

**For osteoporosis information and support contact our Helpline:**

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**To order an information pack or other publications:**

 **0845 130 3076 or 01761 471771**

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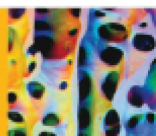
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## Healthy Living for Strong Bones



# What is osteoporosis?



Osteoporosis occurs when the struts which make up the mesh-like structure within bones become thin, causing them to become fragile and break easily, often following a minor bump or fall. These broken bones are often referred to as 'fragility fractures'. The terms 'fracture' and 'broken bone' mean the same thing. Although fractures can occur in different parts of the body, the wrists, hips and spine are most commonly affected. It is these broken bones or fractures which can lead to the pain associated with osteoporosis. Spinal fractures can also cause loss of height and curvature of the spine.

## Healthy balanced eating

Whatever your age or sex, it is vital to make sure that what you eat today will help to keep your skeleton strong for the future. Although getting enough calcium is important, a healthy, balanced diet is essential to provide all the vitamins, minerals and other nutrients that your bones need. Aim to eat meals that incorporate a wide variety of foods from the four main groups, including fruit and vegetables; carbohydrates like bread, potatoes, pasta and cereals; milk and dairy products; and protein such as meat, fish, eggs, pulses, nuts and seeds. Aim for a healthy body weight to help protect your bones.

## Calcium

Calcium is vital for strong teeth and bones because it gives them strength and rigidity. Our bodies contain about 1kg of this important mineral, 99 per cent of which is found in our bones. Most people should be able to get enough calcium through healthy eating, without the need for additional supplements.

## How much calcium do I need?

Age	Daily RNI (Reference Nutrient Intake)
0-12 months (non breast fed only)	525mg
1-3 years	350mg
4-6 years	450mg
7-10 years	550mg
11-18 years boys/girls	1000/800mg
<b>Adults (19+) years</b>	<b>700mg</b>
Pregnant women	700mg
Breast feeding women	700mg + 550mg

Those people taking osteoporosis drug treatments might benefit from a daily calcium intake of around 1000mg a day.

## Vitamin D

You need vitamin D to help your body absorb calcium. Adequate vitamin D will also keep muscles strong and help prevent falls in older people. For most people vitamin D needs are met by the action of sunlight on the skin, which your body uses during the summer months to manufacture the vital vitamin in your skin. You should try to get ten minutes of sun exposure to your bare skin, once or twice a day, without sunscreen and taking care not to burn. Get outside between May and September so that your body can produce enough vitamin D to help see you through the winter months. Compared with how much you can get from sun, a normal diet contributes relatively little vitamin D (10%). There is no recommended dietary intake of vitamin D for adults under 65 years and older children except for the groups listed opposite.





### People who might need a vitamin D supplement include:

- The housebound especially frail, older people
- Those who have a poor diet
- Asian women and children, especially if their dress code reduces sun exposure
- Those who always wear sun block when outdoors
- Pregnant or breastfeeding women
- Those taking anti-epileptic drugs, have severe kidney or liver disease or a condition that reduces food absorption

There is a daily recommended intake (RNI) of vitamin D for these groups, including those over 65 years, of 10 micrograms (mcg) or 400 international units (IU). Infants under 6 months require 8.5 micrograms daily; children aged 6 months to 3 years require 7 micrograms daily.

### Other lifestyle factors

Stop smoking - it has a harmful effect on bone. It's another good reason to try to give up. Reduce an excessive alcohol intake as it increases the risk of osteoporosis and fractures. The current daily recommended upper limit, as suggested by the Food Standards Agency, is two to three units for women and three to four units for men. A unit equals one small glass (125ml) of wine or half a pint (300ml) of beer or cider.



## Exercise

### Exercise and strong bones

Another way your skeleton can grow stronger is if you do regular weight-bearing exercise. This is any kind of physical activity where you are supporting the weight of your own body, for example jogging, aerobics, tennis, dancing and brisk walking. If you have osteoporosis and are at high risk of breaking bones, you may need to be careful of vigorous, high impact exercise and forward bending (touching your toes).

Remember, it's important to stay active and find exercise you enjoy. Broken hips occur in older people when they are frail and more likely to fall.

Exercises like swimming, gardening, golf and Tai Chi may help to maintain muscle strength, balance and co-ordination and reduce your risk of falling. See our booklet *Exercise and osteoporosis* for specific exercises.



### Exercise recommendations

**Children** - 60 minutes of moderate-intensity physical activity daily. **Adults** - 30 minutes of moderate-intensity physical activity at least five days a week. Also physical activity to improve muscle strength on at least two days a week.

**Older Adults** (over the age of 65) - incorporate physical activity to improve balance and co-ordination on at least two days a week. Avoid sitting for extended periods.

(Dept of Health (2009) & Chief Medical Officer (2011) recommendations).

## Which foods are calcium rich?

Food	Quantity	mg
<b>Fish</b>		
Pilchards/ tomato sauce	3½oz/100g	250
Sardines in oil	3½oz/100g	500
Whitebait fried	3½oz/100g	860
Salmon tinned	3½oz/100g	91
<b>Vegetables</b>		
Curly kale boiled	3½oz/100g	150
Okra stir fried	3½oz/100g	220
Spring greens boiled	3½oz/100g	75
Watercress	3½oz/100g	170
Green/French beans	3½oz/100g	56
Cabbage boiled	3½oz/100g	33
Broccoli boiled	3½oz/100g	40
Peas frozen, boiled	3½oz/100g	35
<b>Pulses, beans &amp; seeds</b>		
Red kidney beans, canned	3½oz/100g	71
Tofu steamed*	3½oz/100g	510
Baked beans	3½oz/100g	53
Tahini (sesame paste)	3½oz/100g	680
<b>Cereal products*</b>		
White bread*	3½oz/100g	177
Wholemeal bread	3½oz/100g	106
Muesli Swiss style	3½oz/100g	110
Fortified instant cereals	3½oz/100g	Up to 1333
<b>Fruit</b>		
Apricots dried	3½oz/100g	73
Figs dried	3½oz/100g	250
Orange	3½oz/100g	47
<b>Convenience foods</b>		
Omelette cheese	3½oz/100g	287
Quiche cheese & egg	3½oz/100g	262
Macaroni cheese	3½oz/100g	170
Pizza cheese & tomato	3½oz/100g	210

Food	Quantity	mg
<b>Dairy products</b>		
Milk skimmed	100ml	122
Milk semi skimmed	100ml	120
Milk whole	100ml	118
Milk soya*	100ml	89
Cheese Cheddar	3½oz/100g	739
Cheese low fat (hard)	3½oz/100g	840
Cheese Edam	3½oz/100g	795
Yoghurt fruit low fat	3½oz/100g	140
Ice cream dairy	3½oz/100g	100
Ice cream non-dairy	3½oz/100g	72
Custard from powder	3½oz/100g	140
Rice pudding	3½oz/100g	88

\* May be calcium enriched.

## Which foods are rich in vitamin D?

Micrograms of Vitamin D available in 100g	
<b>Fish</b>	
Grilled herring	16.1
Grilled salmon	7.1
Tinned pilchards in tomato sauce	14
Tinned sardines in tomato sauce	8
Bangladeshi curried fish	2.7
<b>Fats</b>	
Margarine	7.9
Ghee butter	1.9
<b>Eggs</b>	
Boiled hen's egg	1.8
<b>Breakfast Cereals</b>	
Bran flakes	4.2
Sultana bran	3.1
<b>Other sources</b>	
Complan powder	4.4
Ovaltine	5

Calcium & Vitamin D References: McCance & Widdowson (2002) The Composition of Foods 6th ed. The Foods Standards Agency, The Royal Society of Chemistry, Cambridge.