PEAK PILATES®

Payout: Dynamic Balance

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Kathy Grant used to say “Pilates is for the unexpected”. Balance is a fundamental aspect of human movement and functionality. Balance is the ability to distribute your weight so you can stand, move, and recover from slips or trips without falling. It is essential to nearly every activity we perform—from walking across a room to climbing stairs or playing sports. When balance works well, we rarely notice it. When it declines, everyday tasks can feel uncertain or even risky.

Good balance supports independence, safety, and confidence at every age. Poor balance, on the other hand, increases the risk of falls, injuries, and reduced mobility. Fortunately, balance is not fixed—it is a trainable skill that can be improved with the right strategies.

How Balance Works

Balance, or postural control, relies on constant communication between multiple body systems. Several parts must work together smoothly:

- Central nervous system (brain and spinal cord) – processes information and coordinates responses
- Inner ear (vestibular system) – detects head position, motion, and gravity
- Vision – helps orient you in space and judge distance
- Muscles, joints, and bones – create strength and stability
- Proprioceptors – sensory nerves that detect body position and movement

These systems continually send information to the brain, which quickly directs the muscles to make small adjustments that keep you upright. When one or more systems are impaired, balance can suffer.

Why Balance Matters
Balance is easy to take for granted—until it changes. Declining balance can affect daily function, physical performance, and overall well-being.

Injury Prevention
Poor balance significantly increases fall risk. Falls are a leading cause of injury in older adults. According to the CDC, each year there are about three million emergency department visits due to falls in older people. Most hip fractures happen when an older person slips and falls. Falls are also the most common cause of traumatic brain injuries.

Everyday Function
Simple activities like walking, bending, reaching, or getting up from the floor depend on balance. Improved stability allows smoother, safer movement and greater independence.

Athletic Performance
Athletes rely on balance for coordination, agility, and control. Training stability improves performance and reduces sports injuries.

Rehabilitation
After illness, surgery, or injury, balance training restores proprioception, coordination, and confidence in movement.

Why Balance Declines
Balance problems can arise gradually or suddenly and may result from a variety of causes.

Aging
Natural changes in the inner ear, vision, muscle strength, and nerve sensitivity often reduce stability over time. Small sensory losses—especially in the feet—can make people feel unsteady.

Vestibular (Inner Ear) Changes
Fluid-filled canals in the inner ear detect movement. Damage, infection, or age-related changes can cause dizziness, vertigo, or imbalance.

Vision Problems
Clear vision helps us judge space and depth. Poor eyesight can impair coordination and increase fall risk.

Muscle Weakness or Stiffness
Weak or slow-reacting muscles reduce the body's ability to quickly correct a loss of balance.

Medications
Many common medications—including blood pressure drugs, antidepressants, antihistamines, sedatives, and pain medications—can cause dizziness, sleepiness, or slowed reflexes. Taking multiple medications further increases risk.

Medical Conditions or Dehydration
Neurological issues, infections, and even dehydration may contribute to dizziness or instability.

The Cycle of Falling
Balance problems often create a negative cycle. Feeling unsteady leads people to move less. Reduced activity weakens muscles and coordination, which worsens balance further. After a fall, fear can cause stiff, cautious movement patterns that ironically increase fall risk.

Breaking this cycle through safe, progressive movement and training is essential.

When to Seek Medical Advice
While mild changes in balance can occur with age, significant dizziness or instability should not be ignored.

Contact a healthcare provider if you experience:
- New or worsening dizziness
- Lightheadedness or vertigo (spinning sensation)
- Falls or near-falls
- Changes in walking or steadiness

Early evaluation can identify treatable causes and prevent serious injuries.

The good news: balance can be improved at any age with consistent practice. Research supports combining several approaches.

Progressive Balance Exercises
Strength Training
Strong muscles create a stable foundation. Focus on:
- Squats and lunges
- Calf raises
- Hip strengthening
- Core exercises

Proprioceptive Training
Unstable surfaces and coordination drills improve body awareness and reaction time.

Mind–Body Practices
Pilates, Yoga and Tai Chi combine slow, controlled movement, flexibility, and focus. These methods consistently show reduced fall risk and improved mobility.

Dual-Task Training
Practicing balance while performing mental tasks strengthens real-world stability when distractions occur.

Regular Physical Activity
Walking, cycling, stair climbing, and Pilates build strength, endurance, and posture—all essential for balance.

Practical Tips for Daily Life
Small habits can make a big difference:

Train 2–3 times per week consistently
- Progress gradually to keep challenging your system
- Maintain good posture and alignment
- Stay hydrated
- Schedule regular eye exams
- Review medications with your doctor
- Consider guidance from a physical therapist or trainer

The Bottom Line
Balance is not just a passive trait—it's a dynamic skill that can be strengthened. By addressing underlying health issues and incorporating targeted exercise, you can improve stability, reduce fall risk, and move through life with greater confidence and independence.

Whether your goal is safer daily movement, healthy aging, recovery from injury, or enhanced athletic performance, prioritizing balance training is one of the most effective investments you can make in your long-term health.

Exercises for at home

When giving homework safety becomes even more important. For progressions keep the following aspects in mind:

- Start with passive balance exercises.
- Standing on one leg with the hands on the back of a chair or wall
- Heel to toe stance
- Change the surface they are standing on.
- Hard surface
- Softer surface - even a thicker rug or carpet makes it more difficult to balance
- Change the visual input
- Eyes open
- Eyes closed
- Look at different directions as you balance

Although training balance using “passive balance exercises” is helpful it is not the most functional way to train balance. We want to train the body the way it is being used, which is in a dynamic way.

- Body lean
- Stand with the legs shoulder width apart. Arms are straight in front of the body with the palm of the hands together. Legs slightly bent and the upper body straight.
- Straighten the left leg, tilt the body to the right to make a diagonal line from the left leg to the head. Come back to the center.
- Make sure the head moves in line with the body
- Heel to toe walking looking at a fixed point
- Heel to toe walking looking around the room
- Dynamic one leg stance
- Stand in a split stance with the right leg in front. Shift the body forward onto the right leg and lift the left leg forward and up (leg is bent) into a one-legged stance.
- Return the left leg back to the starting position
- One leg lift (tai chi style) More difficult as it is same hand and leg
- Stand in lunge with left leg back and left arm is straight and back. Right leg is forward and right arm is straight and shoulder height forward.
- Step forward and lift the left knee up as you bring the left arm forward bend the elbow and have the hand about eye height. Right arm moves straight down

Vestibular system

The vestibular system is our on-board balancing system located in our inner ear. We have 2 inner ears (right and left) and each side has 5 receptors (therefore we have 10 in total) for today's purpose we will focus on 6 of them (3 on each side). The receptors we are talking about are called semi-circle canals. Their anatomy is very extensive, so we are not going to go into that. We will focus on how they relate to our balance and movement. These canals deal with head motion and keeping your eyes oriented on a specific point. If there are problems with these functions people suffer from vertigo, dizziness. Even if you don't have severe symptoms people with mild issues can still move poorly.

VOR walking

Goals:

- Improve balance
- Improve the Vestibular Ocular Reflex

Starting position:

Find something to focus on that is at eye height. You can even place a sticky note with a dot on it on the wall at about eye height. Step away from the wall and face the note.

Execution:

Training proprioception is very important if you want to improve balance. The sensory nerves in the feet are essential as they inform the body what we stand on. Is the surface flat, inclined, sticky, slippery, hard, soft, even, uneven, etc.

Test
- Stand on one leg. Try the other leg. Make note of how stable the right leg is.
- Perform the entire series, Foot work AND Spiral torsion of the fore foot
- Test standing on one leg again. Is there a difference

Foot work
Goals:
- Activation of the foot

Ball light roll
Goals:
- Massaging the soles of the feet
- Activation of the muscles and receptors of the feet

Starting position:
Place the ball under the heel

Execution:

Ball press down
Goals:
- Massaging the soles of the feet
- Activation of the muscles and receptors of the feet

Starting position:
Stand with a SB under the ball of the foot. Keep the heel on the floor.

Execution:

Side roll out

Goals:

- Stretching of the muscles and fascia of the sole of the mid foot

Starting position:

Place the mid foot of the right foot on top of the ball, around the high point of the medial longitudinal arch.

Execution:

Windshield wiper - Ball roll side to side

Goals:

- Massaging the soles of the feet
- Activation of the muscles and receptors of the feet

Starting position:

Place the ball on the ball keeping the heel on the floor. (Toes off the floor)

Execution:

Spiral torsion of the forefoot

Goals:
Strengthening the spiral torsion of the forefoot

Starting position:
Sit on the floor with the right leg bent and foot on the floor. Open the knee and place the outside of the foot on the floor (about 30-degree angle). Support the knee with the right arm or place a TB or box on the outside of the leg. Place the left leg in a comfortable position. Hold the right heel with the left hand and place the right fingers under the ball of the foot by ball of the big toe.

Execution:

Counting the money

Goals:
- Activation of the spiral torsion of the forefoot
- Proprioception of the grounding of the ball of big toe

Starting position:
Sit on a chair with the legs hip width apart. Make sure the right knee is in line with the right hip, the heel is directly underneath the knee and the foot is parallel.

Execution:

In order for us the balance our center of gravity needs to stay within our base of our support. Our center of gravity is typically in our pelvic region just in front of your S2, brought 2 inches below your navel. We say typically as your center of gravity is not a fixed point and it moves based on your movements and when you jump or in big movements can even move outside of your body. As it is typically located in the pelvic region it makes sense that the position of the pelvis is important in order to balance.

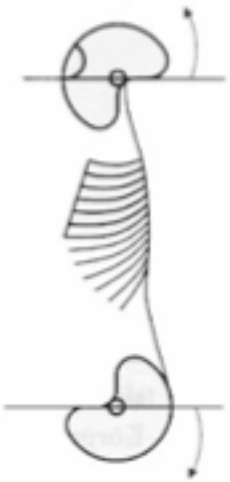
Elongation

With the pelvis in the correct position the lumbar spine creates a long slight lordosis.

Body Elongation principle is similar to the Pilates principle of lengthening.

Muscles cannot push; they can only pull. Body elongation happens through rotation of the poles. The spine lengthens because the poles rotate away from each other.

- **Show with Balls and Theraband**
- Elongation allows for an even distribution of force/tension
- The kinetic energy from the impulse to movement moves through the body and supports overall movement



In Spiraldynamik the spine is one of the coordination units in the body. Coordination units have poles and the poles of the coordination unit of the spine are the pelvis and the head. To create elongation in the spine the pelvis rotates backwards and down, and the head rotates forward and up.

For people who have a hard time to be in this position we need to address both mobility and activation issues. When working with clients it is best to start with mobility exercises. You will never have enough strength to move against a structure that is too tight. For this reason, we will start with some mobility exercises.

Pelvis 8

Goals:

- Pelvis mobility
- Movement of the pelvis during gait

Starting position:

Lie on the back and place the ball underneath the coccyx. Legs are bent, hip width apart and both feet are on the floor. The arms are on the mat alongside the body.

Execution:

Kneeling hip flexor stretch

Goals:

- Stretching of the hip flexors

Starting position:

Kneel on your right knee. Make sure the knee is under hip and the shin and foot are in a parallel line. (bringing the foot in; which turns the leg out, can be a sign of tight hip flexors). Release the pelvis (slight arch)

Execution:

Kneeling adductor stretch

- The adductor muscles specifically Adductor longus, Adductor brevis, Pectineus and Gracilis attach on the pubic ramus. Tightness in these muscles also will prevent the uprighting of the pelvis pole

Goals:
- Stretching of the adductors

Starting position:
Kneel on the right knee. Make sure that the knee is directly under the hip. Place the left foot on the floor in front of the left hip with the knee and ankle in line. Externally rotate both legs to about a 45-degree angle. Both ASIS are pointing straight forward, keeping the pelvis and lumbar spine elongated. Place both hands on the left thigh, close to the groin.

Execution:

In Pilates there are countless exercises to strengthen the muscles and systems that are involved in balance. We know how to strengthen the core, hips and legs. Therefore, we want to focus on exercises that complement the Pilates method and exercises that are a bit more specific in addressing the connections that are involved with balance.

Leg slides
Goals:
- Strengthening the abdominals to maintain the position as the legs move

Starting position:
Lie on your back with the legs bent and hip width apart

Execution:

Walking

Goals:

- Strengthening the hip flexors
- Strengthening the abdominals to maintain position of the pelvis
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Starting position:

Lie on your back with both legs into a 90/90 position with the legs hips width apart with your feet pointed

Execution:

Pelvic curl

Goals:

- Strengthening the abdominals especially the lower part of the rectus abdominis, the only abdominal muscle which has a direct effect on the position of the pelvis

Starting position:

Lie on your back with the legs bent and hip width apart

Execution:

Dead bug

Goals:

- Strengthening the muscles that create stability as the arms and legs move

Starting position:

Lie on your back with the legs lifted in a 90/90 position and both arms straight up towards the ceiling.

Execution:

Dead bug with rotation

Goals:

- Strengthen the abdominals and hip flexors

Starting position:

Lie on your back with the legs lifted in a 90/90 position and both arms straight up towards the ceiling.

Execution:

100 with TB

Goals:

- Strengthening the abdominals and hip flexors
- Creating elongation of the spine

Starting position:

Lie down on your back and place both feet on top of the TB

Execution:

In order to be in balance, the center of gravity needs to be over the base of support. This means that when we want to stand on one leg, we need to move our center of gravity over the standing leg and foot.

For an efficient, effective and safe movement we need to move the pelvis into an outwards spiral. This moves the center of gravity over the base of support, and it will create length and stability in the spine. On top of this it creates the possibility for the leg to be centered in the hip joint, and we can create the best alignment for the leg.

Instead of moving the pelvis into the outward spiral, most people move the pelvis sideways from side to side when they walk. Like Marlyn Monroe. This also moves the center of gravity over the standing leg, however not in a way that protects the body. Over time it will create hip, back, knee and foot issues.

As you could feel the outward spiral of the pelvis requires mobility, strength and coordination. Therefore, we will go over some exercises that will help your clients to feel and understand this concept

Side lying hip outward spiral

Goals:

Experience the movement of the outward spiral

Starting position:

Lie on the side with the Theraband wrapped around the sits bones. Hold the ends of the Theraband with the top hand and anchor it onto the floor at about eye level. The hips and shoulders are on top of each other, with the legs bent at a 90-degree angle. Place the TRIADBALL™ between the knees. Extend the bottom arm out in line with the body and place the head on the arm, if needed use a pillow.

Execution:

Hip internal rotation

Goals:

Experiencing and improving internal rotation of the femur

Starting position

Lie down on your left side. Bend both knees into a 90/90 angle and place the TB in between your knees. Stretch the left arm out long and place your head on top of your arm. Place both feet on to of each other.

Execution

Z sit hip/femur disassociation

Goals:

Experience and improve the disassociation between the movement of the pelvis and the femur

Starting position:

Sit on your left hip with the legs in a Z sit position. Place your left hand on the floor and your right hand on your right thigh

Execution:

Wall hip lower

Goals:

- Active disassociation of the femur and pelvis
- Strengthening the abdominals
- Strengthening the muscles that create internal and external rotation in the femur

Starting position:

Lie down on your back with the feet against the wall with the legs at a 90/90 position. Place a Triadball in between the legs.

Execution:

Single leg circle foot against the wall

Goals:

- Experiencing the correct initiation of Joe's version of the Single Leg Circle
- Strengthen the muscles and coordination of the leg that is on the floor - the standing leg when standing on one leg

Starting position:

Lie on your back with the left foot flat against the wall. Lift the right leg up towards the ceiling with the foot pointed.

Execution:

When walking the external rotators of the hip make sure that the leg is able to move in the correct alignment. It is the external rotators that prevent the knee from falling in when we take a step and move our weight onto the front leg. Weak external rotators and bad timing of activation can lead to serious knee problems and balance issues.

Clamshell

Goals:

Strengthening the muscles that create external rotation in the hip joint

Starting position:

Lie down on your left side with your legs in a 90/90 position. Stretch your left arm out in line with your body and rest your head on your arm. Place your right hand on the outside of your right thigh. Move the right hip away, lengthening the side of the body so that the hips are stacked on top of each other. The bottom waist will slightly move away from the floor.

Execution:

External rotation

Goals:

Strengthening the muscles that create external rotation in the hip joint

Starting position

- Lie down on your left side with your legs in a 90/90 position. Stretch your left arm out in line with your body and rest your head on your arm. Place your right hand on the floor. Move the right hip away, lengthening the side of the body so that the hips are stacked on top of each other. The bottom waist will slightly move away from the floor.
- Lift the right leg up until it is in line with the right hip.

Execution:

Développé series

Goals:

Strengthening the muscles of the leg and hip, especially the muscles creating external rotation in the hip

Starting position:

Lie on your right side with the legs in an obtuse angle. Stretch the bottom arm out long inline with the body and rest the head on top of the arm. Place the hand of the top arm on the floor in a comfortable position to help with the stability. Bend the top leg, bringing the foot towards the inside of the knee of the bottom leg. Slowly let the knee of the top leg lower towards the floor. Keep the pelvis inline.

Execution:

Once the client knows and is able to perform all the separate movements, they will have to put it all together. Often this can be the hardest part. The coordination and timing of movements need to be practiced if they are not a natural part of the client's movement. Especially if they have made a habit of uncoordinated and bad timed movement, it can be a process for them to break the habit and create a new and improved one. Consistency is key to make this happen.

Heel roll

Goals:

- Experiencing the movement of calcaneus
- Experiencing the timing of the activation of the pelvic floor

Starting position:

Stand with your right leg in front. Lift the leg and keep it straight.

Execution:

Standing pelvis outward spiral

Goals:

- Strengthen the muscles and coordination between muscles to create a functional outward spiral

Starting position

Stand with legs hip width apart. Place the left foot on a box or bend the left knee slightly as you lift the left heel. Make sure that both legs are parallel. Relax the pelvis of the right leg.

Execution:

Standing outward spiral one leg with hip flexor activation

Goals:

- Strengthen the muscles and coordination between muscles to create a functional outward spiral
- Strengthening of the hip flexors.
- Often overlooked but a big contributor to falls. As people get older, after injuries or long bed rest/recovery the hip flexors get weaker, and they will have problems lifting the legs up and start to trip.

Starting position:

Stand. Create a loop with your THB. Slightly bend the left leg and place the left thigh through the loop. Keep the heel lifted and keep some tension on the THB and place the ends of the THB under the right foot.

Execution:

In order to integrate any movement, practicing the same movement in different environments creates the best integration of that movement. Challenging balance in different environments and in different ways are all beneficial.

Small barrel exercises on the Triadball

Goals:

- Challenging the core, proprioception, speed and coordination in a dynamic environment

Starting position:

Lie on your back with the Triadball underneath the pelvis. Bend both knees into the chest, into a frog position. Make sure that the pelvis is in line with the Triadball. Place both arms on the floor

Execution: