

Osteoporosis

Most white and Asian people lose about 2% of bone mass a year after the age of 40. About 90% of people with osteoporosis are women because men generally have denser bones. Osteoporosis in men is usually due to long-term use of steroids, raised parathyroid hormones or some other medical condition.

About 25% of post-menopausal women have osteoporosis, usually without symptoms initially. The first signs may be loss of height, back pain or fractures.

Keeping bones healthy

The best way to build and maintain healthy bones is through regular exercise, especially load-bearing activities such as walking and dancing.

It is also essential to eat enough of the foods required to build bones and keep them healthy, and to minimise the foods which harm them.

Bone

Bone is living tissue, constantly being broken down and rebuilt. There are two kinds of bone cells: osteoblasts which build new bone and osteoclasts which break down old bone.

The cells are made of minerals (mainly calcium, magnesium and phosphorus) which give the bone its hardness, and are held together with a kind of glue (made of protein and collagen) which gives the bone its strength. The ends of the bone are made of cartilage, a softer material, to help the joints work smoothly.

Oestrogen and progesterone

Oestrogen helps keep calcium in the bones, so it has long been thought that lack of oestrogen causes loss of bone density. However, it is progesterone which stimulates osteoblasts and is therefore the key hormone for the building of new bone and, while the body continues to produce small amounts of oestrogen after the menopause, it produces no progesterone.

It is now thought that loss of bone density in older women is due to the excess of oestrogen over progesterone. Studies have shown that taking natural progesterone increases bone density four times more effectively than taking oestrogen.

Diet

Most diets contain enough phosphorus. Dairy produce is known to be high in calcium but it is a poor source of magnesium. Nuts, seeds and root vegetables provide both calcium and magnesium.

The absorption of calcium into the bones depends on Vitamin D and the process is assisted by boron. Zinc is required to make new bone cells, and Vitamin C is required to make collagen. The building of bone actually requires over twenty nutrients. It is simplistic and even harmful to focus solely on calcium especially if the main source is dairy products.

"While people with very low calcium intakes may benefit from taking more, there is no strong association between osteoporosis and calcium" (Holford, 2004). This is supported by population studies. The Bantu tribes of Africa have a very low calcium intake and almost no osteoporosis. In the Arctic calcium intake is extremely high and so is the incidence of osteoporosis.

The explanation is largely to do with animal protein (dairy and meat) which produces acid when broken down in the digestive tract. When blood becomes too acid, sodium then calcium is leached from the bones to reduce the acidity.

One study showed that women eating meat lost 50 milligrams more calcium per day than when they ate the same amount of protein in soy milk. (www.holisticonline.com/Remedies/hrt/hrt_food_diet.htm)

References

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Holford P (2004) New Optimum Nutrition Bible. London: Piatkus

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