

# BALANCE STABILITY TO REDUCE THE RISK OF FALLING

Balance is important throughout our lives: from learning to walk as a toddler, moving around doing daily activities, or participating in sports. Balance is frequently taken for granted but becomes crucial as we age to avoid injury and even death from falling.



## GUEST CORNER

LIZE LUBBE

### STATIC AND DYNAMIC BALANCE

Balance can be divided in two categories: static and dynamic balance.

- **Static balance** is to control the center of gravity within the limits of the base of support (BOS). The BOS is what keeps your body grounded to earth: your feet, crutches, chair you sit on or your hands and knees when you are on all fours. Static balance is important with stationary exercises and daily activities where your feet are grounded, and you are not moving.
- **Dynamic balance** is controlling the body in motion (such as walking or jogging) and is essential to keep you upright when your body reacts to sudden changes.

Three body systems must be in sync to ensure you achieve and maintain a good and safe balance:

- The visual system – your eyes;
- The vestibular system – your inner ear; and
- The proprioceptive system – sensory system that connects with the brain and gives the body a sense of where in space your joints and muscles are.

Aging may affect any these body systems, impact your balance, and increase your risk to fall.

### AVOID BEING A FALL STATISTIC

Falls are the second leading cause of unintentional injury deaths worldwide. Adults over the age of 60 suffer the greatest number of fatal falls. Further, about 37 million people worldwide annually sustain serious injuries that require medical attention.\* Also, research shows

that if you are unable to stand on one leg for 10 seconds without losing your balance, you have a 84% heightened risk of death from all causes during the next 10 years.\*\*

### Balance test to assess if you have a fall-risk

Stand with your back close to a corner, not leaning or touching the corner (this is only a safety-precaution):

- Put your one foot in front of the other foot and distribute your weight equally between the feet (Tandem stance). Hold 10-30 seconds. Switch legs.
- Stand with feet close together and close your eyes. Hold 10-30 seconds.
- Stand and balance on one leg hold for 10-30 seconds.

If you cannot hold each of this clinical balance test positions, you have a fall-risk.

### IMPROVING BALANCE AND PROPRIOCEPTIVE SYSTEM THROUGH STRUCTURED EXERCISES

Balance starts with good stability and muscle strength coming from the primary foundation of our bodies (the pelvic girdle) and flexibility in the trunk (Thoracic area). Exercise improves your body's endurance, strength, flexibility, range of motion, posture and movement. You must also train your proprioceptive system to open-up new muscle memories to keep you balanced and safe in movement.

### Balance exercise as a daily activity

Incorporate simple balance exercises as part of your daily life. For example, stand on one leg when you brush your teeth or wash dishes;

when getting up from sitting, reach forward with your arms, keep your back straight, instead of pushing up from the chair with your hands; and come upright by squeezing your core, buttock (gluts) and thigh (Quads) muscles.

### Structured balance exercises

Perform the following exercises in a standing position:

- Warm-up: About 5-7 minutes.
- March in place bring your one knee high up to your chest and swing your arms while maintaining a good upright posture.
- Imagine you stand in the middle of a clock: keep your body upright and tighten your core and Glutes. Lift one leg up and tap forward with the other foot to 12 o'clock. Bring the leg back to balance and tap on every hour. Switch legs. Repeat 5 times in clockwise and 5 times counterclockwise directions.

• Open legs shoulder width apart, bend knees slightly and shift your body weight on the balls of your feet. Do fast side to side movements forward for about 8 -10 steps and then backwards. Repeat 5 times forwards and backwards.

• Stand with feet shoulder width apart. Knees slightly bent; elbows bent at your side. Take weight on the ball of your feet and perform twisting movements with your waist. Arms, shoulders and thoracic area go one way and the pelvic girdle, hips, knees and feet go the opposite way. Keep shoulders relaxed and breathe deep in and out.

### Proprioceptive system exercises

Exercises to improve your proprioceptive system include the following: keep your eyes closed doing repetitive standing exercises and connect your brain to your feet and do not use your eyes to keep your

upright and balanced.

Please contact your physical therapist or health care provider if you experience any serious balance problems or need a full static/dynamic exercise program.

\*World Health Organization report (April 26, 2021) accessible at <https://www.who.int/news-room/fact-sheets/detail/falls>

\*\* <https://www.healthline.com/health-news/can-you-stand-on-one-leg-for-10-seconds-what-that-tells-you-about-your-overall-health>



Lize Lubbe is the owner of Lize Lubbe Physical Therapy with its main practice located at 892 Route 35 in Cross River and a PT Studio in the premises of Apex Fitness (where her team focus on the rehabilitation of sports-related injuries). Learn more by calling 914-875-9430, emailing [contact@lizeclubbept.com](mailto:contact@lizeclubbept.com) or visiting [www.lizeclubbept.com](http://www.lizeclubbept.com).



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