

BONE HEALTH IN MENOPAUSE

Invest in your long-term health.

Osteoporosis is a medical condition in which your bones become brittle and prone to fractures from loss of strength as a result of hormonal changes (low oestrogen), or a deficiency of calcium or vitamin D. Although it affects both sexes, you are more prone to develop osteoporosis for a variety of reasons. Osteoporosis affects one in three women, compared with one in five men. It occurs when the rate of bone resorption (breakdown) exceeds the rate of bone production.

Bone loss is an inevitable consequence of the menopause. Postmenopausal bone loss can be deferred by the use of menopausal hormone therapy (MHT). Low oestrogen levels lead to sustained excess bone resorption over bone formation. The consequent fall in bone mass is mirrored by an increase in fracture risk, resulting in more than half of postmenopausal women sustaining a fracture between menopause and end of life. Since not all women fracture, it is important to **assess fracture risk** so that interventions can be targeted at those most likely to benefit. While bone density is an important risk factor, clinical risk factors (such as age, weight, smoking, activity, etc.) are also important.

In addition to medication, there are interventions that will contribute to skeletal and non-skeletal health. Weight management is important. Low BMI is associated with increased fracture risk, which rises steeply when BMI is <20.

There is scant evidence that calcium intake influences fracture risk. Calcium in combination with vitamin D decreases the fracture risk in frail elderly women deficient in vitamin D. Calcium supplements may cause gastrointestinal side effects, increase the risk of renal stones and increase cardiovascular risk, though this remains controversial. In the absence of fracture prevention, there seems to be little indication for their general use in postmenopausal women. Vitamin D is manufactured in the skin through ultraviolet light exposure. It helps regulate calcium absorption in the body but has no significant direct effect on bone. Severe vitamin D deficiency results in a condition called osteomalacia, which may be seen in women not receiving regular sunlight exposure, and supplementation is a sensible measure for such women.

Oestrogen prevents postmenopausal bone loss and fractures, and its introduction late in postmenopausal life results in a 24% decrease in total fracture numbers. Some selective oestrogen receptor modulators (SERMs) are, like oestrogen, inhibitors of bone resorption and have been shown to reduce vertebral fracture risk but not the risk of non-vertebral fractures and hip fractures, making them therefore not suitable for osteoporosis management.

Fracture risk assessment should be routine for women in their 60s. In addition, the provision of lifestyle advice such as weight management, smoking cessation, and regular safe exercise is important. Pharmaceuticals should be offered for those at greater risk.