LOVE YOUR BONES
Protect your future


Know your risk for osteoporosis

International Osteoporosis Foundation
Osteoporosis is a problem worldwide, and in many countries, up to one in three women and one in five men aged 50 years or over will suffer an osteoporotic fracture. Osteoporosis causes bones to become weak and fragile, so that they break easily – even as a result of a minor fall, a bump, a sneeze, or a sudden movement. Fractures caused by osteoporosis can be life-threatening and a major cause of pain and long-term disability.

**BE PROACTIVE**
*Find out whether you’re at risk and get tested!*

Strong bones, together with strong muscles, will help you enjoy an active, mobile and independent future. Put simply: the state of your bone health can determine your future quality of life. In women over 45 years of age osteoporosis accounts for more days spent in hospital than many other diseases, including diabetes, heart attack and breast cancer. Hip fractures, one of the most serious and life-threatening, fracture events, often result in the need for assisted care, and loss of physical independence. Fewer than half of those who survive a hip fracture regain their previous level of function. Approximately 20-25% of people who suffer a hip fracture die within a year.
Can osteoporosis and fractures be prevented?

The answer is yes, if action is taken early. Although bone loss can be accelerated by some conditions out of your control (such as family history), there are certain steps that you can take to help prevent and fight this ‘silent’ disease.

A first step, no matter what your age or the state of your bone health, is to ensure a bone-healthy lifestyle. That means taking regular weight-bearing and muscle strengthening exercise, eating a nutritious diet rich in calcium, protein, vitamin D, other important nutrients, and avoiding unhealthy habits such as smoking or excessive alcohol intake.

However for people at high risk of fracture, a bone-healthy lifestyle alone is not enough to prevent osteoporotic fractures. If you’re at high-risk you’re likely to need osteoporosis medication in order to protect against future fractures.
5 STEPS TO HEALTHY BONES AND A FRACTURE-FREE FUTURE

1. Exercise regularly
   Weight-bearing, muscle-strengthening and balance-training exercises are best.

2. Ensure a diet rich in bone-healthy nutrients
   Calcium, vitamin D and protein are the most important for bone health. Safe exposure to sunshine will help you get enough vitamin D.

3. Avoid negative lifestyle habits
   Maintain a healthy body weight, avoid smoking and excessive drinking.

4. Find out whether you have risk factors
   and bring these to your doctor’s attention, especially if you’ve had a previous fracture or have specific diseases and medications that affect bone health.

5. Get tested and treated if needed.
   If you’re at high risk you will likely need medication to ensure optimal protection against fracture.
TAKE ACTION for change

One of the important steps you can take to protect your future is to recognise whether you have significant risk factors. Recognising osteoporosis risk factors will help you take early action for prevention – which should have an enormously positive impact on your bone health in later years.

Here are some of the more common risk factors which are ‘modifiable’ – that means you CAN change them and reduce your risk of osteoporosis and fractures:

**Smoking**

We all know the dangers of smoking. But many don’t know that compared to nonsmokers, people who smoke, or have smoked in the past, are at increased risk of any fracture. Smoking increases the risk of hip fracture by up to 1.8 times.

**Excessive alcohol consumption**

People who drink more than 2 units of alcohol daily have a 40% increased risk of sustaining any osteoporotic fracture, compared to people with moderate or no alcohol intake. Drinking in moderation will benefit your overall health, not just your bones.

**Low Body Mass Index (BMI)**

Maintaining a healthy body weight is important too. BMI below 18.5 is considered underweight and a risk factor for osteoporosis. Low BMI may also result from poor nutrition and low intake of bone-healthy nutrients like calcium, protein and vitamin D.
Vitamin D deficiency
Vitamin D is made in our skin with exposure to the sun’s ultraviolet rays. Vitamin D is essential for bone health in that it helps the body absorb calcium. Few foods contain vitamin D and sunlight is not always a reliable source of vitamin D. That’s why vitamin D deficiency is common, particularly in the elderly, in those who do not go outdoors, or in the winter months at northern latitudes. Osteoporosis Australia recommends supplements for those who are at risk of vitamin D deficiency, particularly seniors living in care facilities.

Frequent falls
Ninety percent of hip fractures occur as a result of a fall. Poor eye sight, loss of balance, neuromuscular dysfunction, dementia, immobilisation, and use of sleeping pills (all relatively common in seniors), significantly increase the risk of falls and fractures. If you’re prone to falls you should take action by fall-proofing your home and improving your muscle strength and balance through targeted exercises.
Insufficient exercise

The saying ‘move it or lose it’ refers to the fact that inactivity results in increased bone loss. That’s why it’s important to get regular weight-bearing and muscle-strengthening exercise. Adults with a sedentary lifestyle lose bone more rapidly, and studies have shown that sedentary older adults are more likely to have a hip fracture than those who are more active.

Eating disorders

Disorders such as anorexia and bulimia which can result in extreme weight loss are dangerous for bone health. In young women this can lead to estrogen deficiency (much like menopause) and dramatically reduced calcium intake. The result is rapid bone mineral loss.

Take out the measuring tape!

If you’ve lost over 3cm (just over 1 inch) it may be a sign of vertebral (spine) fractures caused by osteoporosis. Vertebral fractures may cause a curved spine or humped back.
RECOGNISE THE RISK FACTORS YOU CAN’T CHANGE

The overall risk of osteoporosis is influenced by age, gender and ethnicity. Generally, the older you get, the greater your risk of osteoporosis. Women are more susceptible to bone loss than men. However, even though women are more likely to sustain an osteoporotic fracture (due to rapid bone loss at menopause), men are not spared from osteoporosis. Some 20-25 percent of all hip fractures occur in older men and men are more likely to be disabled and to die following a hip fracture. Osteoporosis is also more common in people of white Caucasian and Asian race, possibly due to differences in bone structure and peak bone mass.
Although some risk factors cannot be changed (‘non-modifiable’ risk factors), you should be aware of which factors may affect you. The following risk factors should prompt you to seek a bone health assessment:

**Family history**
Genetics and shared lifestyle and dietary factors will contribute to your peak bone mass and the rate of bone loss at older age. If one of your parents has had a broken bone, especially a broken hip, you are at higher risk of osteoporosis.

**Previous fracture**
People who have already sustained an osteoporotic fracture are almost twice as likely to have a second fracture compared to people who are fracture free. Anyone who has fractured after the age of 50 years must be assessed for osteoporosis. In most cases treatment should be prescribed to prevent the high likelihood of future fractures.

1st Fracture

Talk to your doctor

2nd Fracture
Primary/secondary hypogonadism in men

Hypogonadal young men with low testosterone levels have low bone density, which can be increased through testosterone replacement therapy. At any age, acute hypogonadism, such as that resulting from orchiectomy for prostate cancer, accelerates bone loss to a similar rate as seen in menopausal women. The bone loss following orchiectomy is rapid for several years, and in most cases treatment should be prescribed to prevent it.

Certain medications

Some medications may have side effects that directly weaken bone or increase the risk of fractures due to falls. Patients taking any of the following medication should consult with their doctor about increased risk to bone health:

- Glucocorticosteroids – oral or inhaled (e.g. for asthma, arthritis)
- Excessive thyroid hormone replacement
- Aromatase inhibitors (used in breast cancer)
- Certain antipsychotics
- Anti-androgen therapy for prostate cancer
- Certain anti-depressants
- Certain diabetes medications
- Certain antiepileptic drugs
- Proton pump inhibitors
Certain medical disorders

Some diseases, as well as the medications used to treat the disease, may weaken bone and increase the risk of fractures. Among the more common diseases and disorders which may place you at risk include:

- Rheumatoid arthritis
- Coliace disease or other malabsorption disorder
- Chronic kidney disease
- HIV
- Some inherited disorders
- Endocrine disorders (diabetes, Cushing’s syndrome, hyperparathyroidism etc.)
- Immobility
- Chronic liver disease
- Depression
- Hyperthyroidism or thyroxine excess
- Premature menopause
- Male hypogonadism
- Organ or bone marrow transplantation
- Myeloma or monoclonal gammopathies

Menopause/hysterectomy

Postmenopausal women, and those who have had their ovaries removed or who have experienced early menopause before the age of 45 years, must be particularly vigilant about their bone health. Rapid bone loss begins after menopause when the protective effect of estrogen is reduced. For some women hormone replacement therapy may help slow down bone loss, when initiated before the age of 60 years or within 10 years after menopause.
Have risk factors? Talk to your doctor and ask for testing

Osteoporosis Australia and the Garvan Institute of Medical Research have launched Know Your Bones an Australian-first bone health self-assessment. The online tool is designed to help understand your risk of poor bone health. The risk of fracture over five and ten years respectively, is assessed for people aged 50+ years and a general risk summary is provided for all users (aged 18 and above), for further discussion with your doctor.

It only takes a few simple steps - visit www.knowyourbones.org.au, complete the questionnaire to self-assess your fracture risk, then print a report showing your results and risk factors and discuss with your doctor.

Your doctor may recommend further investigation with a bone density test.
Effective treatment options to protect those at high risk

Depending on the results of your clinical assessment, your doctor may make specific recommendations for calcium and vitamin D supplementation, other supplements, exercise and possibly pharmacological intervention and follow up.

Patients at high risk will need drug therapy to effectively protect themselves against fractures. Today there is a wider variety of treatment options than ever before. The type of treatment recommended will depend on your individual risk profile, including the risk of specific type of fracture, other medical conditions, or medications that you may already be taking. Overall the common approved therapies have been shown to be safe and effective. As with any medication, there may be side effects. While it is important to be aware of this, patients and doctors should keep in perspective the serious risk of stopping treatment versus the rare occurrence of side effects.

If you are prescribed medication you should stay on treatment as advised and talk to your doctor if you have any difficulties taking the medication. After all, no medication is effective if it is not taken as prescribed!
For further information about osteoporosis, visit
www.osteoporosis.org.au

Information is also available on the World Osteoporosis Day page