

REAL MEN

BUILD THEIR STRENGTH FROM WITHIN



A MAN'S GUIDE TO OSTEOPOROSIS PREVENTION

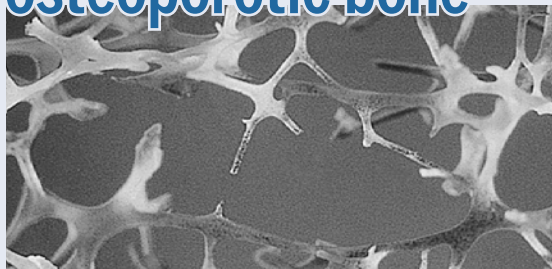
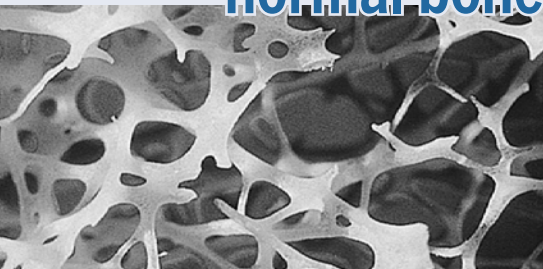
DON'T LET OSTEOPOROSIS SLOW YOU DOWN

Appearances can be deceiving. **Men who look strong on the outside, may actually be weak on the inside and don't realize it.** Worldwide approximately one in five men over the age of 50 years will break a bone due to osteoporosis. Most are neither identified nor treated for this 'silent' disease, even after they've had a fracture.



Osteoporosis is a disease which gradually weakens bones, leading to painful and debilitating fragility fractures (broken bones). These can occur after a minor fall from standing height, as a result of a bump, sneeze or even from bending over to tie a shoelace. Any bone can break due to osteoporosis, but some of the most serious and common fractures are those of the spine and hip.

normal bone **osteoporotic bone**



IT'S NOT JUST A WOMAN'S DISEASE

The common misconception is that osteoporosis affects only women, **BUT it affects millions of men** around the world too, with devastating consequences. Read the facts:

Broken bones cause immobility, long-term disability

and severe pain: the result is poor quality of life and loss of independence as men age.

Lifetime risk of fracture is greater than risk of developing

prostate cancer: few older men are on the alert for osteoporosis even though one in five will fracture.

One-third of all hip fractures worldwide occur in men:

studies also show that 37% of male patients die in the first year following a hip fracture.

Men more likely than women to suffer from serious

consequences or death: men are frequently older when they experience their first fracture.

Loss of productivity in the workplace due to fractures:

spinal fractures, in particular, can affect working men from the ages of 50-65 years and result in lost work days.

WHAT CAUSES OSTEOPOROSIS IN MEN?

Beware of the risk factors that cause excessive bone loss. By young adulthood men typically have built more bone mass than women. After around age 30 years, the amount of bone in the skeleton begins to decline as the formation of new bone does not keep up with the removal of old bone.

Men in their fifties do not experience the rapid loss of bone mass women do in the years following menopause. But by the age of approximately 70 years, men and women lose bone mass at the same rate, and the absorption of calcium (a mineral important to bone health) decreases in both sexes. Excessive bone loss causes bone to become fragile and more likely to fracture. Find out whether you have risk factors which can speed up bone loss and lead to osteoporosis and broken bones.



WHAT ARE THE RISK FACTORS IN MEN?

Many of the same factors that put women at risk of osteoporosis and fractures apply to men too, although **men must look out for testosterone deficiency** and medications related to prostate cancer therapy.

MAJOR RISK FACTORS

Age – bone loss increases with age, and in men accelerates more rapidly at around age 70 years.

Family history – if your parents had osteoporosis or a history of fractures you're at higher risk.

A previous broken bone at the age of 50 years or over – if you've broken a bone you're at double the risk of another fracture.

Long-term use of glucocorticosteroids (more than 3 months) – these prescription drugs (for e.g. prednisone or cortisone) are the most common cause of secondary osteoporosis. They are used for treating a variety of medical conditions including asthma and inflammatory arthritis.

Primary or secondary hypogonadism (testosterone deficiency) – this occurs in up to 12.3% of men, often resulting from defects of the testes. Androgen deprivation therapy (ADT), the most commonly used treatment for metastatic prostate cancer, also causes low testosterone levels.

Certain medications – in addition to glucocorticosteroids, other medications can also put you at increased risk. These include, but are not limited to, some immunosuppressants, thyroid hormone treatment in excess dosage, certain antipsychotics, anticonvulsants, anti-epileptic drugs, lithium, methotrexate, antacids and proton- pump inhibitors.

Some chronic diseases – diseases that place you at risk include, but are not limited to, rheumatoid arthritis, inflammatory bowel disease (e.g. Crohn's disease), diseases of malabsorption (e.g. celiac disease), type 1 and type 2 diabetes, hyperparathyroidism, chronic liver or kidney disease, lymphoma and multiple myeloma, hypercalciuria, and thyrotoxicosis.

Watch out for these two common risk factors

- Testosterone deficiency (primary or secondary hypogonadism)
- Androgen deprivation therapy (ADT)

Are you getting shorter?

Measure your height and compare to the height listed on your passport. If **you have lost more than 3 cm in height** (just over 1 inch) this may mean you have had spinal compression fractures due to osteoporosis.

180 cm

170 cm



Lifestyle-related risks

- Smoking
- Excessive alcohol consumption (more than 2 units a day)
- Poor diet (low levels of calcium, less than 600 mg per day)
- Vitamin D deficiency/insufficiency
- Lack of physical exercise or excessive exercise that leads to low body weight
- Low body mass index (BMI <20)

How to estimate your alcohol consumption

A unit of alcohol is equivalent to 10 ml (ca. 8 grams) of pure ethanol, the active chemical ingredient in alcoholic beverages. Excessive alcohol consumption increases the risk of osteoporosis and fractures.

Beer or cider 4% alcohol

250 mL/8.75 oz = 1 unit



Wine 12.5% alcohol

80 mL/2.8 oz = 1 unit



Spirits 40% alcohol

25 mL/0.88 oz = 1 unit



SHOULD YOU BE TESTED?

Speak to your doctor and get tested if you are aged 70 years or over. If you're younger (aged 50-69 years) you should also be tested when risk factors are present. This is especially important if you have:

- Suffered a fracture as a result of a fall from standing height or less since age 50 years
- Take glucocorticoid treatment
- Have low testosterone levels (hypogonadism)



WHAT TESTS WILL THE DOCTOR DO?

Don't walk into your appointment blindly - mention your risks and don't hesitate to ask for more information and testing. A good way to identify whether you may have risk factors is to take the IOF One-Minute Osteoporosis Risk Test (see end of brochure).

Clinical assessment may include bone mineral density (BMD) measurement with a dual energy x-ray absorptiometry (DXA) scanner. This is a quick and noninvasive method to measure BMD at the hip and spine.



In addition, your future fracture risk can be assessed by a computer-based questionnaire called FRAX® (<http://www.shef.ac.uk/FRAX>) that calculates the 10-year risk of fracture. Based on this information alone, some patients at high risk may be offered treatment without the need for further testing.

Have you identified any risk factors?

If so, ask your doctor the following questions at your next check-up:

1. I have a common risk factor for osteoporosis, should I have a bone density test? How often should it be repeated?
2. Can you calculate my risk of suffering future fractures?
3. What should I be doing with respect to calcium, vitamin D and exercise?
4. Can you advise me of specific lifestyle changes I can make to improve my bone health?
5. Do I need specific therapy to treat osteoporosis?

FIVE STEPS TO BETTER BONE HEALTH

Building strong bones throughout your lifetime will enable you to continue doing the things you enjoy for longer. It will also help you live independently, free of the pain and suffering caused by broken bones.

There are many actions that you can take to prevent and control osteoporosis. **Take charge of your bone health today.**



1

Regular exercise

Regular weight-bearing and muscle-strengthening exercises are beneficial at all ages and important for maintaining strong bones and muscles.

Moderate impact weight-bearing



jogging



hiking



brisk walking



stair climbing

High impact weight-bearing



50–100 jumps or rope skipping



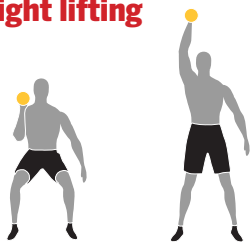
related impact loading sports: e.g. racquet sports

These should be performed for at least 30 minutes, 3–5 days per week.

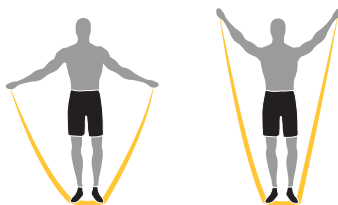
Muscle-strengthening or resistance exercises at least 2 days per week.

For maximum benefits the programme should be high intensity and become progressively more challenging over time. Don't forget to target the major muscles around the hip and spine.

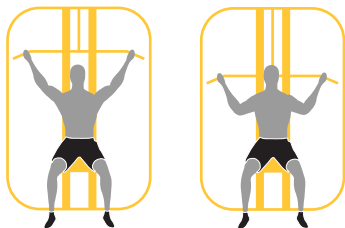
Weight lifting



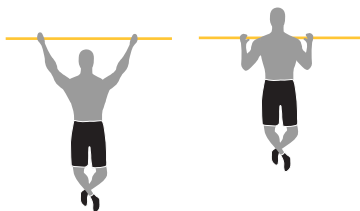
Using elastic exercise bands



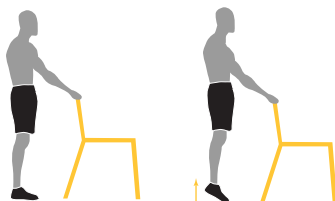
Using weight machines



Lifting your own body weight



Standing and rising on your toes



As you age you need to ensure that the exercise is appropriate to your level of fitness. If you have osteoporosis or spinal fractures you need to be cautious when doing activities that could lead to injury and you should have professional guidance when setting up a regular fitness routine.

2 Bone-healthy nutrients

Don't let this 'silent' disease eat up your bones.

Sufficient calcium, vitamin D and protein are essential for your bone and muscle health. Dairy foods such as milk, yoghurt, and cheese, have the highest amounts of calcium and also contain protein and other minerals that are good for bones. Calcium is also contained in certain fruits and green vegetables (e.g. kale, broccoli, apricots) and in canned fish with bones (sardines). If available, take advantage of foods fortified with calcium. While dietary calcium is best, some people may need to take supplements if they can't achieve their daily calcium goals from food alone. Calcium supplements should however be limited to 500–600 mg per day and it is generally recommended that they be taken combined with vitamin D.

Calcium requirements in males

A photograph of three men sitting on a wooden pier by a lake, fishing. The man on the left is wearing a red shirt, the man in the middle is wearing a blue shirt, and the man on the right is wearing a light green shirt. They are all facing away from the camera, looking out at the water. The background shows a lush green landscape with trees and hills.

19-70 years
1000 mg/day

70+ years
1200 mg/day

10-18 years
1300 mg/day

Recommended daily calcium intake varies country to country, but all health authorities recognize the need for increased calcium intake in older adults.

SOURCE Institute of Medicine of the US National Academy of Sciences (2010)

Most of the vitamin D in the body is produced from exposure of the skin to sunlight. However, depending on where you live, you may not be able to get enough vitamin D from safe exposure to sunlight alone. Small amounts of vitamin D are found in foods (e.g. egg yolk, salmon and tuna). In some countries, vitamin D fortified foods are available.

The Institute of Medicine recommends 600 IU/day of vitamin D intake for men and women aged up to 70 years. IOF vitamin D recommendations for fall and fracture prevention are 800–1000 IU/day for men and women aged 60 years and over.

Get your daily dose of calcium

Make dairy foods your friend:

- 1 yoghurt or a glass of milk ca. $\frac{1}{4}$ of your daily calcium requirements
- 1 large milkshake ca. $\frac{1}{3}$ of your daily calcium requirement
- Cheeses are rich in calcium – especially parmesan, cheddar and mozzarella
- A bowl of cereal with milk is a good breakfast option
- Boost your intake by choosing Caffè Latte instead of regular coffee



Avoid negative lifestyle habits

Stop smoking: it has been shown to raise fracture risk substantially.

Reduce alcohol intake: while a daily glass or two of wine or beer won't impact on your bone health, more than two units of alcohol can raise your fracture risk substantially.

Maintain a healthy weight: if you are underweight (BMI <20) you are at increased risk of fracture.

Smoking increases your risk of breaking a bone by 29% and suffering a hip fracture by 68%





Identify your risk factors

Talk to your doctor. Be aware of any risk factors that can make you a candidate for osteoporosis and fractures. As shown earlier, there are many different factors that can place you at risk.

Statistics from the UK, USA and Australia show that **men are between 20-25% less likely than women to visit a doctor.** Don't avoid **your** check up. Talk to your doctor about bone health and ask whether you should have a BMD test and/or FRAX® risk assessment test.

“Women have a much healthier relationship with their bodies. They see it as a question of maintenance, whereas men see it as a question of repair. Men treat their bodies a bit like a car: once it's burnt out they'll fix it, but until then they power on.”

Men's Health Magazine



5

Take osteoporosis medicine if prescribed

There are many proven treatments that can help improve BMD and reduce your risk of fractures. Common treatments for men include:

- Bisphosphonates: alendronate, risedronate
- Intravenous bisphosphonates: ibandronate, pamidronate, zoledronic acid

Other treatment types include:

- Denosumab: human monoclonal antibody
- Teriparatide: an anabolic agent
- Strontium ranelate

Testosterone therapy for osteoporosis is effective in men with androgen deficiency. Not all medications are approved in all countries.

Adhere to your treatment

Make sure you comply with your prescribed treatment regimen and if you're concerned about any side effects, speak to your doctor.

Because the benefits of treatment are not always evident, many patients stop taking their medication – don't let that happen to you.

By continuing on treatment you can protect your bones and avoid damaging and potentially life-threatening fractures.



IOF ONE-MINUTE OSTEOPOROSIS RISK TEST

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 - BMI < 19 kg/m² (women) or <20 kg/m² (men)?
☐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

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

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.shef.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.

#LoveYourBones

WorldOsteoporosisDay
October20

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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