

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 gender, 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; dairy and alternatives; beans, pulses, fish, eggs, meat and other proteins. 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
Adults (19+) years	700mg
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. You can get vitamin D by the action of sunlight on your skin, from food and drink containing vitamin D naturally or added-in ('fortified') or from dietary supplements. You should try to get short periods (about 10 minutes) of sun exposure to your bare skin, once or twice a day, without sunscreen and taking care not to burn. Get outside between late March and the end of September when the sun's rays produce vitamin D.

To ensure you get enough, a UK government advisory committee have recommended that, in addition to sensible sunlight exposure, everyone over 1 year of age should get 10 micrograms (sometimes described as 10 µg) of vitamin D every day. (8.5 - 10 micrograms for all infants under 1 year). The government says most of us should get enough vitamin D from sunlight when we are outside in the summer, alongside foods that contain vitamin D but that in the winter months we rely on foods and supplements.

For everyone else, consider whether you need a 10 microgram (400IU) supplement to ensure you get the vitamin D you need especially during the winter months. This includes pregnant and breastfeeding women as well as people with darker skin because of their ethnic origin.

For more information see our booklet All about osteoporosis; our Vitamin D supplements and tests fact sheet or on our website.



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 UK daily 'low risk' upper limit is 14 units a week for men and women (spread over at least 3 days). A unit equals one small glass (125ml) of wine or half a pint (300ml) of beer or cider.



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).



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.

CALCIUM RICH FOOD CHOSER

- choose calcium rich foods as part of well balanced healthy eating

Foods providing around **300 micrograms of calcium** per average portion

Edam / Gouda	1 portion (40g)
Panier cheese	1 portion (60g)
Parmesan cheese	1 portion (30g)
Cheese omelette	1 portion (120g)
Quiche (cheese and egg)	1 portion (140g)
Macaroni cheese	1 portion (220g)

Foods providing around **200 micrograms of calcium** per average portion

Milk or milk drink e.g. hot chocolate (skimmed/semi-skimmed/whole)	1 tumbler or mug (200ml)
Soya milk (calcium boosted)	1 tumbler or mug (200ml)
Cheddar cheese & low-fat hard cheese	Small matchbox size (30g)
Yoghurt (low-fat fruit, plain & calcium boosted soya)	1 pot (125g)
Porridge (made with semi-skimmed milk)	1 bowl (160g - weight with milk)
Halloumi	2 thin slices (35g)
Cauliflower cheese	1 portion (200g)
Lasagne (meal for one, vegetable or meat)	1 portion (290g)
Pizza 12" (cheese & tomato, vegetarian or meat topping)	1/4 of the whole
Tofu (steamed or fried)	1 portion (120g)
Sardines (canned)	1 portion (50g)
Rice pudding	1 portion (200g)

Foods providing around **100 micrograms of calcium** per average portion

Cottage cheese	2 tablespoons (80g)
Camembert	1 portion (40g = 1/6th of whole)
White pitta bread	1 small (75g)
Plain naan bread	1/3 (43g)
Baked beans	1 small tin (200g)
Cornish pasty	1 medium size (155g)
Sausages (pork or vegetarian)	2 (80g)
Tahini (sesame paste)	1 heaped teaspoon (19g)
Sesame seeds	1 tablespoons (12g)
Tinned pink salmon	1 small tin (105g)
Grilled herring	1 (119g)
Custard (ready made)	1 portion (120g)
Dried figs	2 (40g)

Foods providing around **50 micrograms of calcium** per average portion

Plain yoghurt	1 tablespoon (40g)
Fortified fromage frais	1 'mini' pot (47g)
Muesli Swiss style	1 portion (50g)
Bread (white)	1 medium slice (36g)
Bread (wholemeal)	1 thick slice (44g)

Foods providing around **12-13 micrograms of vitamin D** per average portion

Pink salmon, canned in brine & drained *	1 small can (100g)
Grilled salmon *	1 portion (170g)
Grilled kipper fillet *	1 portion (130g)
Grilled rainbow trout fillet *	1 portion (155g)
Smoked mackerel *	1 portion (150g)

Foods providing around **3-4 micrograms of vitamin D** per average portion

Some malted hot drinks (check labelling)	1 mug (25g)
Crab, cooked *	1 small can (75g)
Tinned sardines in tomato sauce *	1 small can (100g)
Scrambled eggs / plain omelette	2 eggs (120g)

Foods providing around **1-2 micrograms of vitamin D** per average portion

Build-up powdered sachet (shake)	1 sachet (38g)
Soya milk (fortified)	1 glass (200ml)
Boiled chicken's egg	1 egg without shell (50g)
Cornflakes (fortified)/bran flakes (fortified)	1 portion (30g)

Foods providing around **0.5 micrograms vitamin D** per average portion

Pork chop, grilled	1 chop excluding bone (75g)
Corned beef	1 thick slice (50g)
Grilled bacon rashers	2 middle rashers (80g)
Low-fat spread, polyunsaturated (fortified)	1 teaspoon (5g)
Baking fat/margarine	1 teaspoon (5g)
Pork sausages, grilled or fried *	1 sausage (40g)
Lamb's liver, fried *	1 portion (40g)

VITAMIN D RICH FOOD CHOSER

- choose vitamin D rich foods to add to vitamin D from sensible sunlight exposure

Foods providing around **20 micrograms of vitamin D** per average portion

Grilled herring *	1 portion (119g)
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For osteoporosis information and support contact our Helpline:



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To order an information pack or other publications:



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Healthy Living for Strong Bones

Including calcium and vitamin D

