



What is Osteoporosis?

Osteoporosis is a degenerative condition of the bones where the usually solid bone becomes porous and soft. This increases the risk of non-traumatic fractures, spinal deformities and complications. It is a most unpleasant disease with a lot of pain, and affects approximately half of all women over 60 and a third of all men over 60.

How do you know you will get it?

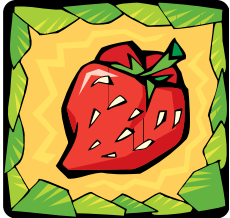
Most people think they won't and the first they know of it is a fracture - a broken leg from minimal trauma or a broken rib from sneezing or twisting.

Do people die if they break their hip?

Usually. Most are very elderly, and get pneumonia in hospital due to depressed immunity, increased risk of infections and lack of exercise. A hip replacement operation is routinely performed just for pain relief.

Can it be cured?

In its early stages it can be managed and kept from getting worse. When the bones are very soft, it's almost impossible to cure, and most medications don't have any significant positive effect, though doctors continue to use them. Slight improvement can be made through diet and lifestyle changes. The best strategy is prevention.



What can cause osteoporosis?

Quite a few things:

- * very sedentary lifestyle, or long-term bed rest
- * use of steroids for longer than 2-3 weeks, or thyroid replacement hormones
- * other medications including methotrexate, heparin (prolonged), glucocorticoids etc.
- * bad diet, particularly low in minerals like calcium, but high in sugars and phosphates
- * failure to develop good bone density as a child or teenager
- * people who have had anorexia nervosa or malnutrition
- * people who have low levels of vitamin D (which is necessary for calcium absorption)
- * excessive alcohol consumption and smoking
- * liver problems, and particularly kidney disease as vitamin D is activated in the kidney
- * thyroid or parathyroid disease or removal; Graves' Disease or thyrotoxicosis
- * high levels of lead in the body
- * athletic amenorrhoea
- * being an astronaut - in zero gravity you lose 1% bone mass per month
- * genetic disorders such as Ehlers-Danlos syndrome, Marfan's syndrome etc.



What does lead do in the body?

It can displace calcium in the bones, leaving no space for calcium absorption. But it isn't calcium, so it doesn't perform the same necessary function. It does lots more harm too.

Is it the same as Paget's Disease?

No, it's not. With Paget's, bones break easily, but heal slowly and are very brittle. It is a different condition.

How do you detect osteoporosis?

Your doctor can refer you for a bone scan. This is painless, and it's a good idea to have one anyway if you are in a high risk group, have a family history of osteoporosis, or are worried about it. Establish a baseline at about the age of 40-45, and you can take action well before it becomes a problem. If you're over 55 and haven't had one, book one now.



Why is Vitamin D important?

Because to absorb calcium into your bones, you need vitamin D and cholesterol to do so. If you are vitamin D deficient, it doesn't matter how much calcium you take in through your diet or supplements. In synthesising vitamin D, you need your kidneys and liver to help with the job.



So is osteoporosis just about vitamin D and calcium?

No, although they are quite important. Osteoporosis can be thought of more as an imbalance between osteoblasts (the forming bone cells) and osteoclasts (the breaking down old bone cells). When the rate of breakdown exceeds the rate of new cell growth, hard bone can't form properly.

Another problem is low stomach acid (achlorhydria), which causes poor calcium absorption. Then there are other minerals - boron, copper and magnesium plus folic acid (B9) which you need for good absorption into the bones. And to further complicate, there is a balance between oestrogen and cortisol, and other hormones like oxytocin.

What happens to people who have to avoid dairy foods?

They can still get lots of calcium from other foods. It is possible to eat a calcium-rich diet and not consume dairy foods or meat. Cooked Chinese cabbage, white, red or pinto beans, bok choy, kale and broccoli have good levels of calcium. If that's not enough, there are plenty of supplements, but getting it from food is better.

What about exercise?

The very best prevention and treatment for osteoporosis is weight-bearing exercise. Walking/swimming/pilates/tennis/golf etc. combined with lifting weights or carrying shopping uphill regularly is great for the bones. Find exercise you enjoy and do it often.

Foods to avoid are:

- * sugar and all sugar products, cakes, biscuits, ice creams, sweets, lollies etc.
- * soft drinks, as they contain high levels of phosphates which increase calcium excretion
- * high intake of red meat and animal fats
- * processed, salty and fatty foods, particularly saturated fat
- * white flour (or any grain) products
- * foods which contain high levels of oxalates (rhubarb, spinach)
- * coffee, black tea and alcohol (and smoking)
- * any foods to which you might have a sensitivity or allergy

There are sugar-free and vegetarian diet sheets on this website as well.

Foods to include are:

- * fruit and veg, such as avocado, bananas, berries, dates, figs, beans, cabbage, carrots, lettuce, cucumber, pumpkin, parsley, garlic, onions, currants, peaches, apricots and grapes. Pineapples and pawpaws have bromelain which is a great digestive enzyme.
- * oily fish 2-3 times per week, plus fish oil and linseed/flaxseed supplements
- * proteins: animal or plant - combine nuts and seeds, grains and pulses, plus eggs, dairy (if not allergic). You need good protein, as it builds bone and body tissues, but not too much meat, and make sure it's lean
- * brown rice, quinoa, buckwheat, oats and millet
- * fresh vegetable juices such as beetroot, cucumber and grape, or apple and carrot
- * green tea and juices such as carrot and celery
- * 1-2L of water per day

What supplements might be good?

- * Calcium, but not to the exclusion of other minerals. Taking calcium alone will do nothing without vitamin D, and it will increase loss of magnesium which is equally needed for good bone strength, as is boron. Get a quality osteoporosis supplement.
- * B vitamins, particularly B6, B9, B12, as they help to prevent homocysteine, a toxic metabolite which is a major cause of heart disease and is associated with osteoporosis
- * fish oils, which are anti-inflammatory; they slow bone loss when taken with calcium
- * vitamin C to support bone mineralisation, and as an anti-inflammatory and antioxidant
- * lysine (an amino acid) to help absorb and conserve calcium

It is best to see your therapist about these and other possible solutions. Every case is different, and in self-medicating, you could be taking supplements you shouldn't have.

