight muscles impair balance reactions when reaching or taking a quick step to prevent a fall.

Solutions:

- Consult with a physical therapist through an outpatient clinic or home health.
- Follow a treatment program that includes a home exercise program.

• The exercise program should be easy to follow, enjoyable, and functional.

5. Impaired Sensation

Through touch and proprioception (awareness of the position and movement of the body), we identify the surface we step on and the position of our foot and ankle. Without adequate sensation at the bottom of the foot or ankle, balance is more easily lost.

Solutions:

• Consult with a physical therapist or occupational therapist.

• Wear supportive shoes with a wide sole and no heel to create a wider base of support.

6. Ear Problems and Hearing Loss

Problems with the inner ear can lead to balance problems, dizziness, and vertigo. Conditions such as Meniere's disease and labyrinthitis can result in both hearing loss and balance problems.

Solutions:

• Check your hearing and use a hearing aid as prescribed.

• Consult with an ear, nose, and throat (ENT) physician to treat any ear disease.

• Consult with a physical therapist for vestibular rehabilitation therapy.

7. Impaired Vision

The vestibular and proprioceptive systems work off information from the eyes and brain, helping with stability and position. Poor vision creates a ripple effect that leads to impaired balance and increased fall risk. Common eye disorders in older adults include glaucoma, cataracts, macular degeneration, and diabetic retinopathy.

Solutions:

• Get a yearly eye check with your eye doctor.

• Make sure glasses have the right prescription and keep them clean.

• Keep good lighting in your home and at outdoor entrances.

8. Incontinence

People with urge incontinence may be in a hurry to get to the bathroom to avoid an accident. If balance is already compromised, walking fast increases the risk of losing balance and falling.

Solutions:

• Wear a protection pad or Depends to minimize the need to rush to the bathroom.

• Work with a physical therapist who specializes in pelvic health.

• Schedule toileting every two to three hours to avoid waiting until the last minute.

9. Impaired Cognition

Older adults with dementia fall two to three times more than cognitively healthy older adults. Changes in gait speed and stride variability are known biomarkers of fall risk in people with moderate-stage dementia.

Solutions:

- Consult with a physical therapist to work on improved balance.
- Increase supervision with the support of a caregiver.
- When dementia progresses, consider assisted living or memory care where caregiver support is available around the clock.

10. Alcohol

Older adults who take common medications may be more likely to fall when drinking alcohol. Alcohol mixed with certain medications can cause drowsiness, sharp dips in blood pressure or blood sugar, and other dangerous side effects.

Solutions:

- Healthy adults over age 65 should have no more than seven drinks per week and no more than three in one day.
- Pace yourself when drinking and do not have more than one drink per hour.
- Make sure to eat when drinking.
- Ask for support from family or professionals if needed.

11. Depression and Anxiety

Depression and anxiety are tied to the fear of falling. Some medications that treat these conditions can cause sleepiness, dizziness, and sleep deprivation, which directly affect strength and balance.

Solutions:

- Consult with your physician about using antidepressant and anxiety medication in moderation.
- Consider cognitive-behavioral therapy.

12. Prior Fall History, Confidence, and Fear of Falling

When a person experiences a fall, other fall risk factors are often already present. Out of fear of falling again, the person may lose confidence in their ability to walk safely. This can result in additional decline in balance and strength.

Solutions:

- Improving strength and balance is one of the best ways to rebuild confidence and reduce fear of falling.

13. Home Environment

The home contains many obstacles that can increase fall risk. Throw rugs, poor lighting, and clutter are only a few. The following chapter walks through every area of the home and describes simple modifications to create a safer living space.

Home Modification for Fall Prevention

Making changes to the home environment is one of the most effective ways to reduce fall risk. The following sections walk through each area of the home with a checklist of things to assess and practical steps to make each space safer.

Five principles for a safer home: Make it easy to get on and off sitting surfaces • Avoid climbing • Avoid bending low • Clear obstacles • Use grab bars

Outside: Walkways and Entry

Assess

- ■ Are walkways smooth and level with no cracks or tripping hazards?
- ■ Are steps clear and visible?
- ■ Are shrubs trimmed back from walkways?
- ■ Do steps to doors have a sturdy rail on one or both sides?
- ■ Are steps of equal height and in good condition?

Make It Safe

- • Fix all cracks and gaps in walkways.
- • If steps are uneven or there is no place for a railing, consider a ramp.
- • Create visual contrast on stairs with paint or tape if vision is a problem.
- • Trim shrubs and tree branches regularly.
- • Install motion detector lights along walkways and at the entry.

Outside: Garage, Ramp, and Deck

Assess

- ■ Is there adequate lighting in the garage?
- ■ Is there a clear pathway to walk through?
- ■ Do entry steps have railings?
- ■ Does the ramp have sturdy rails on both sides and a nonskid surface?
- ■ Is the deck surface in good condition with no protruding nails?

Make It Safe

- • Add light fixtures as needed.
- • Install shelves to clear and organize clutter.
- • Use cylindrical railings for easy gripping.
- • Put nonskid strips on ramps and deck surfaces.
- • The recommended ramp slope is 1:16 (12 inches of length for every 1 inch of height) and 36 inches wide.

Entry Door

Assess

- ■ Is the landing wide enough to safely open the door?
- ■ Is there a grab bar on the door frame?
- ■ Is the threshold at the door less than one inch high?
- ■ Is there a nonskid rug by the door, inside and outside?

Make It Safe

- • Change to lever-type door handles if knobs are difficult to grasp.
- • Install no-step, no-trip thresholds at doorways.
- • Install a grab bar on the door frame.
- • Make sure the entry mat has a rubber backing.
- • Fix the threshold if needed.

Hallways and Interior Steps

Assess

- ■ Are all hallways free of clutter with adequate lighting?
- ■ Is there a night light in the hallway?
- ■ Do stairs have a sturdy rail on both sides?
- ■ Do rails continue to the landing surface?
- ■ Is the edge of each stair visible?
- ■ Do wood stairs have nonskid strips?
- ■ Is carpet on stairs securely attached?

Make It Safe

- • Clear all clutter.
- • Install night lights.
- • Mark the edge of stairs with brightly colored tape.
- • Make sure surfaces are nonskid and carpet is tight.
- • Install a light switch at both the top and bottom of stairs.

Living Room and Family Room

Assess

- ■ Is there adequate lighting?
- ■ Are there clear pathways wide enough for a walker or wheelchair?
- ■ Are carpets in good condition with no tears or worn spots?
- ■ Do throw rugs have nonskid backing?
- ■ Are electrical cords out of walkways?
- ■ Does furniture have sharp edges or glass tops?

Make It Safe

- Remove throw rugs or secure them with double-sided tape.
- Remove tables with sharp non-rounded edges or glass tops.
- Move all cords to the wall or cover them with tape if they must cross the room.
- Make sure the recliner is not too wide or too deep.
- Do not use a recliner that rocks, swivels, or glides.
- Consider a lift chair.
- Set a lamp and a small table next to the primary chair.

Kitchen

Assess

- ■ Is there adequate lighting?
- ■ Are frequently used items within easy reach?
- ■ Are dining chairs without wheels and with armrests?
- ■ Is there a fire extinguisher?

Make It Safe

- Store frequently used items on lower upper cabinet shelves and upper lower cabinet shelves.
- Use a black mat in front of the sink.
- Sit down for any cooking activity that allows it.
- Mark stove and oven knobs clearly.
- Install easy-to-grasp D-shape cupboard handles.
- Post emergency numbers and POLST form on the refrigerator.

Bedroom

Assess

- ■ Is there adequate lighting and a lamp next to the bed?
- ■ Is there a night light?
- ■ Are there clear pathways between the bed, door, and bathroom?
- ■ Is there enough space between the bed and wall for a walker?
- ■ Is there a chair to sit on when getting dressed?

Make It Safe

- Clear all clutter and create clear pathways.
- Adjust bed height so feet touch the floor easily when seated on the edge.
- Use a half-bed rail at the head of the bed for support when getting up.
- Have a nightstand with a lamp, phone charger, and room for essentials.
- Use a gripper or long-handle shoehorn to minimize bending when dressing.

Closets

Assess

- ■ Are clothes and shoes within easy reach?
- ■ Is the closet well organized?
- ■ Is there a light inside the closet?
- ■ Are closet doors easy to open?

Make It Safe

- • Arrange frequently used clothing on easy-to-reach shelves.
- • Use closet organizers to maximize space.
- • Store shoes on a shelf that does not require bending down.
- • Replace or remove closet doors that are difficult to use.

Bathroom

Assess

- ■ Is there a night light?
- ■ Are there nonskid mats by the sink and shower?
- ■ Are there grab bars outside and inside the shower or tub?
- ■ Is there a nonskid bathmat or strips on the shower or bath floor?
- ■ Is there a hand-held showerhead?
- ■ Are there sturdy grab bars by the toilet?
- ■ Is the toilet high enough to allow easy sitting and standing?

Make It Safe

- • Install a night light.
- • Put a nonskid shower mat inside the shower or tub.
- • Install grab bars outside the shower for safe transfer.
- • Install grab bars inside the shower or tub.
- • If using suction cup grab bars, check them periodically by pulling on them.
- • Use a hand-held showerhead.
- • Use a shower chair or transfer bench.
- • Place a commode frame over the toilet to adjust height.
- • Replace a towel rack used for support with a proper grab bar.

Laundry Room

Assess

- ■ Is there a light switch at the entry with adequate lighting?
- ■ Are appliances at a comfortable height?

■ Are laundry supplies easy to reach?

■ Is there clutter in pathways?

Make It Safe

• Ensure adequate lighting.

• Place laundry supplies in easy-to-reach locations.

• Clear laundry baskets and clothing from walkways.

General Home Safety Tips

• Any job requiring a step stool or ladder should not be done by someone at high fall risk.

• Motion detector lights are useful both indoors and outdoors.

• Use LED light bulbs, which last longer and require changing less often.

• Clearing clutter is an excellent opportunity to downsize and organize.

• Install smoke detectors and fire extinguishers, especially in the kitchen and bedrooms.

• Have another person present when taking a shower.

Fall Prevention in Senior Care Communities

As described in the previous chapters, much can be done to prevent falls. Remember that the first step of fall prevention is to identify the causes of the fall.

If you have made every effort to intervene appropriately and yet falls continue to occur, it may be that the only remaining solution is for a caregiver to assist whenever the person gets up and moves. Holding on to a gait belt around the waist of the person at fall risk provides extra support when walking.

You can hire a caregiver through an in-home care agency. However, since the person at fall risk may get up any time of day or night, 24/7 care may be needed, which can be costly. There will be times when providing care at home is not a viable solution due to financial burden or caregiver stress. In those cases, a senior care community with 24/7 caregiver support may be the right next step.

To understand the different types of senior care communities, visit ahometofityou.com/senior-care-housing-facilities-eugene/.

Choosing the Right Type of Community

A person who has the cognitive ability to initiate a call for caregiver support via a call light and to wait until the caregiver arrives can safely live in an assisted living community. A person who does not have this cognitive ability should move into an adult foster home or memory care.

Fall Prevention Strategies in Senior Care Settings

Create a Safe Space

Use home modification techniques in your loved one's new apartment -- clear pathways, appropriate lighting, the right recliner, a shower chair, and similar adjustments.

Provide Accurate Information

Making your loved one "look good" by not disclosing fall risk will not turn out well. When the care community knows that fall prevention is part of the care plan, they can minimize risks appropriately.

Toileting Program

Many people get up only when they need to use the bathroom. A scheduled toileting program every two to three hours minimizes the chance of unsupported movement.

Frequent Checks

If a caregiver frequently checks on the person in their room, they are more likely to be present when the person attempts to get up.

Encourage Time in Common Areas

When a person sits in common areas, caregivers can supervise more easily and respond quickly when someone gets up.

Surface Alarm

A surface alarm placed under a mattress or chair sounds when the person gets up. This should not be the first intervention, as it can be considered a restraint, but it can be helpful in conjunction with other strategies.

> *If you are considering a move to a senior care community and have questions about fall prevention and care options, contact me.*

Last Word

There is no way to prevent all falls at all times. You may have taken the right steps and implemented the appropriate interventions, and your loved one may still experience a fall. Know that you did the best you could to keep your loved one safe by using the information in this guide.

One thing I want to mention: in some care settings, families or staff attempt to prevent falls by restraining the person to a bed or chair. Preventing the person from moving and practicing walking only increases fall risk over time. It is not a solution.

The goal is not to eliminate all movement in order to eliminate all falls. The goal is to create the safest possible environment, reduce known risk factors, and support your loved one with dignity and care.

If you would like help thinking through fall risk, home modifications, or the right level of care for your loved one, I am here.

Warmly,
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