



# LOVE YOUR BONES!

Are you showing your bones enough love? Osteoporosis, which is both preventable and treatable, is very often a 'silent disease' as bone loss happens gradually over time, without any symptoms.

**D**id you know that osteoporosis is a major public health problem in Ireland? We now have a situation where one in two women will get osteoporosis compared to one in nine for breast cancer. Osteoporosis isn't just a matter of brittle bones, it can kill you. In fact, it's a bigger female killer than ovarian, cervical and uterine cancers combined, yet we have a national screening plan for breast cancer and nothing for osteoporosis.

The word osteoporosis literally means 'porous bones'. In other words, bones that are filled with tiny pores or holes. Your bones change constantly, breaking down and being rebuilt as we go about our everyday lives.

By the age of approximately 25, women have reached what is called their peak bone mass, which means you will have your greatest bone density by that age (that is why it's so important for younger women to think about their bone health).

New research from the Bristol Children of the 90s project has suggested that teenage girls are too thin which is putting their bones at risk. We have always known that there are risk factors for osteoporosis in later life but young girls may be setting themselves up for osteoporosis by trying to keep their body weight too low.

Scientists have looked at the incidence of hip fractures in different countries. The highest rate of hip fractures in women is found in Western countries that consume between 60 to 80g of animal protein per day, while the lowest incidence occurs in Asian and African populations in which animal protein intakes are much lower.

One of calcium's roles in the body is to act as a neutraliser.

When you eat too much acid food, your body calls up calcium reserves from your bones to counteract the acidity. The aim then is to make your diet more alkaline by taking a close look at what you are eating and drinking. We know that women who consume the most acid-producing diets have four times as many hip fractures as those whose diets are the least acid-producing. One of the most highly acid-forming substances, which causes most calcium to be leached from your bones, is protein, particularly in red meat.

On the other hand, plant foods, like vegetables and fruit, are alkaline and reduce acid production. The best way to make your diet more alkaline is simply to aim to have more alkaline-forming foods – up to two pieces of fruit and lots of vegetables each day as well as good quality protein like fish or eggs.

You also need to watch what you drink as caffeine causes you to lose calcium, which is excreted through the urine, and soft fizzy drinks will also cause a leaching effect of calcium from the bones. Soft drinks are a known risk factor for osteoporosis in women of all ages but an increased fracture rate has been found in girls as young as 8-16 years old who drink large quantities.

Sometimes the first sign of osteoporosis is a fractured bone following a relatively minor bump or accident. It has even been thought that in many cases, the bone breaks first, causing the fall, rather than the other way around. For some women, the first sign is a loss of height or kyphosis (one sign is an obvious Dowager's hump) while some women experience symptoms of back pain as the vertebrae in the spine starts to collapse.

If you wish to assess your cur-

rent bone health, a DEXA scan (Dual Energy X-ray Absorptiometry) is the most respected measure of bone density. Using two X-ray energy beams simultaneously – one high and one low energy – the low energy beam passes through soft tissue while the high energy passes through both tissue and bone. Your bone density can then be calculated by working out the difference between the two readings. With osteoporosis, bone loss typically starts in the trabecular bones (such as spine and hip), so these are important sites to test first. I recommend that any woman who has passed through the menopause, particularly if she has a family risk of osteoporosis, to consider a DEXA scan to assess her bone density as prevention of bone loss is easier than restoring lost bone.

## TOP TIPS FOR GOOD BONE HEALTH

Your diet is so important. Calcium is stored in your skeleton and is used as a buffer to neutralise acid. This means that the more acidic your diet becomes, the more calcium can be leached from your bones and the higher the risk of fractures.

Vitamins and minerals are important for bone health. The first nutrient that comes to mind is calcium – it not only improves bone density, it also reduces the risk of fractures. Choose supplements that contain calcium citrate rather than calcium carbonate for maximum absorption.

Magnesium helps to metabolise calcium and converts Vitamin D to the active form necessary to ensure that calcium is efficiently absorbed.

Vitamin D3 is important for the absorption of calcium (it must be



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D3 rather than D2). D3 is 87% more effective in raising and maintaining Vitamin D levels than D2. We have a wide spread deficiency problem in Ireland so my recommendation is to do a simple finger prick test at home to check whether you are deficient and then you can be sure of how much Vitamin D you need to take each day.

Vitamin C is important in the manufacture of collagen – the ‘cement’ that holds the bone matrix together. Choose Vitamin C as ascorbate rather than the acidic form of ascorbic acid.

Boron is an important mineral in relation to osteoporosis as it plays a crucial part in the conversion of Vitamin D into its active form which, in turn, is necessary for calcium absorption.

When it comes to exercise, it's definitely a case of ‘use it or lose it’. Your skeleton is constantly fighting against gravity and it is this fight that helps to maintain bone density so you should include weight-bearing exercises like walking, dancing, jogging, stair climbing, skipping, tennis and badminton. Weight resistance exercises like bicep curls and lunges create mechanical stress which helps put calcium into your bones. If you have already been diagnosed with osteoporosis, I would recommend exercising under the guidance of an experienced physiotherapist to minimise the risk of injury. Pilates can be particularly beneficial. The important thing is to find an exercise that you enjoy and love your bones for life.