

by Anne-Marie Williams

Strengthen your bones

Help prevent osteoporosis with this exercise, lifestyle and dietary advice

Tip: Go for a jog at the beach to help strengthen your bones

Osteoporosis is a common disease in which bone mass is diminished – in other words, bones become fragile, brittle and increasingly prone to break. Although osteoporosis can affect any bones in the body, the most serious fractures occur in the wrist, hip and spine. Fractures in the hip and spine often require hospitalisation and obviously have a detrimental impact on quality of life, as daily activities such as walking become extremely difficult. Hip fractures also reduce life expectancy by 13 years if you're a woman, and by eight years if you're a man. The Australian Fracture Prevention Summit stated that in 2001, osteoporotic fractures occurred every 8.1 minutes. They also unfortunately predicted that this figure is likely to increase to one fracture every 3.7 minutes by 2021.

Not only is osteoporosis a very serious disease, it's also very common in Australia. A recent population study examined the prevalence of osteoporosis by using bone density scans. The authors found osteoporosis in 46 per cent of women aged over 50 years, and this percentage increased to an astonishing 87 per cent in women above the age of 79. Our risk of suffering an osteoporotic fracture in our lifetime is thought to be 29 per cent for men and 56 per cent for women over the age of 60. Unfortunately, many people do not even know they have osteoporosis until it's too late.

For example, very few of naturopath Kirsty Tassall's patients present primarily for treatment for osteoporosis. "For many, it is revealed during questioning that they have early stage osteoporosis. As a general rule, I discuss osteoporosis with patients who are over 50 and/or present with menopausal symptoms. For younger patients, with a family history, I will often advise a urinary telopeptide test, which measures urinary excretion of telopeptides, which may be an indicator of calcium [and thus bone mass] loss," she says.

WHO IS AT RISK?

Our bones are stronger when we're young, reaching their peak bone mass when we're about 35 years old; from then on they gradually become more porous as we get older, with people over 60 having an increased risk. Women have a higher risk of developing osteoporosis in comparison to men, and this risk increases further after menopause, with women losing up to 20 per cent of their bone mass five-to-seven years after menopause. The reason why menopausal women are more at risk is because their oestrogen levels fall during this period of their life, and oestrogen is the key to bone health. According to Osteoporosis Australia, other risk factors include being caucasian or Asian, having a small body frame, and if you experienced puberty quite later than usual.

Important sources of vitamin D:

- Cod liver oil
- Fish – salmon, mackerel, tuna fish and sardines
- Egg yolks
- Liver
- Cheese
- Sunshine

If you have a family relative who has suffered from osteoporosis, it's also likely that you might too. People with rheumatoid arthritis, chronic liver disease, kidney failure or those who have a history of over-active thyroid or parathyroid glands, or have undergone treatment with thyroid hormones, or had long-term drug treatment with corticosteroids, all have an increased risk of developing osteoporosis. Chronic and heavy alcohol consumption, especially before the age of 35, has an important detrimental impact on bone health, and should therefore be avoided. Heavy smoking,

which has many detrimental effects on health, has also been associated with decreased bone mass, and as such should be avoided.

PREVENTION

Exercise

Exercise is especially important in preventing osteoporosis as it ensures that the loss of bone density is minimised. The most important exercises for preventing osteoporosis are weight-bearing exercises that make your body work against gravity such as walking, running, tennis, dancing, weight-lifting, and badminton. That is, activities that you do while on your feet, and where your bones support your weight. One of best and easiest weight-bearing exercises is walking, as it's also the exercise that's least likely to cause stress to bones. Strength training and back strengthening exercises are also important, as they improve posture and can help relieve postural problems and pain caused by osteoporosis.

Calcium and vitamin D

To ensure that calcium stays in the bones, it's important to ensure that you have an adequate calcium intake, the recommended dose generally being 1000-1200 mg/day for women. It's better to obtain this calcium from food sources, but supplements can also be taken if you're unable to reach this level. In addition to calcium intake, it's important to ensure that you have an adequate daily supply of vitamin D, which helps ensure that calcium is absorbed by the bones. One of the best sources of vitamin D is the sun: the UV rays trigger vitamin D synthesis in the skin (but stick to the safety guidelines – too much sun, of course, can leave you sunburned and at a higher risk of getting cancer and wrinkles).

Avoid calcium loss

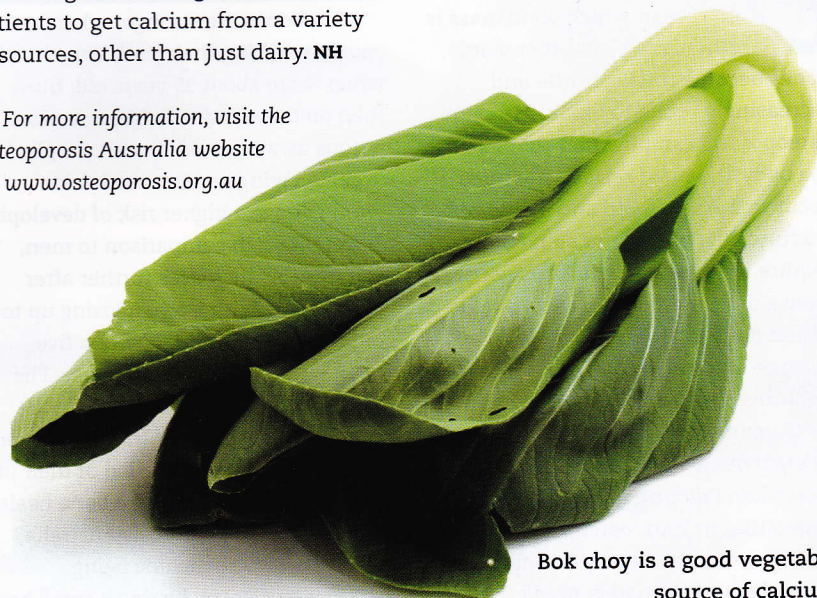
It's also important to make sure that you avoid activities and foods that cause calcium loss. The Physicians Committee for Responsible Medicine (PCRM) – a non-profit organisation that promotes

preventive medicine – highlights the fact that the highest rates of osteoporosis are in the industrialised Western nations, that is, those that have the largest dairy consumption, and therefore the highest calcium intake. According to the PCRM, it's more important to prevent calcium loss than to ensure a high-calcium intake. Calcium loss is caused by excessive protein consumption. It's also important to ensure that you minimise your intake of caffeine and sodium, both of which increase the rate at which calcium is lost in the urine.

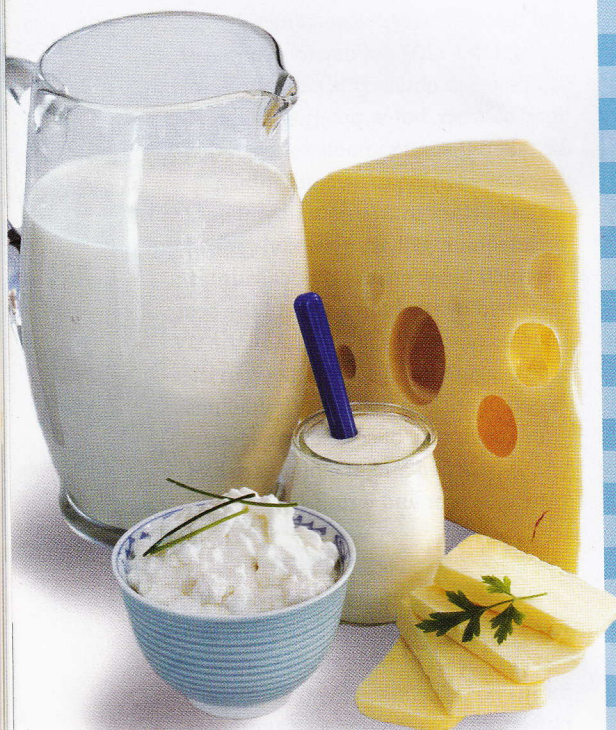
Kirsty agrees on the importance of preventing calcium loss and recommends this to her clients: "Avoid a diet and lifestyle that encourages calcium loss – high intakes of animal products, nitrate-rich foods, carbonated beverages, caffeine, lack of exercise, and sustained emotional stress". In addition, she discusses their current diet and the levels of calcium they are obtaining. "My focus is not just on upping calcium intake, but ensuring that they are minimising the factors that contribute to calcium loss", she says. Kirsty doesn't treat vegetarian or vegan patients differently, instead

preferring to encourage all of her patients to get calcium from a variety of sources, other than just dairy. **NH**

For more information, visit the Osteoporosis Australia website at: www.osteoporosis.org.au



Bok choy is a good vegetable source of calcium



Recommended daily dietary calcium

Children (1-3 years old): 700 mg, 4-7 years: 800 mg
 Girls (8-11): 900 mg, 12-15:1000 mg, 16-18: 800 mg
 Women (19-54 years): 800 mg, 54+: 1000 mg
 Pregnant women: 1100 mg
 Lactating women: 1200 mg
 Boys (8-11): 800 mg, 12-15: 1200 mg, 16-18: 1000 mg
 Men (19+): 800 mg

Calcium sources

Food	Amount	Average milligrams of calcium
Low-fat yoghurt	200 g	420 mg
Collard greens	1 cup	355 mg
Yoghurt – natural	200 g	340 mg
Cheddar cheese	40 g	310 mg
Skim milk	1 cup	310 mg
Whole milk	1 cup	290 mg
Fortified soy milk	1 cup	290 mg
Bok choy	1 cup	250 mg
Canned salmon (+ bones)	½ cup	230 mg
Kale	1 cup	200 mg
Cooked spinach	1 cup	170 mg
Kelp	1 cup	170 mg
Wakame	1 cup	150 mg
Blackstrap molasses	1 tablespoon	140 mg
Amaranth	1 cup	140 mg
Dried figs	5 figs	135 mg
Vegetarian baked beans	1 cup	130 mg
Tofu	1 cup	130 mg
Kidney beans	1 cup	115 mg
Almonds	15 almonds	50 mg