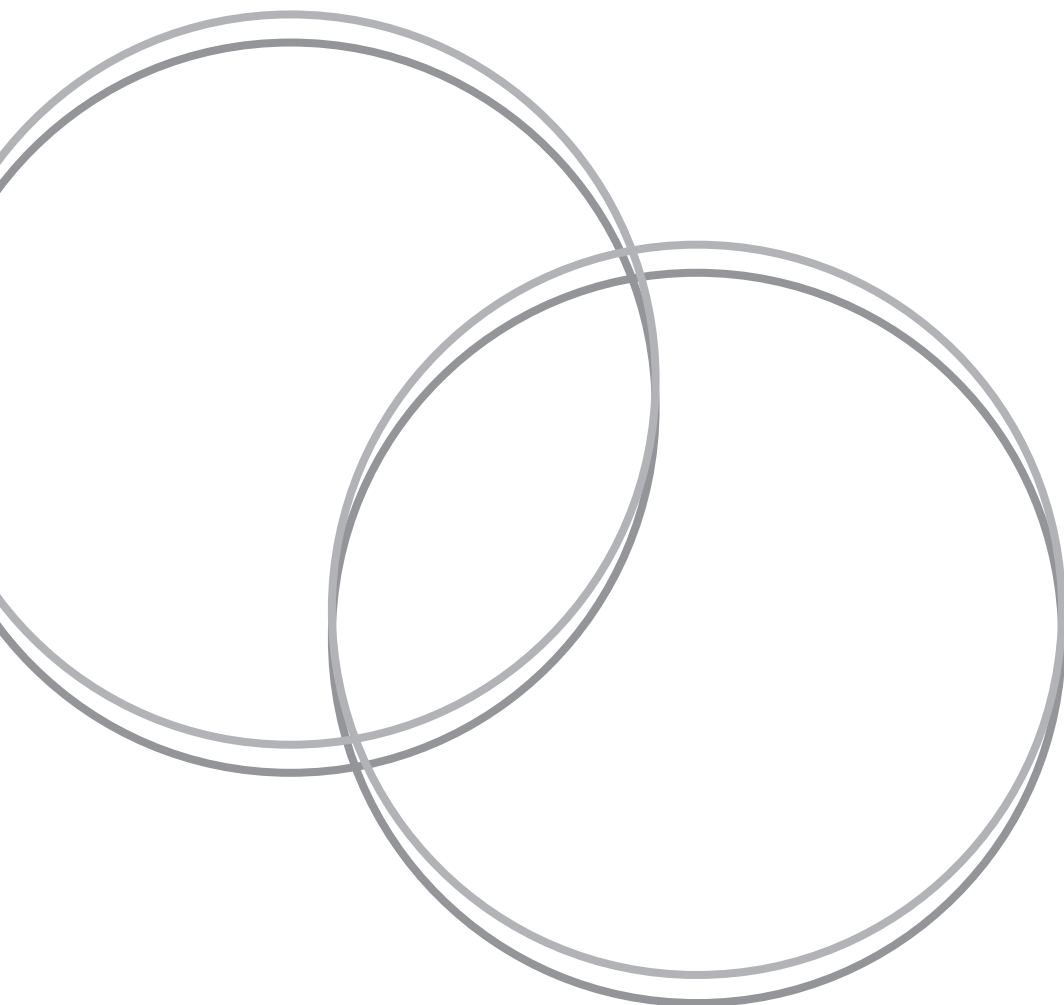




Oxford University Hospitals  
NHS Foundation Trust

# Bone Health for Men with Prostate Cancer

**Information for Patients**



As you age, your bones get thinner. This thinning of the bones is called osteoporosis. It means that any person is more likely to break a bone after a simple fall. Importantly, treatments that you are given to treat your prostate cancer, as well as prostate cancer itself, can speed up the weakening of your bones. These include hormonal therapy (injections or tablets), chemotherapy, steroids and radiotherapy. When you are being treated for prostate cancer, it is important that you work together with your clinical team to assess your own bone health. Together with your team, you can decide on the lifestyle changes and medical treatments that can help to keep your bones healthy.

There are many simple things you can do to make you and your bones healthier, and protect you from the changes caused by your treatment.

**Examples of prostate cancer treatments that can weaken your bones:**

**Hormonal treatments:**

- Goserelin/Zoladex (injection)
- Enzalutamide
- Abiraterone

**Steroid treatments:**

- Prednisolone
- Dexamethasone

**Other treatments:**

- Radiotherapy
- Radium-233
- Lutetium-177

## **Exercise**

Try to get 20 minutes brisk walking per day, or even resistance training. This improves your muscles and heart resilience. It also strengthens your bones. Swimming is good for muscles and heart but has little effect on bone strength. For bones to get stronger they need to work against gravity.

## **Alcohol**

Try to limit your drinking to no more than 3 units on up to three days per week (better than drinking every day). Three units of alcohol is about a pint of higher strength beer or cider, a large glass of wine or three small shots of spirits.

## **Smoking**

Now is the right time to quit. Smoking poisons your bones, as well as the rest of you!

Your own GP practice will be able to offer help to stop this highly addictive habit.

# Calcium

Calcium gives your bones the strength and hardness they need to cope with your everyday activities. Your body contains about one kilogram of calcium - 99% of this is in your bones. You should be able to get enough calcium through healthy eating alone.

## **Foods containing calcium**

Whatever your diet, there are plenty of foods you can eat to get calcium.

Foods rich in calcium include:

- dairy products, like milk and cheese
- green leafy vegetables
- almonds
- sesame seeds
- sardines
- dried fruit
- pulses
- tofu
- fortified foods and drink, like breakfast cereal and alternative milks
- There are some papers that suggest that a high milk intake is linked to a worse outcome in prostate cancer, and so many men opt for a dairy-free diet.

Soya milk may be beneficial but please check the labels! Some vegetarian milks are fortified with calcium, but others have none.

## **How much calcium do you need?**

Adults need approximately 700mg of calcium a day. (This is one pint of milk/day – skimmed milk has the most calcium in it)

## **If you're taking an osteoporosis medication**

You may benefit from increasing your daily calcium intake to around 1,000mg.

Some osteoporosis medications are prescribed with a calcium supplement, to help you reach this target. But you may find you're getting all the calcium you need from food.

Too much calcium may increase your risk of other health problems. So if you think you're getting enough from your diet, talk to your doctor about whether you need to continue your supplement, or not.

## **Foods providing around 200mg of calcium per average portion**

- Milk or milk drink e.g. hot chocolate (skimmed/semi-skimmed/whole) – 1 tumbler or mug (200ml)
- Calcium fortified soya milk - 1 tumbler or mug (200ml)
- Cheddar cheese & low fat hard cheese – Small matchbox size (30g)
- Yoghurt (low fat fruit, plain & calcium boosted soya) – 1 pot (125g)
- Porridge (made with semi-skimmed milk) – 1 bowl (160g - weight with milk)
- Halloumi – 1/2 serving (35g)
- Cauliflower cheese – 1 serving (200g)
- 12" pizza (cheese & tomato, vegetarian or meat topping) – 1/4 of a pizza
- Steamed or fried tofu – 1 serving (120g)
- Canned sardines – 1 serving for a sandwich (50g)
- Rice pudding – 1 serving (200g)

## **You can find out more information at:**

<https://theros.org.uk/information-and-support/bone-health/nutrition-for-bones>

## **Do you need a calcium supplement?**

We recommend you always try to get all the calcium you need as part of a healthy, balanced diet. To see whether you're getting enough calcium from what you eat and drink use:

**<https://www.cgem.ed.ac.uk/research/rheumatological/calcium-calculator/>**

from the University of Edinburgh or Google Edinburgh Calcium Calculator.

Don't worry if you don't get enough calcium everyday. As long as you generally reach the recommended amount, not getting enough on the odd day shouldn't impact your overall bone health. If you find you continually don't get enough calcium in your diet, a calcium supplement can then be considered.

Too much calcium may increase your risk of other health problems, so don't take more than the recommended dose.

## **Vitamin D**

Vitamin D is not only essential for bones, but also may have other benefits. People who take regular daily Vitamin D have also been shown to have fewer viral coughs and colds over the winter. Vitamin D3 tablets are very well absorbed into the body.

We recommend a dose of 20 micrograms (800 units) daily of vitamin D3. You can buy these in a Chemist, or your own GP might prescribe them for you. This may be all you need.

## FRAX EXPLAINED

This is the internationally accepted calculator that measures your personal risk of breaking a bone or having a fracture. It was developed at Sheffield University, U.K., and has been adopted by the World Health Organisation. It is free to anyone to access online, so you can work out your own fracture risk. FRAX

(<https://www.sheffield.ac.uk/FRAX/tool.aspx>) or Google **FRAX**.

**NICE (National Institute for Clinical Excellence) state that all men with prostate cancer should have their bone health assessed and a FRAX score completed.** This should be done in your clinic assessment. Please ask your healthcare team if it has not been done.

From the results of your FRAX score, you may be offered a Bone Density Scan or DXA (pronounced Dexa), as an outpatient. This simple, painless scan takes about 10-15 minutes. It gives a readout of your bone density, as an indicator of bone strength.

## Dental Hygiene

It is important to look after your teeth and gums. Some of the treatments for prostate cancer like steroids, or androgen deprivation therapy (ADT) can weaken your teeth. Make sure you have regular check-ups with your dentist and tell them what therapy you are on.

## Osteoporosis

Hormones regulate bone strength. If you are given treatments that block hormones to reduce the prostate cancer they may, as a side effect, weaken your bones.

Osteoporosis is defined as a skeletal disorder characterized by reduced bone strength that increases risk of breaking a bone even after a fall. On a DXA you get a score or number. The confusing thing is they are negative numbers. Osteoporosis is taken as a Tscore of -2.5 or lower. You may be offered treatment if your Tscore is higher than this depending on local agreed guidelines.

## **Treatments with bisphosphonates or denosumab : to strengthen bones**

Firstly, you need to have enough calcium and Vitamin D for any bone health treatment to work.

You might then be offered a once weekly tablet: either alendronate or risedronate. With either of these tablets you have to swallow it whole, no chewing, with a glass of tap water, and stay upright for 30 mins. It just won't work if you have it with breakfast, or go back to bed with a cup of tea, as the medicine will not be absorbed. So you have to take it in the morning after fasting over night. Then do something that keeps you upright for 30 minutes, like a walk, before the first cup of tea or coffee of the day. But it is only once a week.

Some people get stomach problems with alendronate or risedronate. If you have troublesome indigestion or any change in your swallowing then stop the tablet and contact your own GP. You should be offered an alternative treatment, such as injectable treatments given every 6 months (denosumab) or yearly (zoledronate).

Below is a summary your medical team will use to improve your bone health. If you think that your care does not match this, please talk to your medical team:

1. Discuss your lifestyle including smoking, alcohol, diet and exercise
2. Ensure you have enough daily Calcium and Vitamin D intake
3. Use the FRAX online risk assessment tool to check your personal risk of fracture
4. Based on this FRAX score and the linked guidance from the National Osteoporosis Guideline Group (NOGG), your team will either recommend:
  - a. Starting medication to support your bone health (bisphosphonates)
  - b. Having a scan to assess your bone density (DXA)



5. Depending on the result of your DXA, you will either be recommended to start on bisphosphonate treatment, and/or lifestyle changes
6. If your prostate treatment changes, or after 2 years, you and your team should re-assess your bone health again.

# Prostate Cancer and Bone Health Pathway

**Check bone lifestyle health in all men with prostate cancer if appropriate:**

1. Calcium intake - aim for 700mg/day (pint of milk = 700 mg, matchbox cheese =200mg= small pot of yoghurt)
2. Vitamin D intake of 800 iu(20mcg)/day
3. Smoking cessation and alcohol advice

**Complete FRAX score according to ethnicity**

1. Select secondary cause of osteoporosis if on ADT
2. Select NOGG Guidance

**NOGG Guidance**

**Recommended Lifestyle or BMD**  
Request a bone density scan (DXA) with vertebral fracture assessment (VFA)

**Recommended Bone Treatments**

1. Royal Osteoporosis Society Leaflet on Male osteoporosis
2. Refer to GP to for anti-osteoporosis medication:  
Oral bisphosphonates first line (Alendronate 70mg weekly if no contraindications / cautions)

**Lowest T score ≤ -2 or fragility fracture**

Yes

No

**Contraindications /cautions to oral bisphosphonates**

Problems swallowing tablets  
Major upper GI event in last 6 months  
Renal failure  
Hypocalcaemia  
Can't comply with administration instructions

**2nd line BTAs**

If over 65 years Denosumab 60mg 6 monthly  
if under 65 refer to metabolic bone unit for intravenous zoledronate yearly

**Lifestyle advice only**

Repeat pathway (FRAX +/-DXA) in 2yrs. If still not recommended for bone treatment and prostate therapy stable then continue with lifestyle advice.  
Re-assess if change in bone risk factors or prostate therapy



## Further information

If you would like an interpreter, please speak to the department where you are being seen.

Please also tell them if you would like this information in another format, such as:

- Easy Read
- large print
- braille
- audio
- electronic
- another language.

We have tried to make the information in this leaflet meet your needs. If it does not meet your individual needs or situation, please speak to your healthcare team. They are happy to help.

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Oxford University Hospitals NHS Foundation Trust  
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