

# **BALANCED APPROACH**



## **HOW TO PREVENT FALLS BY IMPROVING YOUR BALANCE**

**By Mary Layne**

**Dear Reader,**

Falls are extremely scary and can lead to serious injuries. How can you prevent falls? By improving your balance. And how do you improve your balance? Well, it involves specific types of exercises: endurance, strength, balance and flexibility. If this sounds like a lot, don't get overwhelmed.

This report will help you by providing some basic exercises in each of the four different groups mentioned above. We'll also explain how the exercises should be done. And you can do these exercises at home – you don't need to join a gym! If you are able to do the exercises in this report that is a whole lot better than doing nothing at all.

I have personal experience with falling. My mother fell and broke her hip and my stepfather fell, broke his neck, and died. I'm not telling you this to scare you, but to let you know that doing what I can to help others prevent falls has become my mission. That is one of the reasons that I became a fitness professional in the first place.

I encourage you to give these a try and feel free to contact us if you have any questions.

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# Falling Facts

Here are some startling facts about falls from the Centers for Disease Control:

- Falls are the leading cause of injury-related deaths in adults age 65 and older
  - They are also the most common cause of nonfatal injuries and hospital admissions for trauma
- In 2005, 15,800 people 65+ died from injuries related to unintentional falls
- About 1.8 million people 65 and older were treated in emergency departments for nonfatal injuries from falls
  - More than 433,000 of these patients were hospitalized
- 50% of nursing home residents fall per year and 9% sustain serious injuries
- 250,000 hip fractures occur annually in the U.S. as a direct result of falls
- Many people who fall develop a fear of falling.
  - This causes them to limit their activities, leading to reduced mobility and physical fitness, and increasing their actual risk of falling

## Outcomes That Are Linked to Falling

- Falls are the most common cause of traumatic brain injuries
- In 2000, traumatic brain injuries accounted for 46% of fatal falls among older adults
- Most fractures among older adults are caused by falls
- The most common fractures are of the spine, hip, forearm, leg, ankle, pelvis, upper arm, and hand
- The rates of fall-related deaths among older adults rose significantly over the past decade

## Who is at Risk of Falling

- Men are more likely to die from a fall
  - Fall fatality rate in 2004 was 49% higher for men than for women
- Women are 67% more likely than men to have a nonfatal fall injury

- Rates of fall-related fractures among older adults are more than twice as high for women as for men
- 72% of older adults admitted to the hospital for hip fractures were women
- The risk of being seriously injured in a fall increases with age.
- In 2001, the rates of fall injuries for adults 85 and older were four to five times that of adults 65 to 74
- Nearly 85% of deaths from falls in 2004 were among people 75 and older

**The Cost of Falling**

- In 2000, direct medical costs totaled \$179 million for fatal falls and \$19 billion for nonfatal fall injuries
- By 2020, the annual direct and indirect cost of fall injuries is expected to reach \$54.9 billion (in 2007 dollars)
- In a study of people age 72 and older, the average health care cost of a fall injury totaled \$19,440

**Maximum Recorded Life Spans for Various Species**

Human	120 years
Tortoise	100+ years
Sturgeon	82 years
Elephant	70 years
Golden Eagle	46 years
Horse	46 years
Chimpanzee	44 years
Toad	36 years
Dove	30 years
Cat	28 years
Dog	20 years
Squirrel	15 years
Mouse	3 years

# An Aging Perspective

The average life span at the turn of the 20<sup>th</sup> century was 47 years. Americans born today can expect to live well into their 70's and the maximum lifespan potential is believed to be 115-120 years. No one wants life their life expectancy to increase if the *quality* of those years are compromised. You can improve your health, prevent disease and frailty, and keep falls from happening with the following activities:

- **Endurance exercises.** These increase your breathing and heart rate and improve the health of your heart, lungs, and circulatory system. They can also increase your stamina for tasks you do every day – climbing stairs, grocery shopping, or playing with your grandkids. Endurance exercises have been found to delay or prevent aging diseases such as diabetes, colon cancer, heart disease, and others.
- **Strength exercises.** These build your muscles and allow you to do things on your own and maintain your independence. They increase your metabolism, helping to keep your weight and blood sugar in check. There are studies that report that strength exercises may help prevent osteoporosis.
- **Balance exercises.** These exercises are help you prevent falls. Balance refers to the process by which we control the body's center of mass over its base of support, where the base is stationary (standing quietly) or moving (walking briskly). Good balance is what allows you to move independently and safely from one place to another (mobility).
- **Flexibility exercises.** These help to keep you limber by stretching your muscles and tissues that hold your body's structures in place. Stretching can help prevent injuries from happening. Flexibility also plays a role in preventing falls.

How much exercise you do depends on your unique situation. For some, strength training may mean bench-pressing 100 pounds; while for others it might mean using 1-pound weights to help you with the daily activities of living. Some people are afraid to start exercising for various reasons – they are embarrassed, think that others will judge how they exercise,

don't know where to start, or are too afraid that it will be too strenuous. Researchers have found that you don't have to exercise strenuously to derive benefits. Moderate exercise is beneficial too and it is *NEVER* too late to start exercising!

## Endurance Exercises

Build your endurance gradually, starting out with as little as five minutes at a time. Start at a lower level of effort and work your way up gradually – this is especially important if you have been sedentary for a long period of time. Your goal should be to work up to a moderate-to-vigorous level that increases your breathing and heart rate. Your ultimate goal is to build to a minimum of 30 minutes of an endurance exercise on most days of the week.

Examples of moderate endurance activities include:

- Swimming
- Cycling on a stationary bike
- Gardening (mowing, raking, planting)
- Walking briskly on a level surface
- Mopping or scrubbing the floor
- Golf, without a cart
- Tennis (doubles)
- Volleyball
- Rowing
- Dancing

Examples of vigorous activities include:

- Climbing stairs or hills
- Shoveling snow
- Cross-country or downhill skiing
- Tennis (singles)
- Hiking
- Jogging

## Strength Exercises

Having strength in your muscles is extremely important for maintaining excellent balance. Do strength exercises for all of the major muscle groups at least twice a week. You might have to start out with light weights, don't over-do it! Gradually increase the amount of weight you use. When doing an exercise, do a set of 8 to 15 repetitions in a row. Wait a minute then do another set of repetitions. Stretch after you do strength exercises, when your muscles are warmed up. Be sure not to hold your breath during an exercise!

## Strength Exercises

### Arm Raises

Strengthens shoulder muscles.

1. Sit in armless chair with your back supported by back of chair.
2. Keep feet flat on floor even with your shoulders.
3. Hold hand weights straight down at your sides, with palms facing inward.
4. Raise both arms to side, shoulder height.
5. Hold the position for 1 second.
6. Slowly lower arms to sides. Pause.
7. Repeat 8 to 15 times.
8. Rest; then do another set of 8 to 15 repetitions.

### Chair Stand

Strengthens muscles in abdomen and thighs. Your goal is to do this exercise without using your hands as you become stronger.

1. Place pillows on the back of chair.
2. Sit toward front of chair, knees bent, feet flat on floor.
3. Lean back on pillows in half-reclining position. Keep your back and shoulders straight throughout the exercise.
4. Raise upper body forward until sitting upright, using hands as little as possible (or not at all, if you can). Your back should no longer lean against pillows.
5. Slowly stand up, using hands as little as possible.
6. Slowly sit back down. Pause.
7. Repeat 8 to 15 times.
8. Rest; then do another set of 8 to 15 repetitions.

### **Biceps Curl**

Strengthens muscles in your upper arm.

1. Sit in armless chair with your back supported by back of chair.
2. Keep feet flat on floor even with your shoulders.
3. Hold hand weights straight down at your sides, with palms facing inward.
4. Slowly bend one elbow, lifting weight toward chest. (Rotate palm to face shoulder while lifting weight.)
5. Rest; then do another set of 8 to 15 alternating repetitions.

### **Knee Extension**

Strengthens muscles in front of thigh and shin.

1. Sit in chair. Only the balls of your feet and your toes should rest on the floor. Put rolled towel under knees, if needed, to lift your feet. Rest your hands on your thighs or on the sides of the chair.
2. Slowly extend one leg in front of you as straight as possible.
3. Flex foot to point toes toward head.
4. Hold position for 1 to 2 seconds.
5. Slowly lower leg back down. Pause.
6. Repeat with other leg.
7. Alternate legs until you have done 8 to 15 repetitions with each leg.
8. Rest; then do another set of 8 to 15 alternating repetitions.

## **Balance Exercises**

You can do these exercises anywhere, anytime. Be careful and never do anything that makes you feel unstable. More complex balance exercises should be done under supervision. That's why the Balanced Approach balance and mobility classes are so good - we provide you with increasingly challenging balance tasks in a safe, monitored environment.

### **Walk Heel-to-Toe**

1. Position your heel in front of the toes of the opposite foot each time you take a step.
2. Your heel and toes should touch or almost touch.

### **Stand on One Foot**



1. Start with five seconds, hold on to something lightly in the beginning.
2. Alternate feet.

### **Walking While Turning Your Head**

While walking, turn your head slowly to the left and right.

## **Flexibility Exercises**

Stretching gives you more freedom of movement, which can prevent falls. Try to stretch after your strength and endurance exercises. If stretching is all that you can do, try to do these exercises at least three times a week.

### **Hamstrings**

Stretches the muscles in the back of the thigh.

1. Sit sideways on bench or other hard surface (such as two chairs placed side by side).
2. Keep one leg stretched out on bench, straight, toes pointing up.
3. Keep other leg off of bench, with foot flat on floor.
4. Straighten back.
5. If you feel a stretch at this point, hold the position for 10 to 30 seconds.

### **Calves**

Stretches lower leg muscles in two ways: with knee straight and knee bent.

1. Stand with hands against wall, arms outstretched and elbows straight.
2. Keeping your left knee slightly bent, toes of right foot slightly turned inward, step back 1-2 feet with right leg, heel, and foot flat on floor. You should feel a stretch in your calf muscle, but you shouldn't feel uncomfortable. If you don't feel a stretch, move your foot farther back until you do.
3. Hold position for 10 to 30 seconds.
4. Bend knee of right leg, keep heel and foot flat on floor.
5. Hold position for another 10 to 30 seconds.
6. Repeat with left leg.
7. Repeat 3 to 5 times for each leg.

### **Wrist**

1. Place hands together, in praying position.
2. Slowly raise elbows so arms are parallel to floor, keeping hands flat against each other.
3. Hold position for 10 to 30 seconds.
4. Repeat 3 to 5 times.

If you would like professional help with any of these exercises, visit our web site at:  
[www.lifestagesfitness.com](http://www.lifestagesfitness.com)