



Patient Information

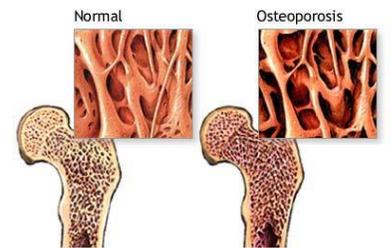
EXERCISE FOR OSTEOPOROSIS

What is Osteoporosis?

Osteoporosis is decreased bone density, or weak bones. It can lead to brittle bones, which increases your chance of fractures, particularly if you have had falls in the past or have a high risk of falls/poor balance.

Risk factors for Osteoporosis include:

- Being Female (due to a reduction in oestrogen after menopause)
- Age > 55 years old
- Family history of osteoporotic fracture
- Previous fracture
- Some medications or multiple medication combinations, including prolonged corticosteroid use
- Lifestyle factors – eg. High alcohol consumption, past history of low BMI, low physical activity
- Smoking
- Lack of Vitamin D – either lack of sunlight exposure or dietary vitamin D
- Other medical conditions including malabsorption conditions (Coeliac disease, IBS)



ADAM.

How do I tell if I have Osteoporosis or not?

Osteoporosis itself is not symptomatic, but there are a number of signs to look out for that might indicate osteoporosis. These include:

- Presence or history of a fracture occurring after a small force – eg. as a bump or knock
- Loss of height > 4cm
- Curved upper spine

The best way to actually diagnose Osteoporosis is to speak to your doctor about organizing a Dual-Energy x-ray Absorptiometry (DEXA scan). This is a scan of your body (usually your hip and your spine) to get a measure of your bone density. Osteoporosis is diagnosed when your bone density falls below a certain level. Osteopenia is low bone density but not as low as Osteoporosis.

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How exercise can help:

Research shows that both weight-bearing exercises and resistance training can promote bone health. Bones respond to the loads incurred from these types of exercise by increasing the density and structure of the bone where the muscles you are using attach. The key, however, is to be doing exercise that is new or a challenge for the bones. If you are doing exercise that your bones are used to, then they see no reason to change! So for people doing resistance training, the exercises, or the weight used, needs to change periodically for bone health to keep improving. People who habitually walk will not be able to walk as an exercise to improve bone health, as their bones are already accustomed to that form of weight-bearing exercise. Walking is, however, excellent exercise for your general health and well-being, just not a good choice if you are selecting an exercise specifically for improving your bone health.

A word of caution:

In the older person, changes in other areas of your body also occur. This includes our connective tissues – ligaments and tendons – meaning our joints are not as mobile or as strong as they once were. High-impact exercises, such as jogging, jumping or aerobic dance places more stress through the joints such as the hips and knees. More importantly, the reduced strength of our tendons and ligaments also has an effect on our pelvic floor muscles.

During exercise we use our pelvic floor muscles to keep ourselves continent and avoid leaking. This is done by meeting the demand of the forces from the exercise, with a contraction from the pelvic floor. In high-impact exercise, these forces can be very high and sometimes the pelvic floor is not strong enough to meet these demands. This puts individuals at risk of incontinence or prolapse. In women who have been through menopause, high-impact exercise such as running or jumping is not recommended.

Causes of weak pelvic floor muscles include:

- Not keeping them active
- Pregnancy and giving birth
- Chronic constipation
- Chronic cough
- Being overweight
- Heavy lifting
- Ageing



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The best exercises for me to do:

Resistance exercises (using weights or elasticized bands), balance and flexibility exercises are best. Improving muscle strength, flexibility and control will not only help with bone density

- **Resistance Exercise:** Using weights, elastic ribbon (Theraband) or body weight to perform exercises means the muscles have to work to perform the action. Increasing the load across the muscle, pulls on the bone where it attaches. This causes the bones to lay down more bone material to increase their strength to cope with the higher loads. Examples of resistance exercises include: bicep curls, overhead press, hip abduction and squats. This type of exercise should be done 2-3 times per week.
- **Balance Exercises:** Improving balance involves challenging the systems that we use to keep our balance. Good balance is important to decrease the risk of falling, which in turn decreases the risk of fracture. This is done by using one leg, standing on uneven or unstable surfaces or having a small area of support (feet close together compared to far apart). An example of a balance exercise include: practicing standing on one leg. Ensure you have something sturdy, such as a bench or a heavy chair, nearby to hold on to easily if you need. If you find you are able to stand on one leg easily, you can try with your eyes closed. Hold onto something if you need.
- **Flexibility Exercises:** Stretching the muscles in your arms, back and legs can maintain the amount of movement you have and prevent you from losing mobility, decreasing your risk of having a fall. Stretching should be included after the resistance training exercises and done 2-3 times per week.

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How to keep your body improving:

Our bodies adapt to new challenges that are placed on it. This means that we need to keep our exercise programs varied. If you start an exercise program your body will respond and strength to make itself stronger to handle the exercises better. However, if you never change this program, your body will not continue to make changes even though you are still exercising. This is why just going for a walk will not help improve your bone density – although walking is still a good exercise for many other things, like your heart and lungs!

We need to vary the exercises and this can be done in a number of ways:

- Change the speed of how you perform them, eg. Slower or faster than usual
- Change how many you do (but vary the weight you lift) eg. A high number of lifts (15-20) with a lighter weight, or a lower number of repetitions (6-8) with a heavier weight.
- The type of exercise, eg. Doing lunges instead of squats
- The position you do the exercise in (if able to do) eg, lying down compared with standing up
- Moving to music with changes in direction (eg. Forwards, back, side to side) rather than just walking which is repeating the same pattern time and time again.

Here are a few tips to assist you in managing your Osteoporosis:

- Speak to your doctor about your bone health and beginning an exercise program, if you have not already done so
- Speak to your physiotherapist, or other suitable qualified health professional, about beginning an individualized tailored exercise program for your Osteoporosis
- Let your doctor and physiotherapist know about any other medical conditions and medications you are taking
- Incorporate resistance training, balance exercises, stretching and pelvic floor exercises in any program.
- Avoid exercises that put excessive strain on your pelvic floor, eg. Running, jumping, sit-ups
- Aim to do strength training 2 – 3 times per week, with 8-12 repetitions of each exercise and repeating this at least twice.
- Vary the speed, number of repetitions, weight, intensity or type of exercises every 6-8 weeks – this keeps our bodies guessing and therefore continues to make improvements.
- Have a good warm-up (approx 10-15 minutes) and a good cool-down (approx 10 minutes) so you don't injure yourself.
- Join our **Strengthwise program at Fitwise!**

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How to reduce the risk of falls:

Take care of yourself:

- Being physically active and optimizing your strength, flexibility and balance
- Controlling chronic illnesses (eg. Arthritis, blood pressure, heart disease) as much as possible
- Understand your medication and its possible side effects. Speak to your doctor or pharmacist if you are unsure.
- Check your eyesight or visit your eye specialist. Ensuring that the lighting in your house (especially when getting up at night) is adequate.
- Check your footwear regularly to make sure that they are fitting well, providing support and not losing their grip. Stable shoes with a low broad heel, non-slip grip are best.

Take care of your environment:

- Look for potential hazards around your home (inside and out):
 - Loose rugs?
 - Uneven steps or paths?
 - Hand-rails?
 - Clear walking areas?
 - Telephone or power cords out of the way?
 - Chairs/couches that are easy to get in/out of?
 - Pets that weave between your legs or stand behind you!

What Fitwise can offer you?

- Individualised consultations with experienced physiotherapists to create an exercise program specific to you and your needs.
- Fitwise runs 'Strengthwise' - an exercise class aimed at the mature woman. These fun group classes use weights and bands in a safe and effective manner to improve strength, flexibility and balance.

- ❖ This information is a general overview of non-specific nature in regards to osteoporosis and exercise in the older person. It is not intended to be diagnostic and must be considered in conjunction with the individual's complete medical history and a comprehensive physical examination. Individuals with osteoporosis should contact their doctor and / or the Australian Physiotherapy Association to find a local physiotherapist to assist with their management. Consult your doctor and / or physiotherapist before beginning any new exercise program.

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