



Pharmaceutical  
Society of Australia



# Osteoporosis

**As we age, our bones lose minerals and can become 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, 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 all help to maintain bone and muscle strength, which reduces the risk of fractures.

## Who is at risk of osteoporosis?

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, kidney disease).

- Calcium strengthens bone and slows bone loss. The recommended daily intake of calcium for most adults is 1000mg. The recommended daily intake for women aged over 50 years and men aged over 70 years is 1300mg. Low-fat, calcium enriched foods, especially dairy foods (e.g., milk, cheese, yoghurt), are good sources of calcium. Aim for at least three serves a day.
- 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 (done on your feet 'against' gravity), resistance (lifting weights), impact and balance exercises are recommended. Ask a physiotherapist or exercise specialist for advice.
- Don't smoke.
- Limit alcohol consumption.
- Protect against falls. With osteoporosis even a slight fall can cause a fracture.
- 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 prescription medicines that slow down bone loss, increase bone density and reduce the risk of vertebral (spinal) and non-vertebral fractures. Some bisphosphonate products also include vitamin D (e.g., *Fosamax-Plus*) or calcium (e.g., *Actonel Combi*) or both (e.g., *Actonel Combi D*).

It is important to take bisphosphonates exactly as directed, to maximise their absorption and reduce the risk of gastrointestinal side effects.

## Raloxifene

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

## Strontium

Strontium (Protos) is a prescription medicine that slows down bone loss, increases bone formation and reduces the risk of vertebral (spinal) and non-vertebral fractures. It is important to take strontium exactly as directed to maximise its absorption.

## Some 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 800 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:

## Related fact cards

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

## For more information

**HEALTHInsite** – [www.healthinsite.gov.au](http://www.healthinsite.gov.au)

**Osteoporosis Australia** – phone 1800 242 141 or website [www.osteoporosis.org.au](http://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.

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

Your **Self Care** Pharmacist