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Stand Up to Falling

Physical Activity, Exercise and Fall Prevention

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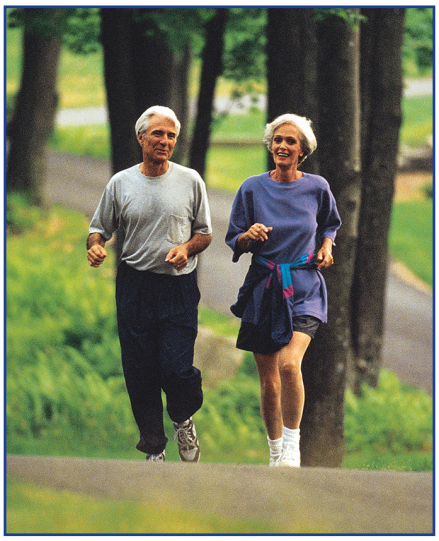


Physical inactivity leads to muscle weakness and loss, and has a negative effect on flexibility and balance, increasing a person's risk of falling. To significantly minimize the chances of falling, **strength, balance,** and **flexibility** must be increased. This increase can be accomplished through ordinary physical activity (daily activities that involve movement, such as housework, gardening, walking, and climbing stairs) and exercise (planned activity performed for the purpose of obtaining fitness and health benefits, such as swimming, cycling, golfing, and working out at a health club).

Talk to your physician before starting an exercise program. But also talk to your doctor if you avoid activity and exercise because you fear you will fall. Your physician can work with you or recommend a physical therapist who can help you create an exercise program designed especially for you. A physical therapist can also use techniques such as electrical stimulation, massage, or ultrasound to help improve flexibility and reduce fall risks. Physicians can also help you if falling is related to a medical condition, medications, or a balance disorder.

Start slowly, set realistic goals, and listen to your body. If 10 to 30 seconds or 3 to 5 repetitions is too challenging, perform as many repetitions or hold for as long as you feel comfortable. Work your way toward more.

Regardless of the exercise you choose, your physical activity should match your needs and abilities. Some people can walk three miles without thinking twice about it, but others may be able to only walk down the hall and back. At whatever level you begin, a fall prevention program should include an appropriate exercise plan that addresses strength, balance, and flexibility. The Mayo Clinic recommends walking, water workouts, and tai chi; your routine may be as simple as walking, using hand weights, and stretching to music.

Strength

Decreased muscle strength is associated with increased risk of falling. Because gradual muscle loss is a natural part of the aging process, physical activity and exercise habits that improve strength are

Falling Facts

The risk of falling and of being seriously injured in a fall increases with age, but older adults (65+) are not falling because they are old. Some older adults may be at increased risk of falling because of a neurological disorder or a disease that causes trouble with walking, posture, and balance. Others may fall because of a number of preventable risk factors including

- Lack of exercise
- Unsafe home environments
- Vision problems
- Lack of balance
- Medication usage

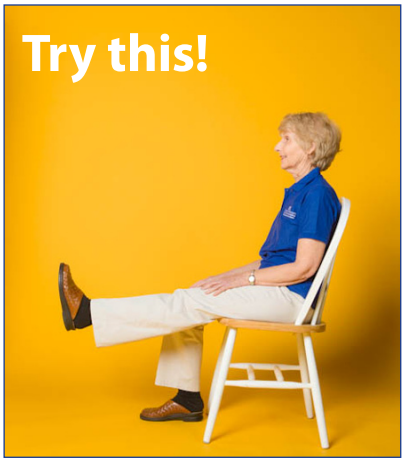
By addressing such risk factors, a person can lower his/her chance of falling or prevent a fall from occurring.

In a given year, one in three older adults can expect to fall. Falls are the leading cause of injury and injury-related death among older adults. Falls are also the leading cause of nonfatal injuries and hospital admissions for trauma among older adults. Men age 65 and older are more likely to die from a fall; older women are more likely to experience a nonfatal fall injury, such as a hip fracture. Regardless of gender, after the age of 60, both the incidence of falling and the severity of fall-related complications increase. Such falls among seniors jeopardize health and independence.

The Kentucky Injury Prevention and Research Center (KIPRC) reports that older patients who are hospitalized for falling are six times more likely than younger patients to be discharged into a nursing home for intermediate or long-term care.

important. According to the Fall Prevention Institute, 30 to 40 percent of muscle mass is lost by age 65, and by age 70 or 80, the average loss of muscle strength in the upper thigh muscles is about 20 to 40 percent. Such muscle loss can create potential problems for people trying to stand or walk without falling. In addition, those who have experienced a fall or feel weak or unsteady on their feet might stop or decrease physical activity and exercise in order to feel safer. Disuse, however, can cause more harm than good, as muscle and tissue loss affect the muscle's ability to function properly.

The good news: It is never too late and you are never too old to begin strength training. Even though muscle mass decreases with age, research has demonstrated that older adults, even those 85 years old and older, who strength train are able to increase muscle mass and strength. In older adults, increased strength, especially in the leg muscles, often results in greater levels of independence and improvements in the ability to walk and carry out daily living activities. Strength training helps with muscle tone and balance, and it aids mobility, all of which help reduce the risk of falling.



Leg straightening strengthens your thighs.

- Sit in a sturdy chair with your back supported by the chair. (For added comfort behind the leg, you may choose to put a rolled bath towel at the edge of the chair, under your thighs.) Breathe in slowly.
- Breathe out and slowly extend one leg in front of you as straight as possible, but don't lock your knee.
- Flex foot to point toes toward the ceiling. Hold position for 1 second.
- Breathe in as you slowly lower leg back down.
- Repeat 10 to 15 times, then switch to the other leg.
- Perform two sets of 10 to 15 repetitions on each leg.

Balance

Poor balance is an important predictor of falling. Our muscles are continually making slight movements to help our body maintain a balanced position. Muscle strength, vision, and sensation are essential to good balance. Weak leg muscles, poor vision, and slow reaction time decrease an older adult's balance and increase the risk of falling. Medical complications, medications, and

various balance disorders—dizziness, vertigo, problems with equilibrium—also affect some older adults. When balance becomes impaired, older adults are more likely to experience general postural unsteadiness and falls.

The good news: Just as we can train our bodies to improve strength, we can train our bodies for better balance to prevent falls. Good balance facilitates independent daily activity and increases quality of life. Many exercises that help to improve balance can be done anytime and anywhere.

Good balance begins with good posture.

- Hold head erect with chin parallel to floor.
- Keep shoulders level.
- Point knee caps and ankles straight ahead.
- Slightly elevate your chest with a straight upper back.
- Practice good posture while sitting, standing, and moving.

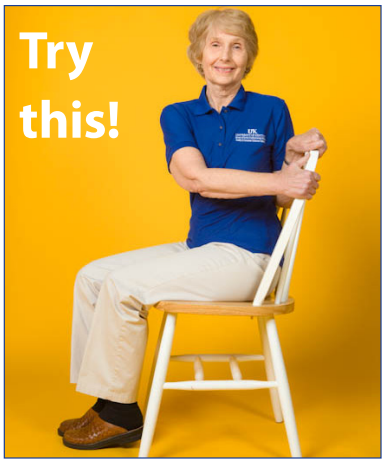
Stand on one foot to improve balance.

- Stand on one foot behind a sturdy chair, holding on for balance.
- Hold position for up to 10 seconds.
- Repeat 10 to 15 times, then switch to the other leg.
- Perform two sets of 10 to 15 repetitions on each leg.

Flexibility

Aging can affect a person's ability to be flexible. Flexibility is important because it helps prevent muscle tension and allows muscles to move smoothly, and keeps the body protected from injury, including falls. Cartilage—the tough, flexible connective tissue found in many joints—helps support the bones and allows the joints to move. With age, the cartilage in the joints becomes rough, especially in the joint areas that receive the most stress, such as the hips and knees. Stiffness, soreness, or the natural aging of the skeletal system can force a change in posture to accommodate the aches and pains. Poor posture can lead to tight muscles, impaired balance, and inflexibility.

The good news: Stretching is an easy way to keep the body flexible. Although it is often the most overlooked part of an exercise routine, stretching can improve your performance and reduce your risk of falling and injury, so don't overlook it. Stretching can reduce muscle soreness and lower back pain, increase blood and nutrients to the tissues, improve your coordination, and reduce stress. The flexibility you develop will help you enjoy exercise more.



Back stretch *helps you develop a flexible back.*

- Sit up toward the front of a sturdy chair. (A chair with armrests works well too.) Stay as straight as possible. Keep your feet flat on the floor, shoulder-width apart.
- Slowly twist to the left from your waist without moving your hips. Turn your head to the left. Lift your left hand and reach toward the back of the chair. If you can reach the back of the chair, you may use that to hold onto. Place your right hand on the outside of your left thigh. Twist farther, if possible.
- Hold the position for 10 to 30 seconds.
- Slowly return to face forward.
- Repeat on the right side.
- Perform at least 3 to 5 more repetitions in each direction.

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