

# **Exercise Plan for Bone Health (Osteoporosis)**





# Exercise and Bone Health

## What is Osteoporosis?

Osteoporosis is a common bone disease which makes your bones more fragile. This increases the chance of you breaking a bone (also called a fracture), even with a minor bump or fall. Osteoporosis may also cause you to lose height, and your posture to become stooped.

## Why exercise?

Regular exercise can help protect you from breaking bones in two ways: by strengthening your bones (along with the medication prescribed by your doctor and a calcium-rich diet) and by reducing your chances of falling. You are at greatest risk of breaking a bone, for example your hip or wrist, if you fall. Exercise can improve your balance, co-ordination, strength and flexibility and therefore make it less likely that you will fall.

Regular exercise can also improve your posture, mood, general health, and help lessen pain from different causes, including arthritis. Also, the fitter you are, the easier it is for you to carry out all your daily activities such as housework and shopping.

## What kind of exercise should I do?

Exercise needs to be regular and on-going. Research tells us that when regular exercise stops, the many benefits are lost.

Your exercise plan should include:

**A warm-up** – Always start your programme with a gentle warm up to boost your circulation and prepare your joints and muscles for exercise.

**Flexibility and stretching exercises** – Flexibility is an important part of being fit and active. Regular gentle stretches for the muscles and joints of your shoulders, upper back and neck will also improve your posture, which is very important if you have osteoporosis. Always warm up before doing your stretches. Avoid 'bouncing' when you stretch.

**Weight-bearing exercises** – These are exercises in which you support your own body weight. Research has shown that regular weight-bearing exercise, such as walking, stair climbing, low impact aerobics and dancing can slow down bone loss.

**Muscle strengthening exercises** – Stronger muscles will help reduce pain and give support to your bones and joints. They can also help you to balance better, making it less likely that you will fall.

**Balance exercises** – Improving your balance makes it less likely that you will fall. Balance, like everything else, takes practise to improve. Dancing and exercise to music classes can help improve your balance. Tai Chi is another good way of improving your balance.

**Exercises for general health** – To improve your general health, you need to be physically active to the point you are slightly out of breath for about 30 minutes on most days. You don't have to do this all at once but can, for example, add up three ten minute activities. Start slowly and gradually build up. Start by setting aside 5 or 10 minutes, gradually increasing to 30 minutes of continuous activity. 'Physical activity' not only includes exercise, but also daily activities like walking, climbing stairs, housework, gardening etc.

This booklet describes an exercise programme that contains all these types of exercise.

### **Swimming and cycling**

These exercises are non weight-bearing and therefore do not improve your bone density. However, they can improve your fitness and general health, so they are still good to do, but make sure you are doing some weight-bearing exercise too.

## **What kind of exercise should I avoid?**

Some exercises and activities put you at risk of injuring yourself, or at worst, breaking a bone. They include:

- running, jogging, skipping, jumping and hopping
- high impact aerobics
- repeated forward bending (eg touching your toes)
- fast twisting movements
- any exercise that is likely to cause you to fall

## **Tips for exercising**

- Always wear well-fitting footwear with cushioned soles or in-soles, such as trainers, when you are exercising.
- Make sure the room is at a comfortable temperature.
- Always start with a gradual warm-up, followed by gentle stretches.
- Always start slowly and gently. Build up gradually, working within your limits. Pace yourself.
- Keep breathing properly and don't hold your breath.
- Although you may already have some discomfort, stop if the exercise increases or changes your pain in any way. If you begin to feel unwell during the exercise programme, do not continue. If this happens again, consult your GP.
- If you become tired, instead of stopping, try slowing down.
- Do the exercises in a controlled manner.
- Find an activity that suits you. There is no point in forcing yourself to do something that you do not enjoy as it will be unlikely you will continue with it long term. Try out a few different ways of exercising to find out what you enjoy the most .
- If you are exercising for the first time, you should see your GP first.

## **Home Exercise Programme**

The exercises that follow are designed for you to do at home. It is important that you do them regularly (at least 3 times weekly) to improve then maintain, your posture, flexibility, strength and balance.

Before starting your exercises there are some important points to remember:

- Make sure you are wearing well-fitting, supportive footwear.
- Pace yourself, only do as many of the exercises as you feel comfortable with
- Do the exercises slowly in a controlled manner.
- Keep breathing properly and don't hold your breath during the exercise
- If you begin to feel unwell during the exercise programme, do not continue. If this happens again consult your GP.
- The exercises should not increase or change your pain in any way; you should be able to work within pain-free limits. If this does occur, stop exercising. If this happens again consult your GP.

## **Posture check**

Before you start, think about your posture.

Think:

- head up
- long back
- shoulders back, chest out
- tummy in

Regularly return to the posture check during your exercise programme.

## Mobiliser exercises

**Aim: To keep the shoulders, neck and upper spine supple and to help keep an upright posture.**

The mobilisers can be done in standing, or sitting if you feel unsteady. If you are sitting place your feet flat on the floor and do not lean against the back of the chair. Move comfortably - do not force the movement.

1. Circle your shoulders upwards, backwards then downwards.

*Repeat 4 times, slowly and smoothly.*



Mobiliser exercises continued on the next page

2. Tuck your chin in, keeping your chin level. Lengthen your neck at the back, whilst trying to make a double chin at the front. Feel a gentle stretch at the back of your neck

*Hold for 5 seconds. Repeat 4 times.*



3. Bring your hands close together, keeping your elbows straight. Lift your arms forward and upwards towards the ceiling, then lower to your sides.

*Repeat 4 times, slowly.*



4. Rest your hands on your bottom, low down. Gently bring your elbows back together. Push the tips of your elbows down towards the floor.

*Hold for 5 seconds. Repeat 4 times.*



## Strength and bone health exercises

**Aim: To strengthen the muscles and bones and make daily tasks easier.**

Below it suggests you repeat each exercise 8-10 times. This may be too much to start. To start with, only do as many of each exercise as you feel comfortable with, building up to 8-10 gradually.

Research suggests that doing a smaller number of repetitions of each exercise, with heavier weight or resistance, is better to strengthen muscles and bones. When doing the exercises, it is normal to feel a mild burning or warmth in your muscles. However, if it is too easy doing 8-10 repetitions, then you should think about adding more weight or resistance, or adding in extra sets of 8-10 after a 2 minute rest.

### 1. Sit to stand

Stand up and sit down slowly with control. Use your hands on the chair for support if you feel unsteady.

*Repeat 8-10 times.*



## Strength and bone health exercises continued

### 2. Wall press

Stand facing the wall. Place your hands on the wall at shoulder height and about shoulder width apart. Keeping your back and hips straight, bend your elbows and lean your body towards the wall. Hold for a moment then push your body back away from the wall. Move feet further from the wall to make it more difficult.



Keep your feet flat on the floor. *Repeat 8-10 times.*

### 3. Step-ups

Step up and down on a small or bottom step, holding on to a rail or the wall for support if needed. Step up and down with right leg 8-10 times.



Repeat with left leg.

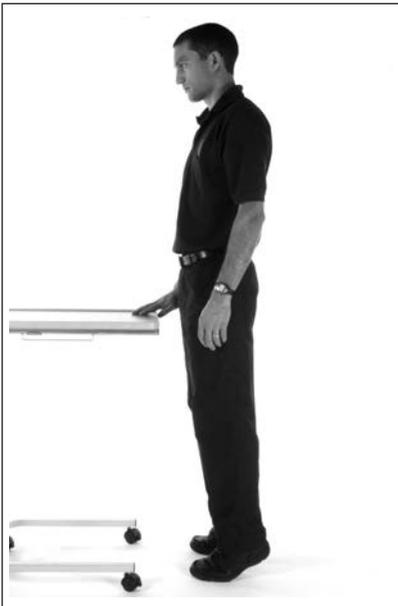
## Strength and bone health exercises continued

### 4. Ankle strengthener

Hold on to a wall or firm surface for support as needed. Rise on to your toes, hold for a moment, then lower slowly. Pick up your toes with your knees slightly bent (keeping your heels on the floor), hold for a moment then lower slowly.

Keep an upright position.

*Repeat 8-10 times each.*



## Strength and bone health exercises continued

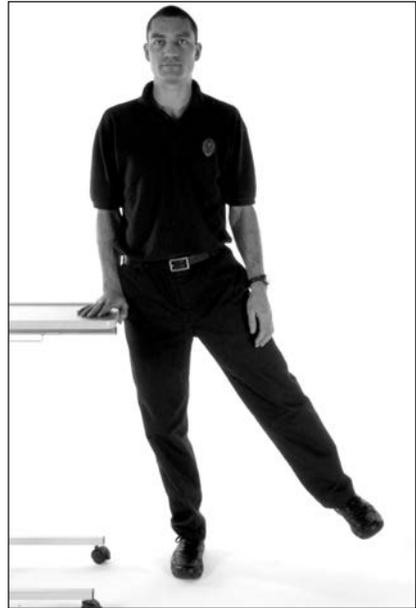
### 5. Hip strengthener

Stand holding on to a firm support. Lift your leg slowly out to the side. Do not tilt your body or turn your foot out. Hold for a moment then slowly bring it back in.

*Repeat 8-10 times.*

*Repeat with the other leg.*

See below for a harder version of this exercise.



Hip strengthener – harder. Lie on your side. Keep the bottom leg bent and the upper leg straight. Keep hips rolled forwards. Lift the upper leg straight up with the heel leading the movement (be careful not to twist the leg).

*Repeat 8-10 times.*



*Repeat with the other leg.*

## Strength and bone health exercises continued

### 6. Back strengthener

Sitting towards the edge of a chair with your hands by your sides. Gently turn your thumbs out and reach your arms backwards. Then: squeeze your shoulder blades together and push your fingertips towards the floor.

*Hold for 5 seconds.*

*Repeat 8-10 times.*



See next page for a harder version of this exercise.

## Strength and bone health exercises continued

Back strengthener – harder. Lie face down on a firm bed with your forehead resting on your hands, elbows out at the sides. Keep your chin close to your chest and keep looking towards the bed. Slowly lift your chest and shoulders off the bed as high as you can, then come down slowly. Do not hold your breath.

*Repeat 5 times.*



## Strength and bone health exercises continued

### 7. Wrist strengthener

Sitting towards the edge of a chair, with your hands hanging off your knees, and your back straight. With palms down and hands making a fist, slowly curl your wrists up and down as far as they will go. To make this more challenging, try using some hand weights or dumbbells. Cans of beans etc can also be used.

*Repeat 8-10 times.*



Repeat with palms facing up as shown below.



## Balance exercises

**Aim: To improve your balance to try and prevent you losing your balance and falling over.**

Holding on to a firm support. Stand with one foot touching the other, and the heel of one foot in the middle of the other foot. Get your balance, then try to gradually let go and keep your balance for as long as you can (up to one minute). Swap feet around and try again.



Once you are finding this easier, try moving onto the following:

Stand with one foot directly in front of the other (heel to toe) as shown at the top of the next page. Try balancing in this position. Remember to try on both legs.

Once you are finding this easier, try standing on one leg as shown on the next page. Remember to try on both legs.

## Balance exercises continued

Holding on to a firm support.



## Stretches

**Aim: To stretch out the muscles after you have been working, and to keep the joints supple.**

Stretches should be smooth with no 'bouncing'. You should feel a gentle stretch but no pain.

### 1. Hamstring stretch (Back of thigh)

Sitting towards the front of a chair, straighten your left knee. Rest your left heel on the ground. Right foot flat on the floor. Keeping your spine straight, bend forwards from the hip until you feel a stretch at the back of the thigh. Keep your head and chest up, eyes facing forwards.

*Hold for 15 seconds.*

*Repeat with right leg.*



## Stretches continued

### 2. Calf stretch

Standing, holding on to a worktop. Step back with the left leg. Gently bend your front (right) knee forwards. Check your heels are on the floor, and your back is straight. Feel the stretch in the left calf.

*Hold for 15 seconds.*

*Repeat with right leg.*



Stretches continue on the next page

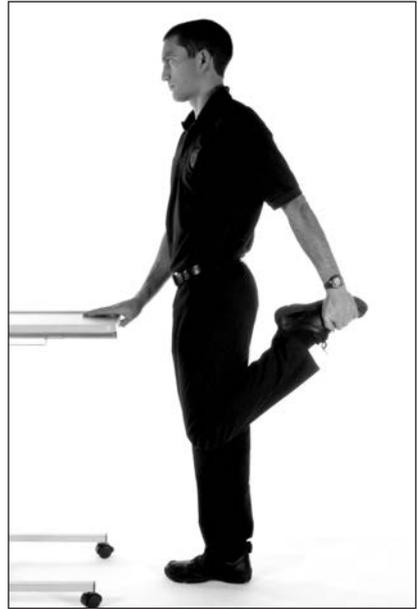
## Stretches continued

### 3. Quadriceps stretch (Front of hip and thigh)

Standing, holding on to a worktop. Holding on to the bottom of your trousers or the back of your shoe, gently bring your heel towards your bottom. Try to keep your knees close together.

*Hold for 15 seconds.*

*Repeat with the other leg.*



If you have difficulty reaching your foot, or comfortably bending up your leg, try standing in the same position as for stretching exercise 2 – the calf stretch – on the previous page. This time, push your hips forward and keep your back straight. You should feel a stretch in the front of your rear leg.

*Hold for 15 seconds.*

*Repeat with the other leg.*

#### 4. Shoulder stretch

Facing the wall, as close as you can get, slide your hands slowly and smoothly up the wall until you feel a gentle stretch in your shoulder. Keep your eyes facing forwards.

*Hold for 5 seconds.*

*Repeat 2 more times.*



**Well done - you have completed your home exercise programme!**

## **Taking care of your back**

The spine is one of the most common areas of the body to be affected by osteoporosis. It is therefore very important that people suffering from osteoporosis protect their back. These are some ways that you can protect your back.

### **Lifting**

- Know your own strength and only lift what you can handle.
- Always lift and carry close to the body.
- Bend your knees and let your legs do all the work.
- Don't twist your back, turn with your feet.

### **Sitting**

- Avoid low soft chairs that have poor back support.
- Use an upright firm chair that does not allow your lower back to slouch.
- Get up and straighten your back out at least every thirty minutes.

### **Standing**

- Avoid bending forwards for long periods of time.
- Have your working surface at a comfortable height.

### **Driving**

- Have frequent breaks during long journeys to stand up and walk around a little.
- Sit in an upright position that does not allow your lower back to slouch.

## **Sleeping**

Using a firm mattress will give your back more support.

Getting in and out of bed:

- Sit at the side of the bed
- Lower yourself onto your elbow
- Lower further onto your shoulder bending your knees at the same time
- Draw your knees up until your legs are on the bed
- Roll body and knees together to face the ceiling

The reverse sequence should be used when getting out of bed.

## **How to keep going**

Plan your activity and slot it into your daily/weekly schedule – if it becomes part of your routine you will be more likely to do it.

- Exercise with friends
- Keep a diary of your activity
- Mix and match your programme
- Exercise to music you enjoy
- Enjoy your exercise

## **Exercise in Your Area**

There are a variety of activities held in your local area that are suitable to participate in. However, they are not specifically designed for people with Osteoporosis - always make sure you tell the instructor or group leader that you have Osteoporosis.

### **Falkirk District**

#### **Active Forth**

For more information contact:

Grangemouth on 01324 504568

Mariner Centre on 01324 503753

Bo'ness on 01506 778506

e-mail: [active.forth@falkirk.gov.uk](mailto:active.forth@falkirk.gov.uk)

#### **Step Forth**

For more information contact:

Telephone: 01324 504556

e-mail: [step.forth@falkirk.gov.uk](mailto:step.forth@falkirk.gov.uk)

#### **Braveheart**

For more information contact:

Falkirk Community Hospital

Major's Loan

Falkirk FK1 5QE

Tel: 01324 673701 Mobile: 07795 300 131

[www.braveheart.uk.net](http://www.braveheart.uk.net)

## **Stirlingshire Health Walks**

Health walks are on good surfaced paths with only very gentle inclines. A health walk is a short , gentle and friendly led walk up to 2 miles (approx. 45 minutes) and a great way to meet new people and take the first steps towards a healthier lifestyle.

For further information contact:

Active Stirling, No23  
15 Barrowmeadow Road  
Stirling FK7 7UW  
Tel: 0300 028 0101  
[www.activestirling.org.uk](http://www.activestirling.org.uk)

## **Clackmannanshire Wee County Walker**

*Free weekly led walks in the Clackmannanshire area.*

For more information contact:

Walking Development Officer  
Tel: 01259 290136  
[www.braveheart.uk.net](http://www.braveheart.uk.net)

## **Clackmannanshire Healthier Lives Programme**

For more information contact:

Active Communities Officer  
Tel: 01259 452334  
e-mail: [info@healthierlives.org.uk](mailto:info@healthierlives.org.uk)  
[www.healthirlives.org.uk](http://www.healthirlives.org.uk)

## **The National Osteoporosis Society**

This society offers support to people with osteoporosis through a range of detailed information booklets, a telephone help line and a network of regional support groups. For more information contact:

National Osteoporosis Society

Camerton, Bath BA2 0PJ

Helpline: 0845 450 0230

Website: [www.nos.org.uk](http://www.nos.org.uk)

Email: [info@nos.org.uk](mailto:info@nos.org.uk)

## **If you can't go let us know!**

Every month around 2,000 people across Forth Valley fail to turn up for hospital appointments. This costs the NHS millions of pounds each year and increases waiting times. So if you are unable to attend or no longer require your hospital appointment please let us know so we can offer it to someone else.

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