



**PROFESSIONAL  
THERAPIES, INC.**  
*Caring. Experience. Integrity. Results.*

## **BALANCE**

### **WHY IS IT A PROBLEM?**

- Approximately 25-35% of people over 65 years experience one or more falls per year.
- Falls are the leading cause of death from injury in persons over 65 years of age.
- Nearly 90 million Americans report bouts of dizziness - of those 76 million suffer from inner-ear disorders, which can lead to balance and instability problems.

### **HOW DOES OUR BALANCE SYSTEM WORK?**

- Your body's muscles, bones and brain all work together to prevent you from falling in all situations. Whether you are sitting in a chair or on the edge of your bed, or rising up to stand or even walking, all three areas work together to make each movement safe.
- Balance relies on three sensory systems that collect information from the ever-changing environment that you are in:
  - 1) Visual system – Your eyes collect information about the environment and your place within it. Your eyes help you to view obstacles and surface changes.
  - 2) Proprioceptive system – Consists of receptors in your joints and limbs that help you to know where your limb is in space. Your receptors can tell you which way your foot or hand is pointing even when your eyes are closed.
  - 3) Vestibular system – Found in your inner ear, the vestibular system is responsible for telling your brain what position your head is in relative to gravity.

When all three systems are functioning well, they work in collaboration with your muscles and bones to prevent you from falling.

### **WHAT MAKES OUR BALANCE SYSTEM LESS EFFECTIVE?**

- The muscle strength in the legs decreases.

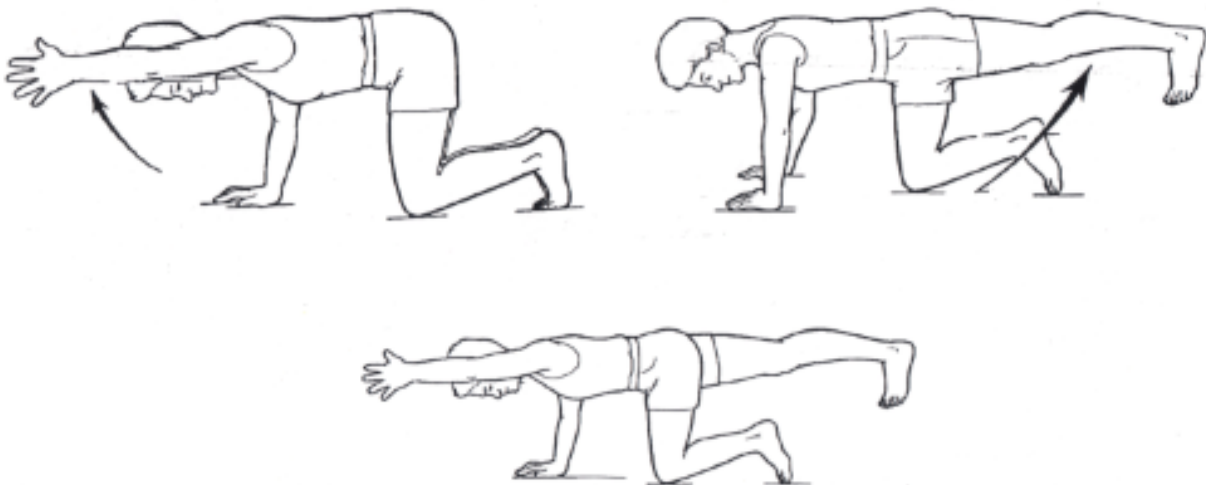
- Other medical conditions such as peripheral neuropathy/difficulty seeing or arthritis can interfere with your body's ability to maintain balance.
- Muscle coordination diminishes.
- A sedentary lifestyle promotes less opportunity for activity.
- Developing a poor slouched posture, which can cause unsteadiness.
- Endurance decreases and you tire easily.

## HOW CAN WE PREVENT FALLS?

- Prepare a fall-proof environment by:
  - Keeping walkways clear of obstacles
  - Tack down carpeting on floors
  - Bathrooms should have grab bars and nonslip strips
  - Stairways should be well-lit
  - Nightlights should be placed on the route from bed to bath
  - Long nightgowns/robes and slippery fabrics on furniture should be avoided
  - Mark edges of stairs and thresholds with glow-in-the-dark tape
  - For optimal stability, wear shoes with thin, hard soles
- Numerous studies show that exercise combats the changes that accompany aging,
- **KEEP ACTIVE!!!!**
  - Here are a few exercises aimed at improving balance and preventing fall

### **"All Fours" Balance Exercise**

- 1) Get on all fours, either on the floor or on the middle of your bed with your knees and also your hands apart – like a table.
- 2) Pull your stomach muscles in tight. Keep your shoulders pinched back and your back flat.
- 3) Keep your chin tucked in and your head held straight.
- 4) Now lift each arm by itself and hold for 3-10 seconds.
- 5) Return arms to floor. Now lift each leg by itself, no more than 5-6 inches off the floor. Hold for 3-10 seconds.
- 6) Now lift the left arm and right leg together at the same time. Try to hold for 3-10 seconds. Repeat with other arm and leg.



### **Eye Exercise for Balance**

- 1) Sit on the edge of your bed and rest your hands on your thighs.
- 2) Sit up as straight as possible with your head facing forward.
- 3) Now turn your head and look over your right shoulder, then your left shoulder and then look straight ahead.
- 4) Try to see if you can maintain your balance and posture without using your hands.
- 5) To make it more challenging, sit back a little further on your bed or in a tall chair so that your feet do not touch the ground and repeat step #3.



### **Ankle Exercise**

- 1) Sit in a chair with a straight back and your feet flat on the floor.
- 2) Work to left first both heels off the floor, and then all toes off the floor.
- 3) Repeat 10-15 times.
- 4) If sitting seems too easy, try standing at your kitchen counter, holding on with your hands for support and then trying to lift both heels and then your toes off of the floor.



## **HOW CAN PHYSICAL THERAPY HELP?**

This information is not intended as a substitute for professional healthcare. If you have problems with instability or have fallen, only your doctor and physical therapist can evaluate and develop an exercise routine that is best for you. Your physical therapist will instruct you with activities that emphasize strength, flexibility, posture, coordination, and walking patterns (also known as gait). If you experience vertigo or dizziness and it has been determined the problem is from the inner ear, your therapist may also try an intervention known as vestibular rehabilitation, which helps the body to compensate for the problem. Vestibular rehabilitation can help with disorders such as Benign Paroxysmal Positional Vertigo (BPPV), Labyrinthitis, and Idiopathic Vestibular Degeneration, which is often referred to as Disequilibrium of the Aged. Your therapist can also assist you in recommending appropriate footwear and assistive devices, if needed, to provide you with added stability.

Talk to your doctor today about your concerns. Only a prescription is needed to obtain a physical therapy evaluation.