

www.worldosteoporosisday.org

LOVE YOUR BONES

Protect your future

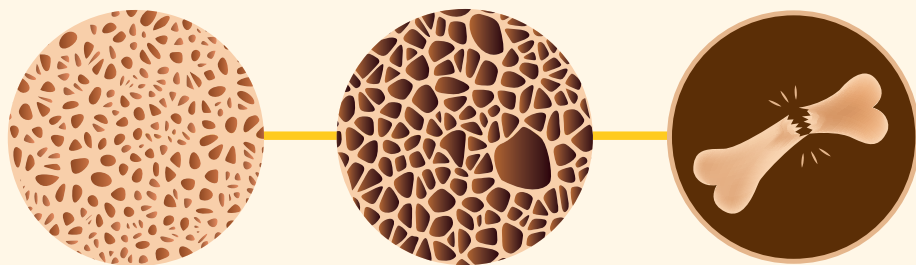


Know your risk for osteoporosis

www.iofbonehealth.org



**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.



Regular exercise



A bone-healthy diet



**Consulting your doctor
about osteoporosis risk**

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 recognize whether you have significant risk factors. Recognizing 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.



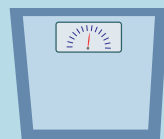
Excessive alcohol consumption

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 19 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.





Poor nutrition

A nutritious diet rich in calcium, protein, fruits and vegetables benefits bone and muscle health at all ages. Malnutrition in seniors is a special concern, particularly because they are more susceptible to osteoporosis, falls and fractures.

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. IOF recommends supplements for those at risk and in seniors aged 60 years or over for falls and fracture protection.



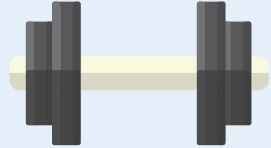
Frequent falls



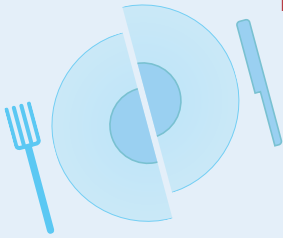
Ninety percent of hip fractures occur as a result of a fall. Poor eye sight, loss of balance, neuromuscular dysfunction, dementia, immobilization, and use of sleeping pills (all relatively common in seniors), significantly increase the risk of falls and fractures. If you're prone to falls you should 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.

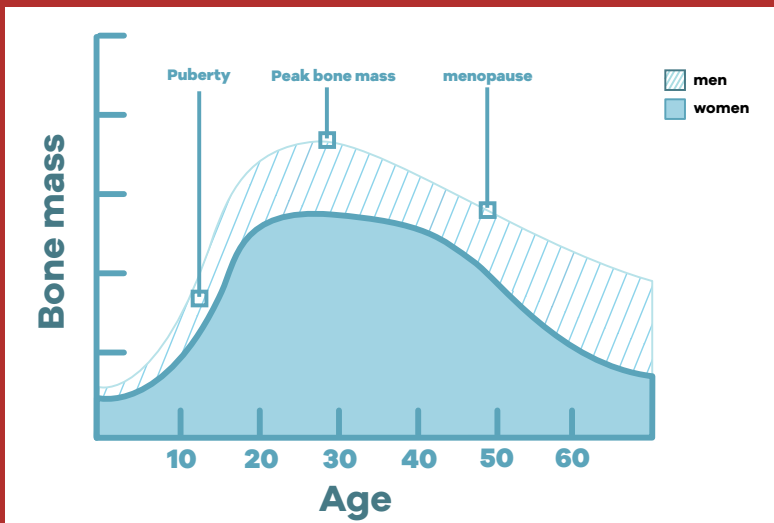
Take out the measuring tape!

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.



RECOGNIZE 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**



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)
- Certain immunosuppressants (calmodulin/calcineurin phosphatase inhibitors)
- Thyroid hormone treatment (L-Thyroxine)
- Certain steroid hormones (medroxyprogesterone acetate, luteinising hormone releasing hormone agonists)
- Aromatase inhibitors (used in breast cancer)
- Certain antipsychotics
- Certain anticonvulsants
- Certain antiepileptic drugs
- Lithium
- Proton pump inhibitors



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.

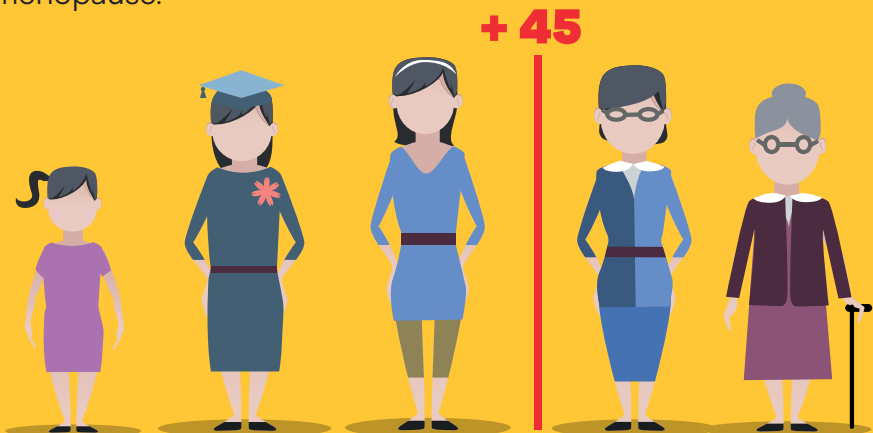
Certain medical disorders

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
- Nutritional/gastrointestinal problems (Crohn's disease etc.)
- Chronic kidney disease
- HIV
- Hematological disorders/malignancy (including prostate and breast cancer)
- Some inherited disorders
- Hypogonadal states (Turner syndrome/Klinefelter syndrome, amenorrhea etc.)
- Endocrine disorders (diabetes, Cushing's syndrome, hyperparathyroidism etc.)
- Immobility

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

The IOF One-Minute Osteoporosis Risk Test on the following page, with its 19 easy questions, will alert you to any risk factors you may have. If you are over the age of 50 years and you have one or more risk factors you should discuss these with your doctor and ask for assessment.

To help assess your bone health status your doctor may use an online fracture risk assessment tool (for e.g. FRAX®) which estimates your risk of having a major osteoporotic fracture within the next 10 years. Depending on your level of risk, or on your age and other clinical factors, you may be given a bone mineral density (BMD) test. The most commonly used test is DXA (dual-energy X-ray absorptiometry), a low radiation X-ray capable of detecting very small percentages of bone loss.



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!



IOF One Minute Risk Test

19 easy questions to help you understand the status of your bone health

Your non-modifiable risk factors – what you **cannot** change!

These are risk factors that one is born with or cannot alter. Nevertheless, it is important to be aware of risk factors you can not change so that steps can be taken to reduce loss of bone mineral.

1. Have either of your parents been diagnosed with osteoporosis or broken a bone after a minor fall (a fall from standing height or less)?
☐ yes ☐ no
 2. Did either of your parents have a stooped back (dowager's hump)?
☐ yes ☐ no
 3. Are you 40 years old or older?
☐ yes ☐ no
 4. Have you ever broken a bone after a minor fall, as an adult?
☐ yes ☐ no
 5. Do you fall frequently (more than once in the last year) or do you have a fear of falling because you are frail?
☐ yes ☐ no
 6. After the age of 40, have you lost more than 3 cm in height (just over 1 inch)?
☐ yes ☐ no
 7. Are you underweight (is your Body Mass Index less than 19 kg/m²)?
☐ yes ☐ no
 8. Have you ever taken corticosteroid tablets (cortisone, prednisone, etc.) for more than 3 consecutive months (corticosteroids are often prescribed for conditions like asthma, rheumatoid arthritis, and some inflammatory diseases)?
☐ yes ☐ no
 9. Have you ever been diagnosed with rheumatoid arthritis?
☐ yes ☐ no
 10. Have you been diagnosed with an over-active thyroid, over-active parathyroid glands, type 1 diabetes or a nutritional/gastrointestinal disorder such as Crohn's or celiac disease?
☐ yes ☐ no
- ### For Women:
11. For women over 45: Did your menopause occur before the age of 45?
☐ yes ☐ no
 12. Have your periods ever stopped for 12 consecutive months or more (other than because of pregnancy, menopause or hysterectomy)?
☐ yes ☐ no
 13. Were your ovaries removed before age 50, without you taking Hormone Replacement Therapy?
☐ yes ☐ no
- ### For Men:
14. Have you ever suffered from impotence, lack of libido or other symptoms related to low testosterone levels?
☐ yes ☐ no

Your lifestyle risk factors – what you **can** change!

These are modifiable risk factors which primarily arise because of diet or lifestyle choices.

- | | |
|---|---|
| <p>15. Do you regularly drink alcohol in excess of safe drinking limits (more than 2 units a day)?</p> <p style="text-align: right;"><input type="radio"/>yes <input type="radio"/>no</p> | <p>18. Do you avoid, or are you allergic to milk or dairy products, without taking any calcium supplements?</p> <p style="text-align: right;"><input type="radio"/>yes <input type="radio"/>no</p> |
| <p>16. Do you currently, or have you ever, smoked cigarettes?</p> <p style="text-align: right;"><input type="radio"/>yes <input type="radio"/>no</p> | <p>19. Do you spend less than 10 minutes per day outdoors (with part of your body exposed to sunlight), without taking vitamin D supplements?</p> <p style="text-align: right;"><input type="radio"/>yes <input type="radio"/>no</p> |
| <p>17. Is your daily level of physical activity less than 30 minutes per day (housework, gardening, walking, running etc.)?</p> <p style="text-align: right;"><input type="radio"/>yes <input type="radio"/>no</p> | |

Understanding Your Answers

If you answered “yes” to any of these questions it does not mean that you have osteoporosis. Positive answers simply mean that you have clinically-proven risk factors which may lead to osteoporosis and fractures.

Please show this risk test to your doctor who may encourage you to take a FRAX® risk assessment (available at www.shed.ac.uk/FRAX) and/or have a bone mineral density (BMD) test. In addition your doctor will advise on what treatment, if any, is recommended.

Even if you have no or few risk factors, you should discuss your bone health with your doctor and monitor your risks in the future.

For further information about osteoporosis and how you can improve your bone health, contact a national osteoporosis society near you or visit www.iofbonehealth.org.

NOTE This test is intended to raise awareness about osteoporosis risk factors. It is not a scientifically validated test.

#LoveYourBones

WorldOsteoporosisDay
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LOVE YOUR
BONES

For further information about osteoporosis, consult your local osteoporosis patient or medical organization. You can find a list on **www.iofbonehealth.org**.

Information is also available on the World Osteoporosis Day website **www.worldosteoporosisday.org**.

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