Exercise, calcium and sunlight: All three needed to reduce osteoporosis risks

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Osteoporosis can weaken bones and raise the risk of fractures. Credit: http://www.flickr.com/photos/lazysoul

Osteoporosis experts have urged the public to ensure they get adequate calcium, weight-bearing exercise and vitamin D to prevent bone problems, warning that children who swap milk drinks for soft drink may be at greater risk of fractures later in life.

Around 1.2 million Australians suffer from osteoporosis, where bones become so frail they fracture at low levels of trauma. A further 6.3
million have osteopenia, a precursor condition where bones have lower density than normal.

Both conditions are caused by inadequate consumption of calcium and vitamin D, which is needed to absorb calcium, as well as insufficient weight-bearing activities and sports like running and tennis.

In a white paper published today by the Medical Journal of Australia, osteoporosis experts said more needed to be done to boost public awareness of a problem that added billions to the public health bill every year.

"Osteoporosis was designated a National Health Priority Area in 2002; however, implementation of national plans has not yet matched the rhetoric in terms of urgency," the authors of the paper said.

It is never too late to take action to reduce your osteoporosis risk, the authors said, adding that calcium and exercise needs will change throughout life.

The paper urged people to:

- Consume three to five serves of calcium-rich foods daily (such as dairy or calcium-fortified foods).
- Get enough vitamin D from sunlight. Fair people should get around 6 minutes a day (during summer) or up to 40 minutes a day (during winter) of sun, avoiding peak UV times. Dark-skinned people should aim for up to 42 minutes during summer and up to four hours during winter. People who cannot get adequate sun exposure should consider vitamin D supplements.
- Partake in regular weight-bearing sports or exercise for at least half an hour three to five days a week and do muscle-
strengthening exercises on at least two days per week.

"The main finding is there are three key things that we all need to consider to optimise our bone health: ensuring we get adequate calcium, vitamin D and exercise. Each one alone is not sufficient if we want to prevent fractures in later life," said one of the authors of the paper, Professor Robin Daly, Chair of Exercise and Ageing at Deakin University's School of Exercise and Nutrition Sciences.

"We are trying to encourage people to consider various forms of dairy products and avoid drinking sugary soft drinks. Dairy products not only contain calcium, they contain other good nutrients and there are some good options on the market for people who are lactose intolerant."

Professor Daly said it was understandable Australians should be cautious of getting too much sun but to remember that a little could help reduce their osteoporosis risk.

"We published a study on 11,000 Australians that showed a third of the general population from 25 years up had low vitamin D levels. You don't need much sunlight to get adequate amounts of vitamin D," he said.

Associate Professor Mark Kotowicz from Deakin University's School of Medicine said the white paper was "an important and well-researched document that highlights the burden of osteoporosis in the community."

"The white paper provides some practical guidelines as to vitamin D and calcium requirements at different ages and critically reviews the evidence relating to exercise and bone health, highlighting regimens that have evidence to support their efficacy," he said.

However, the white paper's focus on public health meant it did not address the treatment gap in the management of osteoporosis, said
Associate Professor Kotowicz, who was not involved in the white paper.

"Osteoporosis is under-diagnosed and under-treated throughout the world and this treatment gap could be the subject of another white paper on osteoporosis," he said.

"The evidence that interventions to make the "first fracture the last fracture" are cost-effective in reducing the burden of osteoporosis is mounting, yet health authorities have been reluctant to invest in fracture prevention programs."

Dr Peter Rich, a senior lecturer in RMIT's School of Medical Sciences, said the white paper was "an excellent document" because it emphasised weight-bearing exercise and vitamin D as well as calcium consumption.

"People tend to think 'Oh well, all I have to do is drink enough milk and I won't get osteoporosis'. But that is not enough," said Dr Rich, who was not involved in the paper.

"I would like the idea of emphasising the exercise part. It's a lot easier to go and drink milk but the exercise part is harder to change."

Dr Rich said it was important to remember that only certain types of exercise helped prevent osteoporosis.

"A lot of people think, 'Well, I go swimming, so I do a lot of exercise'. Swimming is good and we would not discourage it but it is not weight-bearing exercise," he said, adding that people who count walking as their primary form of exercise should consider including strength training or gym exercises too.

"And the paper mentions that, depending on your age group, you may want to increase walking to brisk walking or hill walking."

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