

For patients: Advice about exercise and osteoporosis

What is osteoporosis?

Osteoporosis literally means 'porous bone'. It is an abnormal condition of the bones, during which the bones gradually become more fragile, which can, in some cases, lead to fracture.

Who develops osteoporosis?

Both men and women are at risk of developing osteoporosis. Men have larger and stronger bones than women, which partly explains why osteoporosis affects fewer men than women. The risk increases with age, especially after the menopause in women.

Why do bones become more fragile?

Your bones grow in length and density until you reach your maximum height, usually in your teens; however, bones continue to become more dense until you are aged about 30 years. After this age, your bones slowly start to lose density (strength). Throughout life, bone density is affected by heredity (genetics), your diet, sex hormones, physical activity, lifestyle choices, and the use of certain medications.

What can be done to prevent or treat osteoporosis?

There are a number of causes of osteoporosis; please ask your doctor for the likely cause of yours. Depending on the cause of your osteoporosis, there are a number of treatments (including medications) that can help, and some dietary and lifestyle changes can help prevent future problems. Please ask your doctor for advice about these.

One of the components of your bones (which makes them strong) is calcium, which is obtained from the diet. The National Osteoporosis Society promotes: 'Following a Bone-Friendly diet', which is a well-balanced diet, incorporating minerals and vitamins from different food groups, and is rich in calcium. The best sources of calcium in the diet are milk and dairy products such as cheese and yogurt. Non-dairy sources of calcium include green leafy vegetables, baked beans, bony fish and dried fruit.

Can exercise help prevent and support people who have osteoporosis?

If bones are not 'used' they weaken. We know that regular weight-bearing exercise, which exerts a loading impact and stretches and contracts the muscles, stimulates bone to strengthen itself.

The National Osteoporosis Society recommends exercising at least three times a week for a minimum of 20 minutes.

If you are healthy but haven't exercised for a while, do start gently. If you have other health problems, check with your doctor first. If you have already been diagnosed with osteoporosis, you should ask your doctor or physiotherapist for advice about an exercise program because some twisting motions and impact activities might not be good for you. Exercises that are considered useful for most people include:

- Stepping on the spot while holding on to a steady surface – this is good for people who are less active.
- Walking, especially if it is brisk;
- Skipping;
- Gentle jogging (or running if you are able);

Compiled by physiotherapists working from Addenbrooke's NHS Trust, Cambridge City Primary Care Trust (PCT) and South Cambridgeshire PCT

- Racquet sports (eg tennis);
- Stair climbing or step-type exercises;
- Team sports;
- Lifting weights or using resistance machines, which strengthen your bones and muscles;
- Aerobics (if you are able);
- Tai chi is useful for posture, leg strength and balance.

Regular exercise is also good for your weight, heart - and it makes you feel good.

What else can I do to prevent problems?

One of the hazards of having osteoporosis is that if you fall you might break a bone. Your doctor or health visitor can help you identify risks for you. There are a number of measures you can take to reduce your risk of falling or other accidents including:

- **Make your floor surfaces safe.** Remove anything that you might trip over (eg loose wires and cords) – and keep your floors clear of clutter. Replace any floor surface that you might slip on (eg don't have loose rugs, and make sure any rugs are anchored and smooth – especially on stairs). Don't move furniture to places where someone might trip over them.
- **Avoid slipping on wet surfaces:** In the bathroom, install grab bars and non-skid tape on the bath or showers. In the kitchen, clear up spills on the floor before you slip on them - non-skid rubber mats near the sink and cooker can be useful.
- **Shine a light:** to prevent yourself bumping into furniture or slipping, make sure your rooms are well lit when you use them (eg halls, stairways, and entrances). If you get up in the night, remember to turn the light on. Don't forget to wear any eyeglasses too.
- **Keep steady:** If you are unsteady on your feet, wear comfortable, rubber-soled shoes that won't slip. Some medications can make you unsteady – ask your doctor for advice. Avoid drinking alcohol if you think it might make you unsteady.

For further information contact:

National Osteoporosis Society (NOS)

Contact: PO Box 10, Radstock Road, Bath BA3 3YB; Tel: 01761 471771;

NOS confidential helpline: 0845 450 0230. The helpline is open Monday 1000 to 1700 hrs and Tuesday to Friday 0930 to 1700 hrs;

Website: <http://www.nos.org.uk/> (where you can also e-mail questions to the NOS nurses).

They publish two booklets: *Exercise and Bone Health* (exercises to help prevent osteoporosis) or *Exercise and Osteoporosis* (exercises for people who have been diagnosed with osteoporosis).