

Osteoporosis and bone health

Osteoporosis is a thinning and weakening of bones which means they are easier to break. It affects both men and women however women lose bone material more rapidly than men, especially after the menopause when their levels of oestrogen fall. Oestrogen is a hormone and helps to protect against bone loss. In the UK more than two million women are thought to have osteoporosis.

Symptoms

There are often no warning signs for osteoporosis until people experience a fracture, often after a minor fall. The most common injuries in people with osteoporosis are wrist fractures, hip fractures or fractures of the spinal bones (vertebrae). This is why it's really important to strengthen your bones in early life and make sure you're having enough calcium and a healthy varied diet.

Cause of Osteoporosis

As a child, your bones grow and repair very quickly, but this process slows down as you age. Bones stop growing in length between the ages of 16 and 18, however they continue to increase in density until you are in your late 20s. From about the age of 35, you gradually lose bone density which is a normal part of ageing, however for some people it can lead to osteoporosis and an increased risk of fractures.

You may be at increased risk of developing osteoporosis if you:

Have a family history of osteoporosis

Use certain medications long-term that affect bone strength or hormone levels, such as oral prednisolone

Have malabsorption problems

Are a heavy drinker and smoker

Treatment

What can I do to prevent osteoporosis?

Eat a healthy and balanced diet and include at least 5 portions of fruit and vegetables a day to make sure you get all of the vitamins and minerals you need

Protein rich foods are essential and you should aim to include meat, fish, dairy or vegetarian alternatives, such as tofu or pulses twice a day

Keep as active as possible and concentrate on weight bearing exercise such as brisk walking, aerobics, dancing or running. For most benefit you should exercise regularly - aiming for at least 30 minutes of moderate exercise or physical activity at least five times per week.

Make sure you're eating enough calcium for your age (Table 1). If you struggle to meet recommendations, you should take a calcium supplement which provides 400 – 600mg of calcium and 5 – 10mcg vitamin D. Vitamin D is really important for bone health and it helps

your body utilise the calcium you eat. This is why you need to make sure your vitamin D is at the right level if you have osteoporosis.

Table 1 – Calcium recommendations

Department of Health Reference Nutrient Intake (RNI) (mg/d) (2004)	
Teenagers 11 – 18 male	1000
Teenagers 11 - 18 female	800
Men and Women 19 - 50	700
Men and Women over 50	700
Pregnant Women	700
Breastfeeding Women	1250

Table 2 – Calcium values of foods

PORTION		FOOD	CALCIUM (mg)
190ml	1/3 pint	Water	32
190ml	1/3 pint	Skimmed milk	232
190ml	1/3 pint	Semi-skimmed milk	231
190ml	1/3 pint	Full cream milk	224
190ml	1/3 pint	Soya milk – calcium enriched	226
190ml	1/3 pint	Evaporated milk	480
120 g	4 oz	Ice-cream	134
150 g	5 oz	Yoghurt	225
30 g	1 oz	Cheddar cheese	202
100 g	4 oz	Cottage cheese	82
30 g	1 oz	Feta cheese	90
30 g	1 oz	Goats cheese	43

1	3 oz	Egg	30
120 g	4 oz	Cheese omelette (1 egg, 1oz cheddar)	232
120 g	4 oz	Cheese and egg flan	219
150 g	1/2	Cheese and tomato pizza	235
60 g	2 oz	Sardines, canned in tomato sauce	258
60 g	2 oz	Pilchards, canned in tomato sauce	168
120 g	4 oz	Salmon - canned	500
120 g	4 oz	Salmon – fresh	225
120 g	4 oz	Spinach, boiled	179
120 g	4 oz	Broccoli, boiled	45
120 g	4 oz	Baked beans	59
120 g	4 oz	Red kidney beans, cooked	80
90 g	3 oz	Soya bean curd, steamed	428
60 g	2 oz	Brazil nuts	95
60 g	2 oz	Swiss style muesli	62
30 g	1 oz	Dried figs	76
30 g	1 slice	Bread, white	33
30 g	1 slice	Bread, wholemeal	16
60 g	2 oz	Milk chocolate	123

How much Vitamin D?

Vitamin D is known as the sunshine mineral as most of it is made in our bodies from exposure to sunlight. There are some foods that are rich in vitamin D such as oily fish, liver, eggs, powdered milk, fortified margarines, fruit juice and breakfast cereals. If you have been diagnosed with osteoporosis, your GP should prescribe you with a calcium and vitamin D supplement.