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# ***Exercises and osteoporosis***

***Information for patients and carers***

**Physiotherapy Department**

## Why is exercise important?

Exercise or physical activity is important for bone health and osteoporosis, whatever your age or fitness and whether or not you've broken a bone(s). Being physically active and exercising will help you in many ways.

### ***Exercise matters because it:***

- Helps to strengthen your muscles and bone, reducing the risk of fractures.
- Improves your balance so you're less likely to slip, trip or fall.
- Helps to reduce your risks and symptoms of other medical conditions.
- Helps you to keep doing everyday activities and live independently.
- Improves your confidence and mood.

Exercises that are weight bearing and work on your strength and balance are particularly important.

## ***Exercise for bone and muscle strength***

For exercise to be most effective at keeping bones strong, you need to combine weight bearing exercise with impact and resistance exercise to make your muscles stronger.

Weight bearing exercise includes any exercise where you're standing while supporting your body weight.

Weight bearing with impact includes being on your feet and adding in an additional force such as walking. The impact of this exercise can vary (see table below).

### **Low and moderate impact exercise**

<b>Low impact</b>	<b>Moderate impact</b>
Walking	Jogging or running
Marching on the spot	Skipping or hopping
Stairs	Dancing
	Team/racket sports

To strengthen your muscles and bones, you also need to move your muscles against some sort of resistance. You can do this by adding a load for the muscles to work against such as a weight, using an elastic resistance band or using your own body weight. As your muscles get stronger, you can gradually increase the intensity of the exercise.

## Examples

Upper body and spine	Lower body
Wall press ups Bicep curls Tricep press Chest press Back extension	Squats Sit to stand Hip flexion/extension and abduction

### ***Exercise to keep you steady: Preventing slips, trips and falls***

Being both physically active and doing stability and balance exercises will help keep you steady. This will make you much less likely to slip, trip or fall and break a bone.

### ***Exercise and movements to care for your back***

After being diagnosed with osteoporosis or a spinal fracture many people are fearful of moving their backs. Specific exercises can strengthen your back muscles and improve your pain and posture. These exercises will help to improve your muscle tone and reduce strain on your joints, muscles and tendons.

## ***How often should I exercise? How much should I do?***

### **Exercise for bone and muscle strength**

	<b>Most people with osteoporosis</b>	<b>If you have spinal fractures or can't do moderate impact</b>	<b>If you're not physically strong or can't do regular exercise</b>
<b>Weight bearing exercises</b>	About 50 impacts on most days (jumps, skips, jogs).	20 minutes of low impact exercise on most days.	At the very least, avoid prolonged sitting or lying. Stand up for a few minutes every hour.
<b>Muscle strengthening</b>	2 to 3 days a week (non-consecutive days).  Aim for 20 to 30 minutes of muscle resistance exercise (arms, legs, spine)  8 to 12 repetitions if able;  1 to 3 sets		

## Exercise to keep you steady Preventing slips, trips and falls

If you're unsteady or over 65 and not doing regular exercise	If you're particularly prone to slips, trips and falls
Balance exercises 2 to 3 times a week Up to 10 reps of each exercise if able	Challenging balance and muscle strength exercises Build up to 3 hours a week or 25 minutes a day over at least 4 months

## Exercise and movements to care for your back

Exercises to strengthen back muscles and improve posture
2 to 3 days a week 3 to 5 repetitions 3 to 5 second holds

Do remember if you have osteoporosis or have been told you are at an increased fracture risk, then you can exercise safely and effectively. However, you can refer yourself to a physiotherapist (through the Musculoskeletal Assessment and Triage Service on **01224 553333**) or ask your GP to refer you if:

- You're having a problem with exercise because of other medical conditions.
- You've had more than one fall in the last year.
- You've had a spinal fracture(s) which is causing pain.
- You're struggling to exercise.

## ***Getting started with exercise***

- Little and often is best; start with low repetitions of each exercise.
- Begin with activities you know you can do comfortably.
- Exercise regularly to get the most benefit.
- Gradually increase the amount and intensity over time.
- Plan your activities before you do them.
- Wear comfortable clothes, shoes or trainers.
- Make sure you have enough space and an appropriate environment.
- A little muscle stiffness/pain for a day or two after exercise is normal. However if your pain lasts for more than a few days, then you may have injured yourself so it's important to speak to a healthcare professional.

**If in doubt please speak to a healthcare professional first.**

## **Exercises**

Please find below some gentle exercises that you can try.



### **Marching on the spot**

March on the spot. You can reduce the height of your knees or your speed if you need to.

To modify this exercise you can stand near a stable surface, with one hand on the support (if required) and take gentler steps.



### **Sit to stand**

Sit up tall near the front of your chair. Place your feet slightly back and hip width apart. Lean forwards slightly and stand up slowly, using your hands on the chair if needed.

Then slowly lower your bottom back into the chair, using your hands if you need to.



### **Heel raises**

Stand tall with your feet hip distance apart. Hold on to support.

Slowly lift up your heels, keeping the weight over your toes.

Try not to lock your knees.

Then slowly lower your heels back down.

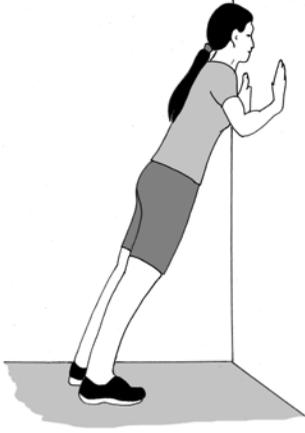


### **Mini squats**

Rest your hands on the back of the chair for stability and stand with your feet hip width apart.

Slowly bend your knees as far as is comfortable, keeping them facing forwards. Aim to get them over your big toe. Keep your back straight at all times.

Then gently come up to standing, squeezing (clenching) your buttocks as you do so.



### **Wall push ups**

Stand arm's length from the wall. Place your hands flat against the wall at chest level, with your fingers pointing upwards.

With your back straight, slowly bend your arms, keeping your elbows by your side.

Aim to close the gap between you and the wall as much as you can.

Slowly return to the start.



### **Bridging**

Lie on your back with your knees bent, hip distance apart and feet flat on the floor. Use a pillow under your head for comfort if needed.

Keep your arms relaxed by your side with your palms down and tighten your tummy muscles.

Squeeze your buttocks together and lift your bottom off the floor.

Keep your shoulders on the floor and your knees close together.

## Useful resources

There is more information about exercise at the links below:

### **Royal Osteoporosis Society**

[www.theros.org.uk/information-and-support/looking-after-your-bones/exercise-for-bones/](http://www.theros.org.uk/information-and-support/looking-after-your-bones/exercise-for-bones/)



**0808 800 0035**

### **NHS Inform**

[www.nhsinform.scot/illnesses-and-conditions/muscle-bone-and-joints/conditions/osteoporosis](http://www.nhsinform.scot/illnesses-and-conditions/muscle-bone-and-joints/conditions/osteoporosis)



**0800 22 44 88**

### **NHS Grampian healthpoint**



**08085 20 20 30** (Monday to Friday, 9am to 5pm)

Text 82727 (advisor will call you back)



[healthpoint@nhs.net](mailto:healthpoint@nhs.net)

### **Falls assistant**

[www.fallsassistant.org.uk/exercise-centre/](http://www.fallsassistant.org.uk/exercise-centre/)

Please note that NHS Grampian is not responsible or liable for the quality of the information, resources or maintenance of external websites. Any advice on external websites is not intended to replace a consultation with an appropriately qualified medical practitioner.

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