

OSTEOPOROSIS: MEN

Osteoporosis is a common condition, affecting over 1 million people in Australia. Although it most commonly affects women after menopause, almost one quarter of people with osteoporosis are men.

It is a bone disorder, leading to loss of bone (mass/density) and fragility of that bone. This can lead to fractures (broken bone) with little or no trauma preceding the fracture.

Osteoporosis is asymptomatic until a fracture occurs. Therefore, it is underdiagnosed.

Causes

The most common causes of osteoporosis in men are:

- Low testosterone levels
- Some prostate cancer therapies

Risk factors

- Family history of osteoporosis/ hip fracture, particularly in first-degree relatives (parents/ sisters/ brothers)
- Inadequate Calcium intake (should be 1300mg daily in people over 50; at least 3 serves dairy per day)
- Vitamin D deficiency
- Other medical disorders eg. Rheumatoid arthritis, Cushing's syndrome, chronic liver or kidney disease
- Gastrointestinal disorders causing malabsorption eg. Coeliac disease, inflammatory bowel disease
- Medications eg. Steroids
- Low levels of physical activity
- Low body weight
- Excessive alcohol intake
- Smoking

Fractures

The aim of management and treatment of osteoporosis is to prevent fracture, and prevent pain, hospitalisation and disability from fractures.

The most common sites of fracture in the setting of osteoporosis are the hip, spine, wrist, upper arm, ribs or forearm. Fractures in the spine due to osteoporosis can result in losing height or changes in posture.

Diagnosis

Disclaimer: This advice is intended for general information purposes only. It should not be used as a substitute for medical advice, diagnosis or treatment and may not be applicable to individual patients. Always seek the advice and treatment of your own doctor.

Osteoporosis is diagnosed on the basis of results of a bone density scan (DEXA scan). WHO (World health organisation) criteria for the diagnosis of osteoporosis are T score < -2.5. These are PBS-subsidised every 2 years for patients with a specific risk factor for osteoporosis.

X-ray of the spine may assist in determining if there have been any vertebral (spinal) fractures, which can occur without symptoms.

Blood tests may be done to evaluate for various risk factors for osteoporosis and to check bone turnover.

Treatment: Non-prescription

1. CALCIUM

Calcium is essential for building and maintaining bone. Almost about 99% of the body's calcium is found in the bones. Calcium combines with other minerals to form hard crystals that give your bones strength and structure.

Recommended Calcium intake for men 19+ years is 1000mg/day.

Recommended Calcium intake for men 50+ years is 1300mg/day.

3-5 of dietary calcium a day is ideal for calcium intake. Calcium supplementation may be needed if this cannot be achieved (discuss with your doctor).

Dairy products (milk (not with caffeine), yoghurt, cheese, ice cream) are excellent sources of calcium. In addition:

- Try soy based products and tofu that contain calcium
- Include broccoli, mustard cabbage, bok choy, silverbeet, cucumber, celery, chick peas in your regular diet
- Eat more almonds, dried figs and dried apricots
- Products fortified with calcium (eg some breakfast cereals) can help improve your calcium intake

2. VITAMIN D

Vitamin D helps improve calcium absorption from the gut, regulate the body's calcium levels and maintain the skeleton.

The major source of Vitamin D is sunlight. It is absorbed through the skin. This absorption is blocked by sunscreen/ clothing.

Vitamin D deficiency is common in Australia with over 30% of adults having a mild, moderate or even severe deficiency. Low vitamin D levels can

- lead to bone and joint pain

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- increase the risk of falls and bone fracture in older people
- result in rickets (when very serious)
- impact on unborn children in mothers with vitamin D deficiency

Vitamin D levels should ideally be maintained at a “normal level” (probably >70nmol/L) in men with osteoporosis.

Recommended levels of sun exposure to maintain adequate vitamin D levels :

At 11am/ 3pm with arms and legs exposed to sun

Melbourne Summer:

Fair skin: 6-8min; Dark skin: 20-50min

Melbourne Winter:

Fair skin: 25 mins; Dark skin: 1hr 30 min - 2 hr 30min

3. EXERCISE

Exercise must be regular and ongoing to have a proper benefit. Our bones become stronger when a certain amount of impact or extra strain is placed on them. This means there are specific types of exercises that are better for bone – these are called weight-bearing exercises. Eg. eg: brisk walking, jogging, skipping, basketball / netball, tennis, dancing, impact aerobics, stair walking. Resistance training (eg. Weights under supervision) may also be beneficial

Regular exercise should be performed at least 3 times per week and the duration of exercise depends on age, but generally at least 30 minutes per session is recommended.

Avoiding falls

Avoiding trip hazards in the home is essential. Appropriate footwear (eg. Avoiding uncomfortable shoes which may promote falling) should be worn by all people with osteoporosis. If balance is an issue, a falls and balance class may assist in avoiding falls.

Treatment: Prescription Drugs

As the most common cause of osteoporosis in men is related to low testosterone therapy, therapy aimed at normalising testosterone (if prostate cancer is not present). Most of the medications available for women with osteoporosis are also available for prescription to men. Probably the most extensively studied in men are bisphosphonates.

Bisphosphonates

Tablets (weekly or monthly): Alendronate (brand name Fosamax), Risedronate (brand name: Actonel) Once yearly intravenous infusion: Zoledronic acid (brand name: Aclasta).

- These medicines can increase bone density by approximately 4-8% in the spine and 1–3% in the hip, over the first 3-4 years of treatment. This may appear small, however they have a very positive effect on fracture rates eg: bisphosphonates have been shown to reduce spinal fractures by 30 – 70% and hip fractures by 30 – 50% (a positive effect can be seen as early as 6 – 12 months after starting treatment).
- PBS subsidy applies to men and women with osteoporosis and fractures, and older people (over 70) with low bone density. It also applies to people taking corticosteroids (eg: prednisone or cortisone) at a dose of 7.5 mg for at least 3 months.

(see Bisphosphonates info)