

The Women's Health Research Program

Health Bulletin
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Osteoporosis primarily affects older people, and with our ageing population the number of people potentially affected is increasing. *New guidelines for the Diagnosis and Management of Osteoporosis in postmenopausal women and older men in the UK have just been published (Maturitas. 2013 Jun 26).*

These guidelines highlight some simple facts about osteoporosis prevention and treatment.

Osteoporosis occurs when there is a loss of mineral from bone mainly in the form of calcium as well as architectural loss of normal bone structure. The loss of mineral content of the bone is referred to as a loss of **bone mineral density** in the bone.

Bone mineral density is usually determined by an X-ray known as a DEXA. By definition a person is said to have osteoporosis if their bone mineral density measured by DEXA is 2.5 standard deviations or more below that of a young adult (reported as T score of -2.5 or less). This measure provides a diagnosis but it does not define who should be treated. Fracture risk is not simply determined by the T score but varies with age, with younger people having a lower fracture risk compared to older people with the same T score. The presence of other factors also influences the decision as to who needs to be treated. For example we might recommend treatment for a young person who has a T score above -2.5 but is on long term steroid therapy.

This new Guideline comments on the controversy of calcium supplementation. The authors recommend calcium and vitamin D supplements for older people who are housebound, but that others should try to maximise calcium intake as food rather than rely on supplements.



The other controversy this document addresses is how long people should be treated for their osteoporosis.

- Long-term therapy is recommended in this Guideline for people over 75 years, those who are on long term steroid therapy, people who have had a hip or vertebral fracture and people with osteoporosis of the hip.
- The broad recommendation for the most commonly used medication, bisphosphonates, for other people being treated is for cessation of therapy after 3 for intravenous zoledronate and 5 years for risidronate and alendronate if the hip T score is above -2.5. As the bisphosphonates are retained in bone for some time, a DEXA should be repeated 1.5 (risidronate and alendronate) to 3 years (zoledronate) after cessation of treatment.

While increasing calcium supplementation from food makes sense, what about Vitamin D?

There is consensus that having adequate Vitamin D is essential for healthy bones, muscles and other body systems... but how much and what blood level is sufficient? ▶



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Traditionally a blood level above 50nmol/L has been considered enough, but there is some evidence that a blood vitamin D level above 75nmol/L or more is optimal. Vitamin D is made in the skin cells after exposure to UVB rays from the sun, with a lesser amount from the diet (cod liver oil, fish, eggs and mushrooms). During the summer months, when UVB rays reach us, 5 to 15 minutes of unprotected sun exposure between the hours of 10 a.m. and 3 p.m. appears to be adequate for the production of vitamin D in the skin. So outdoor activities outside these hours and in winter will not provide the average southern living Australian with enough vitamin D. In addition a sunscreen with an SPF of 15 will screen out 99% of the radiation needed to make vitamin D in the skin. Other factors that may contribute to people 'missing out' on the necessary UNV include air pollution and cloudy days. People with dark skin need much more sun exposure to achieve adequate vitamin D levels.

The USA Institute of Medicine (IOM) has recommended a recommended dietary intake of vitamin D from the age of 9 years of 600IU/day with a maximal dietary intake of 4000IU/day. The IOM stands by the recommendation that a blood vitamin D level of 50nmol/L is sufficient for most humans and that evidence of any benefit from having higher levels remains lacking.

Article available at:

<http://jcem.endojournals.org/content/97/4/1146.long>

New published research from our group

Continuous combined oral estradiol plus drospirenone has no detrimental effect on cognitive performance and improves estrogen deficiency symptoms in early postmenopausal women; a randomized placebo controlled trial.

Davison SL, Bell RJ, Robinson PJ, Jane F, Leech J, Maruff P, Egan GF, Davis SR. Menopause. 2013 Apr 15.

Memory and mood complaints are frequent in perimenopausal and postmenopausal women. Some HRT preparations have been found to have adverse effects on memory. We undertook this study to determine the effects of a commonly used HRT preparation that contains estradiol and the progestin, drospirenone, on memory in postmenopausal women. This was a placebo-controlled study over 6 months conducted in Melbourne.

We found that the estradiol-drospirenone preparation had no positive or negative effect on memory or other aspects of cognitive performance in early postmenopausal women. It did however significantly reduce hot flushes and night sweats, improve sexual function, and significantly reduced systolic blood pressure.

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