1st Edition 11/20

Prostate Cancer and Bone Health

Protecting Bone Health

Bone health is an important part of your general health. When the structure of bone becomes weaker and less dense there is an increased risk of breaking. This is osteoporosis. It can lead to a higher risk of a bone breaking from a minor incident (such as a bump, fall or trip). Early diagnosis and management of osteoporosis can help protect bone health and reduce the risk of breaking a bone.

Prostate Cancer and Bone Health

Prostate cancer is an abnormal growth a cells in the prostate gland and is the most common cancer in Australian men.

In order to grow, prostate cancer depends on the supply of androgen or male hormones. The main androgen hormone is called testosterone. Most androgen is made in the testicles, but the adrenal glands (glands that sit above your kidneys) as well as the prostate cancer itself can also make a fair amount.

By lowering androgen levels or stopping them from getting into prostate cancer cells it is possible to slow the growth of the cancer. Hormonal therapy for prostate cancer is called Androgen Suppression Therapy (AST) or Androgen-Deprivation Therapy (ADT). It is the first type of treatment normally given when prostate cancer has spread (metastatic prostate cancer).

However, androgen protects against bone loss and important for bone health. Studies have shown that men with low testosterone levels (medically called hypogonadism) have an increased risk of developing osteoporosis and broken bones.

Most men diagnosed with prostate cancer are aged 65 and older. And as men get older with lower levels of natural testosterone their risk for osteoporosis also increases. However, a dramatic decrease in this hormone level when men receive hormonal therapy may lead to low bone density and increase risk of osteoporosis and fracture in men with prostate cancer.

Which hormonal therapies can affect the bones?

Hormonal therapies for prostate cancer can be given as injections or tablets.

Some 'switch off' the production of male hormones from the testicles by reducing the levels of a hormone produced by the pituitary gland. These drugs are called pituitary down-regulators or gonadotrophin-releasing hormone antagonists (GnRH antagonists). They are usually given as a pellet injected under the skin of the abdomen (Goserelin), or as a liquid injected under the skin or into a muscle (Leuprorelin).

Other drugs work by attaching themselves to proteins (receptors) on the surface of the cancer cells. This blocks the testosterone from going into the cancer cells. These drugs are called anti-androgens and are often given as tablets. A commonly used anti-androgen is bicalutamide.

Investigating Bone Health

It is important to discuss your bone health with your doctor so action can be taken early to keep your bones as strong as possible and reduce the risk of osteoporosis. Your doctor may refer you for a bone density scan to assess your bone health and may prescribe osteoporosis medications to protect your bone health during your cancer treatment and also recommend ongoing monitoring.

Prostate Cancer and Bone Health cont.

Other Common Risk Factors

Review other common risk factors for osteoporosis. If any risk factors apply to you – discuss these with your doctor.

Personal History	Medical Conditions	Medications
Previous fracture (from minor bump or fall)	Coeliac disease	Certain treatment for prostate cancer
Family history of osteoporosis (parent/sibling)	Overactive thyroid or parathyroid	Glucocorticoids (steroids)
Loss of height (3 cm or more)	Rheumatoid arthritis	Anti-epilepsy treatment
Smoking/Excessive alcohol	Early menopause/Low testosterone	
Inadequate calcium, vitamin D or lack of exercise	Chronic kidney disease or liver disease	
Age 70 years and over	Diabetes	

Calcium. Vitamin D. Exercise

Take simple steps to help support your bone health.

Focus On	Recommended
Calcium	• 1,000 mg per day from the diet • Increasing to 1,300 mg for women over 50 years and men over 70 years • If dietary intake is low a supplement may be required
Vitamin D	• Limited sun exposure – in summer a few minutes per day, in winter slightly longer • Avoid UV index above 3 • If vitamin D deficiency is confirmed by your doctor a supplement may be required
Exercise	• Specific mix of weight bearing, resistance training and balance exercises

For more information about prostate cancer please visit the **Prostate Cancer Foundation of Australia** www.prostate.org.au