



'Helping You Fulfill Your Body's Potential'

## **Modified Pilates for Seniors**

A senior is someone who clinically is 55+. There are 2 categories of senior: active or frail.

Back and muscle strength and spinal mobility are predictors of quality of life in the middle-aged and the elderly, especially males. As we grow older our posture changes; we become more rounded and in most extreme cases a person may become stooped. Sedentary behaviour contributes to joint pain and decreases mobility, and this often affects the knees, and/or hips and ankles.

Modified Pilates' exercise is ideal for a more senior client as it addresses the important issues regarding the changes in the body that come with age. Benefits include performing daily tasks with ease to improve quality of life and confidence, and better breathing that improves health and well-being. Modified Pilates targets the deep postural muscles building strength from the inside out and addresses muscular imbalance that develops over the years.

### **Cervical spine**

When the thoracic spine rounds forwards, the head position changes and is held in a more forward position with a downward eye gaze resulting in short, tight muscles down the back of the neck. This creates tension and headaches. Modified Pilates' exercise focuses on ideal head alignment and stretches for the back of the neck to release tension which also strengthens the front of the neck.

### **Thoracic spine**

The most common reason for issues affecting the thoracic spine is poor posture and not moving around enough. The thoracic spine should be highly mobile, but we lose mobility by staying in sedentary positions for a long time especially if your arms are stretched forward such as the position when working on a laptop or computer. Not only does this affect the elderly but it typically affects office workers or those with a sedentary job. When the thoracic spine becomes stiff and immobile the muscles and soft tissues often become inflamed. The joints become compressed, and discs harden. The top of the ribs and intercostal muscles become stiff due to poor respiration reducing oxygen in the blood which may cause confusion. Modified Pilates' movements include thoracic extension and rotation to improve thoracic mobility and help the discs to imbibe fluid and improve their state. The Pilates technique focuses on breathing techniques that increase lung capacity and improve breathing efficiency.

### **Shoulders, Arms & Hands**

Rounded posture will change the shape of the spine compressing the joints and may cause impingement at the shoulder joint resulting in problems when lifting the arms. Reaching up for items in cupboards becomes harder and often leads to falls. Shoulder muscles weaken which makes them round forwards tightening muscles across the front of the chest. Keeping shoulders mobile and performing the many arm movements within the repertoire of Pilates' movements will address this issue.

Hand function decreases with age in both men and women, especially after the age of 65 years. This causes a combination of structural changes in our joints, muscle, tendon, bone, nerve and receptors, blood supply, skin, and fingernails. Arm actions keeping wrists straight and hands flat will address muscle imbalance that causes wrists to become weak and may even alleviate the condition carpal tunnel syndrome. Using small equipment such as poles and light weights, and Pilates' machines such as the reformer will help to maintain strong wrists.

## **Breathing and blood circulation**

As we age, the position of the chest and ribcage changes causing the thoracic spine muscles to lengthen and the upper abdominals to shorten and tighten. Stiffness at the top of the ribs and intercostal muscles results in poor respiration making it more difficult to fill your lungs with air as the abdominal contents limit the downward movement of the diaphragm, this muscle being the biggest and most important when it comes to breathing.

To compensate for the lack of movement of the diaphragm, muscles in the top part of the chest are engaged instead and sometimes even the neck and shoulders become involved. This can cause issues for those who are affected by breathing disorders as overuse of the upper chest muscles leads to an imbalance in normal breathing mechanics and can create symptom of shortness of breath.

Whilst posture isn't a root cause of a breathing disorder, it most certainly can contribute towards it. It is believed that the forward head position caused by slouching can reduce lung capacity by as much as 30%. Impaired breathing leads to a lack of oxygen in the blood circulating around the body known as hypoxia which contributes towards dizziness and even confusion. Improved blood circulation can also reduce the likelihood of swollen legs and ankles, leg cramps, varicose veins and/or haemorrhoids. Modified Pilates includes a specific breathing technique and different patterns of breathing that promote efficient breathing and help you become more aware of your personal breathing pattern.

## **Balance and body awareness**

Walking is a basic requirement for mobility and older people may lose their confidence if they have experienced a fall due to loss of balance or control. As balance deteriorates, seniors do not cope well with circumstances around them, and they make poor judgment calls like stepping off a kerb suddenly or walking slowly when crossing a road. Dizziness and confusion can cause them to not like being in crowded places. As we grow older, risks associated with falling increase because of the deterioration in the following systems.

- Sensory systems such as eyes and ears that enable us to take in our surrounding environment; vision depends upon light, and we rely on visual information to decide where we are in space in comparison to other items so that we avoid colliding with things.
- Somatosensory system that responds to touch, vibration, and pain; we rely on this information to know where we are in space and how our body reacts to surfaces beneath us. You rely heavily on this system if you lose vision. Those with diabetes may feel like they are walking on air and may not respond well to changing surfaces such as moving from gravel to a paved surface.
- The vestibular system responds to movement of the head. It is located within the inner ear and the system is activated whenever we move our head. It works in relation to vision so that we know if we are moving or if something we are looking at is moving, ie sitting on a stationary train and thinking it is moving when you see another train passing by. This system becomes more important in maintaining upright posture if vision or the somatosensory system becomes impaired.

- Musculoskeletal systems resulting in loss of physical strength and bone density.
- Cognitive skills (reading, learning, remembering, logical reasoning, and paying attention) that aid awareness.

Modified Pilates' exercise includes exercises to challenge balance as well as increase strength but is also mindful as you learn and remember the various exercise movements and how to perform them to your best ability.

### **Strength and flexibility**

With age, muscular strength decreases especially in the lower body and between the ages of 30-50 muscle strength has been shown to reduce as much as 30%. Physical inactivity will contribute to muscle loss which, in turn, leads to decreased muscular endurance resulting in early fatigue and an increased risk of falling. Loss of muscle power affects the older adult's ability to walk, climb stairs and lift themselves out of a chair. As muscles weaken, inevitably other muscles in the body tighten and Modified Pilates' exercise is ideal as it focuses on rebalancing muscle groups. Flexibility also deteriorates with age.

### **Pelvic Floor Muscles**

Modified Pilates' exercise will strengthen the pelvic floor muscles and help prevent incontinence. Activating pelvic floor muscles whilst performing Pilates' exercises should be encouraged as an alternative to activating the Transversus Abdominis (TA) muscle.

### **Sleep patterns**

Modified Pilates' exercise and breathing techniques aid relaxation and can improve poor sleep patterns resulting in increased energy levels.

### **Enhanced Mental Health**

Meeting with others to exercise helps those who may be struggling with loneliness or bereavement. The social aspect of exercising within a group promotes better mental well-being and more positive thought processes.

## Modified Pilates for Seniors

At Pilates Heaven, we teach Modified Pilates, a specific method called The Pilates Institute Method (PIM) which is ideal for seniors and those with certain health conditions as each exercise can be modified to a rehabilitative and safe level whilst also being effective.

- There is no head lifting whilst lying down face up which can cause discomfort. With the head down, you can focus on lengthening the back of the neck which is ideal for seniors.
- Exercises movements such as hip circles are modified to a bent-leg versions which is safer but still effective.
- Arm movements can be restricted to one arm at a time.
- For those with spine issues, such as disc damage, arthritis, osteopaenia or osteoperosis, seated rolling actions such as Rolling Back and Roll Up are limited to pelvic tilting. Shoulder Bridge offers a perfect alternative. Pelvic tilting can be performed in various positions, sitting, lying, kneeling on hands and knees (if knee or wrist issues are not present).

We provide both mat and reformer classes. If there are any reformer movements that may be deemed unsuitable for seniors, we can always offer an alternative movement that is more suitable. The reformers are converted to raised beds for mat Pilates, so you don't exercise on the floor which is ideal when getting down to the floor to exercise becomes more difficult, or even impossible. The raised beds are a perfect height for seated exercises.

Principles of Pilates' exercise, such as precision, means that leg movements are performed ensuring correct tracking of knee and hip joint. Hip exercises on the reformer provide the best stretches to ensure hips remain healthy and mobile. Ankle mobility is incorporated into mat movements and the foot work section on the reformer ensures feet and ankles remain mobile and healthy.

You must attend a reformer introduction session even if you have used a reformer before. We provide group sessions and a 1:1 session for those who may prefer this option instead. Please refer to our separate booklet concerning reformer introduction sessions.

For your safety, when participating in group classes, it is essential to exercise at the appropriate class level.

### **The Pilates Institute Method Fundamental Level Class**

This class level is ideal for seniors and comprises 15 of the original 34 Pilates' movements all of which can be modified appropriately. It is an ideal starter level especially for those who have not done Pilates before. Some seniors who are fitter may find a mixed level class (low intensity) a more suitable level.

### **Using a Stability Ball**

Balancing on a suitably inflated stability ball is extremely challenging and is advisable only for those who already possess a high level of core strength and balance. Those who do not possess sufficient core strength or balance would be advised to use a chair or stool initially as this will facilitate an upright spine alignment and a more stable surface. Choose a stability ball that is the correct size for your height and ensures that your hips are slightly higher than your knees when it is inflated to its maximum (for most women 50cm is about right). A soft stability ball offers little challenge and may result in poor spine and/or hip/knee alignment.