



This information is also available on request in other formats by phoning 01387 241053.

Healthy Bones

Information leaflet

For further information:

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- ◆ **Limit alcohol.** Alcohol in excessive amounts is detrimental to bones and you should not exceed the governments recommended limits which is less than 14 units per week for women and less than 21 units per week for men. One unit is the equivalent of a **small** glass of wine, one pub measure of spirit or half a pint of normal strength beer, lager or cider. And remember, “binge” drinking every so often can be just as harmful to bones as drinking on a regular basis.
- ◆ **Do not smoke!** Smoking is bad for bones. It has a toxic effect and can hasten bone loss and in women, can cause an earlier menopause which in turn can also increase the risk of bone loss and osteoporosis.
- ◆ **Take regular weight bearing exercise.** Bones need to be used to keep them strong and healthy therefore it is important to keep active and take regular exercise. The best form of exercise is known as **weight bearing exercise**. Basically, this is the type of exercise that involves putting force through your bones and includes activities such as walking, dancing, jogging, running, tennis, skipping and aerobics. Exercise also helps to keep muscles strong and maintain balance, which reduces the risk of falls. Any exercise is better than none, but choose an activity that you enjoy. Simple changes such as walking rather than taking the car, and using the stairs rather than taking the lift can also make a difference.

One final message!

Although most of our bone strength is built up in younger years it is never too late to look after your bones and simple changes can help to make a difference to bone health and in reducing the risk of osteoporosis and fractures.

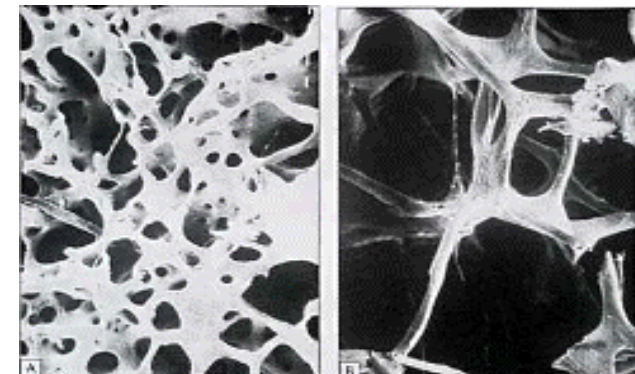
Introduction

Osteoporosis is an increasingly common health problem with it now being estimated to affect 1 in 2 women and 1 in 5 men over the age of 50. It can be a major cause of pain and disability as bones can break more easily as a consequence.

Osteoporosis is however preventable and this information leaflet aims to provide information and advice on what can be done to help maintain strong, healthy bones and reduce the risk of osteoporosis and fractures.

What is Osteoporosis?

Osteoporosis literally means “porous bones”. Bones are made up of a thick outer shell and a strong inner mesh, which looks like a honeycomb. This honeycomb consists of protein, calcium and other minerals, and is made up of struts of bone. In osteoporosis, these struts become thinner and weaker making bones more porous and fragile and more susceptible to breaking more easily.



Normal bone

Osteoporotic Bone

How is bone formed?

Bone is living tissue and is constantly being renewed by a process known as remodelling. This process basically involves “bone digging” cells called **osteoclasts** breaking down and removing old bone and then “bone building” cells called **osteoblasts** forming new bone and filling the cavity created by removing the old bone. This process continues throughout life but slows down as we get older. In childhood and adolescence the bone building cells work faster than the bone removing cells causing bones to increase in density and strength, with peak bone mass and strength being reached by our mid-late twenties. Bone density is then maintained up until our mid-late thirties and then starts to decrease as part of natural ageing. In women there is increasing bone loss at the time of the menopause.

What causes osteoporosis?

Our risk of osteoporosis is mainly hereditary with 70-80% of bone strength being genetically determined. A close family history of diagnosed osteoporosis (e.g. parents, grandparents) is therefore an important risk factor.

Other causes include certain medical conditions which affect the absorption of food and nutrients such as ulcerative colitis, crohns disease and coeliac disease, and conditions which affect the absorption of calcium e.g. an overactive thyroid or parathyroid gland.

Certain medications can also increase the risk of osteoporosis, e.g. long term anti-epileptic medication, long term or high dose steroids, and aromatase inhibitor medication which is often used as part of the treatment of breast cancer.

Women who have an early menopause (< age 45) are also more at risk and breaking a bone after a simple type of fall can also be an indication of osteoporosis.

Diet and lifestyle also play a big part in bone health and is something that we can all do something about.

So what can be done?

- ◆ **Eat a healthy, varied, well balanced diet** with plenty calcium rich foods. Calcium is the main nutrient required for strong bones, so incorporating foods which are rich in calcium is essential. Aim for around 700mg calcium daily, which is the equivalent of a pint of semi-skimmed milk per day. Although dairy foods are the easiest and richest sources of calcium (including low fat varieties) other non-dairy foods such as oily fish, green leafy vegetables, bread, cereals, dried fruit, pulses, beans and seeds are also good sources, but greater quantities may need to be eaten to ensure an adequate dietary intake. An adequate intake of Vitamin D is also required for calcium to be absorbed properly. Good dietary sources of Vitamin D include dairy products, oily fish, fortified margarine and eggs, however most of our Vitamin D comes from the action of sunlight on the skin so it is important to get out and about in sunshine (without causing skin to burn of course!).
- ◆ **Aim for 5 portions of fruit / vegetables per day** to ensure adequate vitamins and minerals.
- ◆ **Avoid excess caffeine** by limiting tea, coffee and fizzy drinks, as caffeine affects the absorption of calcium.