Pharmacy Self Care Health Information

Osteoporosis

Pharmaceutical Society of Australia

As we age, the structure of our bones can change, becoming less dense ('thinner') and weaker. Bones can become so weak that they fracture (crack or break) very easily. This fragile bone condition is called osteoporosis. Osteoporosis is most common in postmenopausal women.

Effects of osteoporosis

Our bones are continually being renewed and strengthened in a process dependent on calcium, vitamin D and certain hormones (e.g., oestrogen). With age, this renewing process slows and bones can weaken.

A fracture is often the first sign of osteoporosis. Fractures occur most often in the bones of the spine (vertebrae), hip, wrist, pelvis, ribs and upper arm. Multiple spine fractures can lead to loss of height and spinal deformity. Hip fractures can lead to permanent disability.

Bone density test (DXA scan)

The best way to test for osteoporosis is to measure bone mineral density (BMD). A special x-ray called 'dual x-ray absorptiometry' (DXA) can measure the density (solidness) of the bone in the spine and hips.

Self care

A healthy diet with adequate calcium, adequate sunlight (for vitamin D) and regular exercise help to maintain bone and muscle strength, which reduces the risk of fractures.

Who is at risk?

Women have a higher risk of developing osteoporosis due to their smaller bone mass and the drop in oestrogen levels after menopause.

Other risk factors for both men and women include:

- Low dietary calcium
- Vitamin D deficiency – usually related to inadequate sunlight exposure (e.g., people in residential care or housebound; dark-skinned people; those who wear traditional or religious dress that covers most of the body)
- Inadequate physical activity
- Increasing age
- Low body weight
- Family history of osteoporosis
- Caucasian or Asian race
- Smoking
- Excessive alcohol use
- Some medicines – (e.g., prednisolone, prednisone)
- Some medical conditions – (e.g., some hormone disorders, rheumatoid arthritis).

- Calcium strengthens bone and slows bone loss. The recommended daily intake for most adults is at least 1000mg. Women aged over 50 years and men aged over 70 years need at least 1300mg of calcium per day. Dairy foods are a good source – look for low-fat, calcium enriched dairy products.
- Vitamin D aids calcium absorption, bone formation and muscle strength. It is formed in our skin on exposure to sunlight. For adequate vitamin D, most people with fair-coloured skin need to expose face, hands and arms (or equivalent skin area) to sunlight for about 6-8 minutes (before 10am or after 3pm) on most days in summer and for about 15-30 minutes in winter (required exposure varies with time of day, season and region). Darker-skinned people and the elderly need more sun exposure. Some foods contain vitamin D (e.g., milk, eggs, liver, fatty fish), but usually not enough for bone health.
- Regular exercise strengthens bones and muscles and maintains flexibility and balance, which help to prevent falls. If no fractures are present, weight bearing exercises (e.g., walking, dancing) and resistance exercises (lifting weights) are recommended. Ask a physiotherapist for advice.
- Don't smoke.
- Limit alcohol consumption.
- Protect against falls. With osteoporosis even a slight fall can cause a fracture.

Common Treatments

Calcium supplements, vitamin D supplements and certain medicines can help strengthen bones and reduce the risk of fractures. Ask a doctor or pharmacist for advice.

Calcium supplements

A daily calcium supplement is recommended for people who cannot get enough calcium from their food and especially for older adults.

Vitamin D supplements

A vitamin D supplement of at least 400 IU per day is recommended for people who do not get adequate sun exposure or who are vitamin D deficient. As the body's ability to form vitamin D from sunlight decreases with age, a daily supplement is also recommended for older adults. Vitamin D oral supplements include:

- Cholecalciferol – vitamin D3 (e.g., *OsteVit-D* and *Ostelin*, containing 1000IU vitamin D per capsule)
- Calcitriol – activated vitamin D, which must be prescribed by a doctor (e.g., *Citrihexal, Kosteo, Rocaltrol, Sitriol*).

Bisphosphonates

(e.g., alendronate (*Alendro, Fosamax*), risedronate (*Actonel*).

Bisphosphonates are medicines that slow down bone loss and increase bone density, reducing the risk of vertebral (spinal) and non-vertebral fractures. Some biphosphonate products also include vitamin D (e.g., *Fosamax-Plus*) or calcium (e.g., *Actonel Combi*) supplements.

It is important to take biphosphonates exactly as directed, in order to maximise their absorption and reduce the risk of gastro-intestinal side effects. It is also important to discuss plans for dental surgery with your doctor and to inform your dentist that you are taking biphosphonates, as they may adversely affect jaw bones.

Raloxifene

Raloxifene (*Evista*) is a non-hormone medicine with an oestrogen-like effect on bone. It slows down bone loss and increases bone density, reducing the risk of vertebral fractures.

Related fact cards

- *Menopause*
- *Preventing Falls*
- *Smoking series*
- *Weight and Health*

For more information

Osteoporosis Australia – phone 1800 242 141 or website www.osteoporosis.org.au

Consumer Medicine Information (CMI) leaflets – your pharmacist can advise on availability.

NPS Medicines Line – phone 1300 888 763 Monday to Friday, 9am to 6pm EST.

The Poisons Information Centre – in case of poisoning phone 131 126 from anywhere in Australia.

Pharmacy Self Care Support – phone 1300 369 772 and ask for the Pharmacy Self Care Field Officer.

Pharmacists are medicines experts. Ask a pharmacist for advice when choosing a medicine.

Your **Self Care** Pharmacist

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