

Fall Prevention

Know Your Risk Factors and Ways to Prevent Falls in the Home and Community

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Quick Facts

- Falls can result in serious injuries that may lead to limitations in daily activities and independence.
- There are a variety of potential causes for falls. Knowing your personal risk factors can help to prevent falls from occurring.
- Finding ways to rearrange or adapt your home environment can also help to reduce your risk for falls.

If you or a loved one has experienced a fall, you understand how scary and dangerous it can be. It may have occurred for any number of reasons: tripping on a rug, slipping on an icy sidewalk, forgetting to use your cane when you rushed to the bathroom, side effects from a medication that made you lose your balance when you least expected it, etc.

Approximately 30% of older adults 65 years and older fall each year (Homann et al., 2013). Falls can result in head trauma, fractures, soft tissue injuries, and even death (Leland et al., 2012; Pereira et al., 2008). The risk of falling increases with age, especially for those who are in poor health (Pereira et al., 2008; National Institute on Aging, 2022). After a fall, people may limit their activities and lose aspects of their independence due to these injuries. Beyond the physical implications, individuals may develop a fear of falling which can limit one's confidence in completing daily activities and thus overall quality of life (Leland et al., 2012). The good news is, many falls can be prevented by taking care of your health through things like exercise and medication management, as well as adapting your environment depending on your individual needs.

Causes and Risk Factors for Falls

As mentioned above, there are a variety of potential causes for falls. These may include things related to your physical body, including your personal risk factors based on your medical history, as well as the set-up of your home and commonly frequented community environments.

- ❖ **Weak muscles.** This may be due to age-related loss of muscle mass, lack of physical activity, chronic conditions such as a neurological injury or disorder, or some combination.
- ❖ **Problems with balance and walking.** Certain conditions such as stroke, Parkinson's disease, MS, SCI, Alzheimer's or dementia, epilepsy, diabetes, arthritis, osteoporosis, heart disease, or problems with your thyroid, nerves, feet, or blood vessels can impact your balance and increase fall risk.
- ❖ **Urinary or bowel incontinence** may lead to rushing to the bathroom which can increase the chance of falling (National Institute on Aging, 2022).
- ❖ **Medications.** The side effects of some medications may include things like increased fatigue, dizziness, or confusion which can increase fall risk.
- ❖ **Issues with blood pressure.** For some people, blood pressure can drop when changing positions (called postural hypotension) and potentially lead to a fall.
- ❖ **Foot problems** including pain, limited sensation, reduced flexibility in the ankle joint, reduced strength in the calf muscle, and toe or foot deformities.
- ❖ **Unsafe footwear** (e.g., backless shoes, high heels, walking barefoot or wearing only socks) can increase fall risk.
- ❖ **Vision and hearing impairments.** In general as you get older, your eyesight, hearing, and reflexes might not be as good as they were when you were younger (National Institute on Aging, 2022). You may also have a preexisting condition that limits your vision or hearing and may need to wear glasses and/or hearing aids. Without wearing these devices, or if you are experiencing untreated changes to your vision or hearing, you increase your risk for falls.
- ❖ **Safety hazards in the home or community environment**, such as clutter or loose rugs, traffic and crowds.

****Fear of Falling****

Another important risk factor for falls is a fear of falling. Whether or not you've had a fall, you may develop a fear of falling. Although understandable - and we want to prevent any falls from occurring in the first place - this fear may lead to an avoidance of daily activities, as well as a potential decline in functional abilities, depression, social isolation and diminished quality of life (Pereira et al., 2008). Although it may seem counterintuitive at first, it is important to stay active

in your daily activities and in a weekly exercise program to keep you healthy and strong to actually prevent falls (National Institute on Aging, 2022). Talk with your PT and/or OT about ways to modify your environment, such as with stair railings or adaptations to your bathroom, in order to promote your safety and build your confidence.

How To Prevent Falls

Whether you've never had a fall or you've had several, it is never too early or too late to find ways to prevent a fall from occurring. Before implementing any of the interventions below, be sure to check-in with your healthcare provider(s). Always inform your providers if you have had a fall since your previous check-up or therapy session. If you have any preexisting conditions such as osteoporosis, diabetes, peripheral artery disease, or arthritis, check-in with your PCP to ensure these are being properly managed. Your OT and PT can help assess your balance, risk factors, and home environment to better understand what's most appropriate for your safety.

Personal Factors to Consider

- **Know your medications.** Some medications, such as those taken for blood pressure management or sleep issues, may have side effects that increase your fall risk
- **Have your vision and hearing checked regularly.** Be sure to wear eyewear and hearing aids if you have been advised to do so by your provider(s).
- **Get adequate sleep**
- **Avoid rushing during daily tasks.** Also be sure to stand up slowly, as getting up too quickly can cause your blood pressure to drop and may increase your risk.
- **Avoid or limit alcohol.** Excessive alcohol consumption can lead to balance issues.
- **Wear supportive shoes.** Look for shoes that are well-fitted, closed toed, low heel, non-skid, and lightweight. Do not walk on stairs or floors barefoot, in socks, or in shoes/slippers with smooth soles to avoid slipping or falling.
- **Use your assistive devices.** Your PT and/or OT may have recommended using a walking aid, such as a cane or walker. If you are unsure of the fit or appropriateness of a device, be sure to check in with your therapy team.

****Importance of Exercise in Fall Prevention****

Exercise helps to improve muscle and bone strength, balance, and keep joints, tendons and ligaments flexible (National Institute on Aging, 2022). Studies have shown that moderate physical activity can reduce the risk of falls and prevent fractures and other injuries in healthy older adults as well as those with medical conditions including osteoporosis, Parkinson's disease, diabetes, and stroke (Pereira et al., 2008). As one example, studies have shown that Tai Chi, a

form of exercise targeting posture, trunk rotation and strength, can both reduce the risk of falls and decrease the number of falls in older adults (Chen et al., 2023).

Although there are no specific guidelines regarding how much exercise or how intense your exercise program should be in order to prevent falls, in general adults are recommended to get 2.5 hours of moderate or 75 minutes of vigorous physical activity per week (American Heart Association, 2024). Please be sure to consult your healthcare providers before engaging in any new exercise program.

Environmental Factors to Consider

- **Remove clutter and/or tripping hazards from common areas.** For example, throw rugs, mats, and electrical cords. If you have pets, be aware of their presence to avoid tripping over them by mistake.
- **Repair broken or uneven steps**
- **Immediately clean up any spilled liquids.** This may occur anywhere in the house but pay extra attention to the kitchen and bathroom, and consider using non-slip mats in the bathroom.
- **Install and use proper lighting throughout your home.** If you tend to get up at night for the bathroom, also consider installing nightlights.
- **Ensure your bed is a proper height.** You may risk falling when transferring in and out of bed if your bed is too high or too low.
- **Use adaptive equipment as recommended.** Your OT and/or PT may recommend the use of handrails on stairs, grab bars, shower chairs, or other equipment in the bathroom and shower. If you are unsure of the fit or appropriateness of a device, be sure to check in with your therapy team.
- **Store commonly used items in easy reach.** For example, you may benefit from moving items from higher shelves in the kitchen to lower, more accessible locations. Do not use a chair as a step stool.
- **Keep a cell phone on at all times in case of emergency.** If appropriate and accessible to you, you may also benefit from the use of a smartwatch or alert button.

Winter Weather Considerations

- If possible, stay inside when the weather is bad.
- If you do need to go out when weather conditions are poor, wear non-slip footwear and walk slowly and carefully, being mindful of wet and icy surfaces.
- Use an ice melt product, cat litter or sand to clear icy areas by your doors and walkways (National Institute on Aging, 2022).
- Be extra cautious near uneven surfaces, steps, or curbs.
- When possible, avoid carrying items when walking by using a backpack or fanny pack to keep your hands free in case you need to steady yourself.

If You Fall

Nobody wants to fall, but you should be prepared in the event that you do in order to reduce panic and/or injuries when possible. Below are general tips to follow if you are concerned about what you would do if you fell, but be sure to also check-in with your therapy team to problem solve ways to improve your safety and confidence (National Institute on Aging, 2022).

- **Breathe.** Although this may seem difficult at first, it is important to avoid panic by taking a few deep breaths before moving.
- **Remain on the floor/ground for a few moments.** You want to avoid rushing or getting up the wrong way as this may lead to further injury.
- **Determine if you are hurt** - are you experiencing any pain, do you notice any cuts or bleeding?
 - If you are hurt and have a cell phone, call 911 or find another way to get help (e.g., shouting for help if other people are nearby, use of an emergency response system such as a button, necklace or bracelet, or use of a smartwatch). Do this first before trying to move yourself.
- **If you think you can get up safely without help,** you'll want to locate a sturdy chair (e.g., no wheels, and with armrests if possible), to crawl towards on your hands and knees. Take your time as you switch positions to allow your body and blood pressure to adjust.
- **Slowly sit down in the chair.** When you get to the chair, put your hands on the seat and slide one foot forward so that it's flat on the floor. Keep the other leg bent so the knee is on the floor. From a kneeling position, slowly rise and turn your body to sit in the chair.

References

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Resources

- [NCOA's Falls Free CheckUp](#)
- Tai Chi resources in Pittsburgh
 - <https://taichiforhealthpittsburgh.com>
 - <https://www.tolifefitness.com/tai-chi>
- [STEADI Feet Footwear Guide](#)