

# Breast 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.

## Breast Cancer and Bone Health

Most breast cancers need the hormone estrogen to grow and survive, and effective cancer treatments work by starving the cancer of estrogen. However, estrogen is important in maintaining bone strength and protecting bones. Reduced levels of estrogen leads to weakening of the bones and poor bone health.

Therefore, women who have had breast cancer treatments are at an increased risk for osteoporosis and fractures. The risk of breast cancer increases with age and women are already particularly at risk of osteoporosis over 50 years of age because estrogen levels decline naturally at the time of menopause. Given the ongoing improvements in long-term survival rates from breast cancer, it is very important to protect your bone health during cancer treatment and reduce the risk of osteoporosis.

### Which breast cancer treatments affect the bones?

You may need a combination of treatments for your breast cancer including surgery, chemotherapy and hormone drugs. The following common treatments can affect your bones in different ways:

**Aromatase inhibitors** (for example anastrozole, letrozole and exemestane) reduce the amount of estrogen produced in the ovaries and are very effective against breast cancer in women who have been through menopause. Because aromatase inhibitors dramatically reduce estrogen levels, they can increase bone loss and the risk of fracture. However, this risk is much less if you have good bone strength before the treatment started.

**Goserelin** (Zoladex) reduces estrogen production and is used to treat breast cancer in younger women who have not yet been through menopause. Its effects on the ovaries are usually reversible, so once treatment is stopped estrogen levels rise again and most women recover at least some of the bone lost. However, goserelin may lead to early menopause and permanent estrogen loss in some women, increasing the risk of osteoporosis.

**Tamoxifen** blocks the effects of estrogen on breast cancer cells but has the opposite effect in bones. In women who have been through menopause tamoxifen can help protect bone strength. In younger women who have not reached menopause, tamoxifen may cause a small amount of bone loss but this is not thought to significantly increase the risk of fracture.

**Chemotherapy** treatments that destroy cancer cells may also damage the ovaries and affect the amount of estrogen produced. When chemotherapy finishes the ovaries can recover and some of bone loss may be replaced. Sometimes, chemotherapy will damage the ovaries permanently causing early menopause and increasing the risk of osteoporosis.

**Surgery** removing the ovaries may be carried out in younger women to help prevent the breast cancer coming back. Removing the ovaries reduces estrogen levels to those more usually seen at menopause which can increase the risk of osteoporosis.

# Breast Cancer and Bone Health cont.

## 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.

If you have already gone through menopause, your breast cancer treatment may cause your estrogen levels to fall even further increasing your risk of osteoporosis and fractures. If you have not yet reached menopause, your breast cancer treatment may bring about changes to your estrogen levels that mimic natural menopause. Your doctor may prescribe osteoporosis medications to protect your bone health during your cancer treatment and also recommend ongoing monitoring.

## 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 breast 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	<ul style="list-style-type: none"> <li>• 1,000 mg per day from the diet</li> <li>• Increasing to 1,300 mg for women over 50 years and men over 70 years</li> <li>• If dietary intake is low a supplement may be required</li> </ul>
Vitamin D	<ul style="list-style-type: none"> <li>• Limited sun exposure – in summer a few minutes per day, in winter slightly longer</li> <li>• Avoid UV index above 3</li> <li>• If vitamin D deficiency is confirmed by your doctor a supplement may be required</li> </ul>
Exercise	<ul style="list-style-type: none"> <li>• Specific mix of weight bearing, resistance training and balance exercises</li> </ul>

For more information about breast cancer please visit **National Breast Cancer Foundation** [www.nbcf.org.au](http://www.nbcf.org.au)

### For more information



Call our national toll-free number

**1800 242 141**



Visit our website

**healthybonesaustralia.org.au**



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