



EXERCISE FOR WOMEN OVER 55

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Julie, one of our regular clients told us.

"A month ago, just after turning 55 I felt a pain in my shoulder whilst hitting a boxing mitt in my personal training class. The same week, mid-cobra in my yoga class I knew if I pushed the pose any further that my back was going to go as well. I realised that in spite of all of the fitness work I had done over the years my body was no longer coping with the beating I was giving it. I know fitness is important, but maybe my Physio was right that the benefits of certain high intensity exercise were not worth the risk."

Julie's story is typical of many women her age. Changes in body composition, bones, muscles, joints and tendons make the body more susceptible to injury as we age. Exercise is critical for the health of women over 55, however they need to adopt an approach suitable for them.



What happens to the body as we age?

● Musculoskeletal function

There are many changes after the age of 55. Muscles are stiff and weaker. The cartilage which protects your bone in the joints (articular cartilage) loses elasticity and strength and bone density diminishes (more about this in the next section). Tendons degenerate.

● Bone Density

Skeletal bone mass and strength in women declines progressively and slowly in the years prior to menopause then declines more rapidly with the decline in oestrogen levels. This decline in bone mass accounts for the high rates of bone fractures experienced by older people especially women.

● **Cardiovascular fitness**

According to the American College of Sports Medicine, cardiovascular fitness declines 5-15% per decade after age 25. It translates into how well you can cope with exercises which have a high cardiovascular demand such as brisk walking, swimming, and cycling. The decline is due to the heart being incapable of beating as fast, combined with a reduced blood volume being pumped through the heart.

● **Neurological function**

Declines with age as the number of cells in the brain and spinal cord decline, as do the speed and efficiency which nerves communicate. This causes slower reflexes, co-ordination and strength. Exercise has been shown to improve reaction times, co-ordination and muscle strength (which is partly neurological). Cognitive or intellectual function loss and mood changes including depression are more common as we age, partly due to changes in brain nerve function.

● **Body fat (Adiposity)**

Aging is associated with changes in total and regional fat distribution that have negative health consequences. It is generally associated with increases in abdominal adiposity and fat deposition in skeletal muscle and cardiac muscle, liver and bone marrow, until extreme old age when fat mass may decrease.

Importantly your body weight may not be changing but due to age related changes in skeletal muscle mass (which declines), you may be getting fatter while your weight stays the same.





In some individuals there is a limited ability for the body to develop adequate tissue mass to store lipids (fat), particularly in the lower body. In other words, some people cannot store excess fat under the skin. This is seen in small hip circumference seen in some people. Think of the person with a large tummy but skinny legs and bottom.

As there is an insufficient reservoir of tissue to store fat under the skin, the body redirects it to the organs, such as liver, heart, skeletal muscle, tendons and other areas. There are several serious health consequences with this including, pain, insulin resistance, adverse lipid and cholesterol blood concentrations and even reduced lifespan.

Body fat and exercise are closely related. In pre- and post-menopausal women, the amount of abdominal fat correlates with the amount of exercise undertaken. More exercise = less abdominal fat. **Age and menopause have no effect on this.**

Why Exercise?

Exercise will have a positive effect on all of these systems provided it is of the right type and dosage. The American Family Physician (2010) suggests that you need to average 20-30 minutes of moderate to vigorous aerobic activity per day, plus muscle strengthening exercises at least twice per week. This can be challenging as we age due to lowered physical capacity and injury risk.

A review in 2003 British Medical Journal concluded that activities like running and weightlifting can increase bone density.





Another study demonstrated that Pilates administered for 6 months 3 times per week was effective for significant improvement of bone density in the low back and upper thigh bone (femur) in post-menopausal women.

In another publication American family physician reported that physically active people have a lower risk of depression and cognitive decline in active adults.

Low-impact activities like swimming and yoga do not help strengthen bones.

Long-term adherence to exercise is crucial to the effectiveness of exercise on bone mineral density and should be adopted along with other lifestyle measures such as adequate calcium intake, ceasing smoking, modest alcohol consumption and maintaining an adequate body weight.

So, what are the best choices for exercise for women over 55 year of age?

It is hard to generalise however we have tried to answer this with the following tables which compares common forms of exercise, their benefits to different systems such as muscle strength and co-ordination, and an estimate of their injury risk.

This guide is an approximation. “Boot camp” could mean anything, but is widely known to involve high intensity “military style” training. Different yoga classes will have different emphases and intensity. Pilates classes vary between instructors and studios.



	Pilates	Reformer Pilates	Running	Brisk Walking	Boot camp	Weights	Yoga	Swimming	Cycling
Bone density	POOR	INTERMEDIATE	INTERMEDIATE	POOR	INTERMEDIATE	BEST	POOR	POOR	POOR
Muscle strength	POOR	INTERMEDIATE	POOR	POOR	INTERMEDIATE	BEST	POOR	POOR	INTERMEDIATE
Flexibility	INTERMEDIATE	INTERMEDIATE	POOR	POOR	POOR	POOR	BEST	POOR	POOR
Cardiovascular fitness	POOR	POOR	BEST	INTERMEDIATE	BEST	POOR	POOR	BEST	BEST
Body fat %	INTERMEDIATE	INTERMEDIATE	BEST	INTERMEDIATE	BEST	INTERMEDIATE	POOR	INTERMEDIATE	INTERMEDIATE
Posture	BEST	BEST	POOR	POOR	POOR	POOR	INTERMEDIATE	POOR	POOR
Co-ordination	INTERMEDIATE	INTERMEDIATE	INTERMEDIATE	POOR	POOR	POOR	POOR	INTERMEDIATE	POOR

Table 1 Comparing the **benefits** of different exercise types on different systems

POOR INTERMEDIATE BEST

	Pilates	Reformer Pilates	Running	Brisk Walking	Boot camp	Weights	Yoga	Swimming	Cycling
Injury risk	LOW	LOW	INTERMEDIATE	LOW	HIGH INJURY RISK	INTERMEDIATE	INTERMEDIATE	LOW	LOW

Table 2 Comparing the **injury risk** of different exercise types.

LOW INTERMEDIATE HIGH INJURY RISK



What is ideal for you? Ideally, we are looking for **low risk/high reward exercise** or mix of exercises, so this probably takes out running, bootcamp, heavy weights and some forms of yoga.

Walking has a fairly low injury risk but has a low reward, it does little for bone density and muscle strength, and does not get the heart beating rapidly enough to improve cardiovascular fitness. Running can be ok if you have excellent bodyweight and good biomechanics even into old age.

Weight training needs an understanding of technique, volume, rest intervals, and recovery and needs to be customised according to your goals and exercise experience.



We feel that Reformer Pilates, some forms of weight training, swimming and cycling are the best options.

Pilates with its mix of western type resistance training and eastern mind/body awareness is an excellent way to get supple, strong and lose weight. Reformer Pilates utilises equipment and provides a safer and better way to exercise compared with “matt style” Pilates.



Final Tips

- Doing a variety of things challenges our various systems in optimal ways, and adds important variety to the routine.
- Exercising with a qualified instructor in a group environment adds safety and can motivate you.
- Getting professional advice if you get aches and pains, and having the health professional (usually a Physio or Exercise Physiologist) involved in your exercise planning enhances the safety and effectiveness of your program.



Our client Julie followed this advice. She took up indoor cycling, mixed it in with some brisk walking and joined a reformer Pilates class twice per week. Her comments are typical.

“By the end of the third Pilates class I felt strong and long and felt as though I’d used my brain to control my body, not just my will to survive an hour of exercise. This holistic approach very quickly improved my posture without aggravating old injuries.”

More about Pilates

Pilates was created by Josef Pilates in the 1920s and was originally a method practiced in dancers. Health professionals, especially Physiotherapists and Exercise Physiologists have long recognised the benefits of incorporating therapeutic exercise into their prevention and management of pain and many have adopted Pilates exercise for management of many conditions.

THE EVIDENCE BEHIND PILATES

The majority of clinical trials support the use of Pilates as an effective and safe rehabilitation tool. A recent randomized controlled trial compared Pilates to trunk strengthening and found favourable results. In the 101 subjects tested, Pilates was superior to a traditional trunk strengthening program in reducing disability and improving quality of life. These improvements were still seen 3 months after the study ended. There have been numerous studies looking at Pilates' effect on low back pain and balance in older adults. These show that Pilates is either superior to or as good as a traditional exercise program.



Our Pilates Classes

At Advanced Physiotherapy, we are very excited to introduce our Reformer Pilates classes. Under the careful guidance of our therapists, you will be able to utilise cutting edge Pilates equipment.

For those who have not utilised Pilates equipment before, they are versatile machines which work on a spring system. By changing the amount of loaded springs, you can make exercises harder and easier. The exercises are performed in various positions such as lying, kneeling, sitting and standing. The thing we love most about Pilates equipment is that it is suitable for everyone, from the elderly population to the elite athlete!



We have formulated our Pilates classes on current best practice guidelines. In the Pilates classes, your program will be centred on you, with your goals and aspirations at the forefront. We will teach you to appreciate your body system and build awareness towards specific muscles.

Our Pilates program can help you:

- **Ensure activation of the correct stabilising muscles**
- **Improve your posture**
- **Increase strength, power and endurance of your muscles**
- **Improve mobility and flexibility**
- **Prevent injury through increased muscle control**
- **Improve balance and coordination**
- **Relieve pain for some conditions**
- **Lose weight**

The Assessment Process

Before entering into the Pilates classes, you may wish to have a one-on-one assessment with one of our health professionals in order to:

- **Undertake a thorough history**
- **Assess your body's mechanics**
- **Assess past injury**
- **Screen for future injury risk**

This is recommended but not compulsory if you don't have any major problems and are currently exercising regularly.



Are our classes suitable for you?

These classes are most suitable if you are:

- Female
- Between 50 -70 years of age
- Able to attend 2 or more classes per week
- Enjoy exercising in a relaxing small group environment
- Wanting to strengthen, improve your posture and keep or maintain a healthy weight
- Wanting to compliment other forms of exercise such as walking, cycling or swimming with a safe strengthening routine



These classes are not designed for:

- Those who want noisy classes with high-intensity instructors
- People with certain medical conditions (this will be screened at your first session)
- Those who only want to attend occasionally or for a short time



See what our clients say



"Nicole is a brilliant teacher. Friendly and comfortable atmosphere"

By Sian 22/10/19

Checkout some of our other reviews.

“

Excellent once again some new moves intended to challenge us. Great session, thanks Nicole.

“

Enjoyed the class by Emma this morning. Lots of variety. Like the way the class started on the reformers then switched to stations
Wendy McDonald

“

Loved this class.

“

Nicole introduced a new movement none of us had done before that was quite a challenge. Always pushing the bars, good one Nicole.

“

Excellent session Nicole is very patient and knows her stuff, it's always challenging and the benefits become obvious with time.

“

Fantastic, can't wait to go again.

“

2nd visit. I'm really enjoying it and Nicole is lovely

“

Loving these classes. Nicole is a wonderful instructor, she explains and prompts on each exercise to ensure i get the most out of every session. Always given positive feedback. Im extremely happy

“

I always enjoy Jessica's classes, always challenging however I feel supported to keep trying.

“

Enjoyed the class by Emma this morning. Lots of variety. Like the way the class started on the reformers then switched to stations

“

Classes with Nicole are always well considered and varied. Loved this workout tonight

“

Great class last night, thanks

**IF YOU WANT TO TEST OUR
CLASSES, PLEASE CHECK
OUT THE WEBSITE FOR
SPECIAL OFFERS.**



www.advancedphysio.com.au

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Simply follow this link to register for these classes:
<https://www.newcastle-physiotherapy.com.au/Pilates/Pilates-1505/>