

# Osteoporosis (The Silent Thief)

## Patient Information

Trauma & Orthopaedics Department

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## What is Osteoporosis?

Osteoporosis literally means porous bones. The bones in our skeleton are made of a thick outer shell and a strong inner mesh filled with collagen, calcium salts and other minerals. The inside looks like a honeycomb, with blood vessels and bone marrow in the spaces between the bone.

Osteoporosis occurs when those spaces between the bones become bigger, making bones fragile and liable to break easily.

Bone is alive and constantly changing. Old, worn bone is broken down by cells called osteoclasts and replaced by bone building cells, osteoblasts. This process of renewal is called bone turnover.

## Who is at risk?

We are all at risk, or potentially at risk of osteoporosis, because of the bone loss that occurs as we get older.

## Women

Women are more at risk of developing osteoporosis than men. Women have smaller bones, which are less dense, and they also experience the menopause. At the menopause, normally around the age of 50, the ovaries stop producing the female hormone oestrogen, which is essential to bone health. Younger women can also be at risk if they have low circulating levels of oestrogen. Over-exercising and eating disorders, such as anorexia nervosa, can upset the normal hormone balance.

## Men

Men who generally have bigger, denser bones than women do not undergo the rapid bone loss associated with the female menopause. Osteoporosis in men is often the result of another health problem. Low levels of testosterone can lead to osteoporosis, due to a problem with the testes themselves or the pituitary gland, which controls hormone levels. In nearly half of all men with osteoporosis the cause is unknown (idiopathic osteoporosis).

## Factors which can increase your risk

**For women** a lack of oestrogen, caused by:

- Early menopause (before the age of 45)
- Early hysterectomy (before the age of 45) especially if both ovaries are removed
- Missing periods for six months or more (excluding pregnancy) as a result of over-exercising or over-dieting

**For men**

- Low levels of the male hormone testosterone

**For Men and Women**

- Long term use of corticosteroid tablets (for conditions such as asthma)
- Maternal history of a hip fracture
- Poor absorption of food, inflammatory bowel disease (Crohns disease or ulcerated colitis)
- Long term immobility
- Heavy drinking
- Smoking
- Low body weight

Because you cannot see or feel your bones getting thinner, you will probably be quite unaware of any problems with your bone health. Osteoporosis is a silent disease and for most people, the first sign that something is wrong can be when they break a bone, often in the wrist or spine after a minor incident or notice a loss of height or curvature of the spine (kyphosis) developing.

If osteoporosis is suspected, a bone density scan can be done, this is painless and takes about 10 to 15 minutes. This test is currently the most accurate and reliable means of assessing the strength of your bones and your risk of fracture. The bone density scan can also be used to monitor the effects of treatment.

## Prevention

Genes determine the potential height and strength of the skeleton, but lifestyle factors can influence the amount of bone laid down in the bone “bank” during critical growth years and how much density is maintained in later life.

During childhood, adolescence, and early adulthood when the skeleton is increasing in bone density, it is vitally important to try to maximise peak bone mass. Making the most of bone mass will put your skeleton in a better position to withstand the natural bone loss that occurs later.

Diet is very important, healthy bones need a well-balanced healthy diet containing vitamins and minerals. These can be found in bread, potatoes, pasta, cereals, fruit, vegetables, dairy products, meat, fish, eggs, pulses, nuts, and seeds.

Calcium is especially important in the diet because it is the most abundant mineral in our bones, the most readily available sources are milk and dairy products like cheese and yoghurt and low fat varieties usually contain as much as full fat. If you don't like or cannot eat dairy products other useful sources are green leafy vegetables, baked beans, bony fish, and dried fruit.

Be careful not to have too much animal protein, salt, or caffeine because in excessive quantities, these can reduce the body's ability to absorb or retain calcium.

If you smoke, give up, smoking has a toxic effect on bone in men and women. Limit your alcohol intake; too much drink damages your bone turnover. Finally take regular weight-bearing exercise, at least 20 minutes three times a week.

## Treatment

The treatment of osteoporosis depends on a number of factors including age, sex, medical history and which bones are broken. Lost bone cannot be replaced but doctors can prescribe treatment aimed at strengthening existing bone to help prevent further bone loss and fracture. These include:

- Hormone Replacement Therapy (HRT)
- Selective Estrogen Receptor Modulators (SERMs)
- Bisphosphonates
- Testosterone Therapy
- Calcium and Vitamin D Supplements

## Contact information

If further information is needed, please ring the Fracture Clinic at Royal Albert Edward Infirmary: **01942 822109 or 01942 822106**

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## Comments, Compliments or Complaints

The Patient Relations/Patient Advice and Liaison Service (PALS) Department provides confidential on the spot advice, information and support to patients, relatives, friends, and carers.

## Contact Us

Tel: 01942 822376 (Monday to Friday 9am until 4pm)

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## Ask 3 Questions

Become more involved in decisions about your healthcare. You may be asked to make choices about your treatment. To begin with, try to make sure you get the answers to three key questions:

1. What are my options?
2. What are the positives and negatives of each option for me?
3. How do I get support to help me make a decision that is right for me?



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## How We Use Your Information

For details on how we collect, use, and store the information we hold about you, please see patient information leaflet, Ref. **Corp 006** How we use your information, this can be found on the Patient Information Leaflets page on the Trust website, see details on the front cover.

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This leaflet is also available in audio, large print, Braille, and other languages upon request. For more information, please ask in the department/ward.

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