



It might be your mum, sister, girlfriend – or you. Naturopath **Tania Flack** shows you how to reduce your risk, get the best treatment, and help others to cope.

Fight breast cancer

We know that breast cancer most commonly affects women in their post-menopausal years; however, more and more young women are being diagnosed each year. The impacts of breast cancer are far-reaching. Along with a diagnosis come the physical and emotional consequences of the disease, and the financial fallout for families where only one parent can work for a period of time.

Despite the statistics, there is good news. The fantastic activities of several organisations, notably the McGrath Foundation and the National Breast Cancer Foundation, have successfully promoted breast cancer awareness, which has led to an increase in earlier diagnosis. Plus, ongoing research, breakthroughs in medical science and new treatments have helped to ensure that women diagnosed with breast cancer are more likely to have a better outcome. And survival rates are improving: the Australian Government Report to the Nation on breast cancer in 2012 reported

that 89 out of every 100 women diagnosed with invasive breast cancer survived five or more years beyond diagnosis.

Healthy hormones

Breast tissue is extremely sensitive to hormones, and the very development of the breast is triggered by sex hormones, particularly oestrogen. From puberty to menopause women secrete both oestrogen and progesterone, two hormones that dictate sexual development and are vital for reproduction. They're both constantly fluctuating and keeping each other in check, like a delicately balanced see-saw.

In the lead-up to menopause, we start to produce less progesterone, while oestrogen levels decrease more slowly. Even after menopause, oestradiol, the most potent form of oestrogen, continues to be made in small amounts in the adrenal gland and fat tissues. This may lead to 'oestrogen dominance', which means we have circulating levels of oestradiol that are not held in check by the presence of progesterone.

A recent major review of a number of studies, published in *Maturitas*, reported that increased oestradiol levels in post-menopausal women were associated with a two- to three-fold increased risk in breast cancer. Increased breast density (often associated with oestrogen dominance) has

1 in 8

The number of Australian women expected to develop breast cancer during their lifetime.

also been identified as a risk factor in a study published in the *Journal of the National Cancer Institute*.

Our metabolism of oestrogen is particularly important; ineffective bowel and liver function, excess alcohol, poor diet and a low intake of fresh vegetables and fruit can all have a negative impact. According to Melissa Copeland from Healthscope Functional Pathology, how well we metabolise oestrogen can be measured in a simple urine test, which can be organised through a health practitioner. "A 2:16 oestrogen metabolite test can identify if you are processing your oestrogens in a healthy way or if you need extra support," she says. "Luckily, the treatment for those shown to have poor oestrogen metabolism is relatively simple and involves long-term changes in diet and nutritional supplementation." This understanding of how oestrogens affect breast tissue forms the basis of many of these preventive recommendations:

1 Lose the fat

Perhaps one of the most positive things you can do to prevent breast cancer

Stress less

Stress has profound detrimental effects on many areas of health and the connection between stress and the development of breast cancer has been the subject of many studies. In a study published in *Cancer Detection and Prevention*, women who experienced major stressful life events, daily ongoing stress or depression have been shown to have a 3.7 times higher risk of developing breast cancer. Other studies have reported similar results and also linked it to the level of responsibility at work, finding that professional women in managerial roles were at greatest risk. During stress the body pumps out a range of hormones, including adrenalin and cortisol, which can suppress the immune system and affect the balance between progesterone and oestrogen. As it is impossible to avoid stress in our lives, taking a proactive approach to stress management will help to reduce the negative effects.

Simply the best ...

Anti-cancer vegetables	Broccoli, kale, cabbage, Brussels sprouts, cauliflower, cress, bok choy
Stress busters	Exercise, meditation, yoga, tai chi
Self-care activities	Maintain a healthy weight, exercise five times a week, manage stress, avoid alcohol, don't smoke

is to achieve and maintain a healthy body weight. Studies show a clear association between obesity and breast cancer. Remember, excess fat tissue can lead to an increased production of oestradiol, which may lead to oestrogen dominance. A healthy body fat percentage for women is anywhere between 21-33 percent. The more towards the lower end of the scale you are, the more protected you are. If you are overweight and can't seem to lose weight, get professional help.

2 Keep moving

Exercise is beneficial for us in so many ways; not only does it lift mood, boost energy and strengthen the body, it also significantly reduces the risk of breast cancer. While regular exercise helps us to keep a healthy fat-to-muscle ratio, and over time also promotes fat loss, the benefits go far beyond that. Studies show that regular exercise reduces a range of biomarkers that are associated with breast cancer, including c-reactive protein (a marker of inflammation) and insulin-like growth factors (thought to stimulate the growth of breast cancer). A Maturitas study shows that breast cancer survivors who exercise regularly reduce their risk of mortality by an amazing 30 percent.

Most interestingly, exercise actually changes the way your body metabolises oestrogen. A study found that when pre-menopausal women exercised for 30 minutes five times a week for 16 weeks, the way they metabolised their oestrogen changed dramatically. Women who exercised had a 25 percent increase in oestrogen metabolised through a protective pathway, compared to women in the

sedentary control group. It's therefore recommended that women do 30 minutes of moderate exercise five days a week.

3 Check vitamin D

Vitamin D is perhaps best known for its ability to maintain strong bones, but it also has significant beneficial effects on the immune system and a mounting body of evidence indicates that it protects against breast cancer. Once vitamin D is broken down in the body, it acts like a hormone with the ability to modulate the immune system, decrease inflammation and prevent the abnormal proliferation of cells. Women with breast cancer are generally found to have lower levels of vitamin D while those women with higher levels of vitamin D who do develop breast cancer tend to have smaller tumours and better survival rates.

Recent research published in the *Annual Review Pharmacology and Toxicology* shows that maintaining healthy levels of vitamin D may protect women from breast cancer by up to 50 percent, although more

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research needs to be done to work out what the best level of vitamin D should be to offer this type of protection. We get vitamin D from foods like fish and dairy and we can also synthesise it from sunlight. However, vitamin D deficiency is very common in Australia due to poor diet and protecting ourselves against the harmful effects of the sun. It is also not unusual for people to have gene polymorphisms that increase their risk of low vitamin D. Get your levels checked with your health practitioner and supplement if needed.

4 Eat your veggies

We know that a high vegetable intake provides essential vitamins, minerals, and antioxidants to keep us healthy. It also ensures healthy levels of dietary fibre, which promotes good bowel function and healthy hormone metabolism. However, there is one group of vegetables that offer particular benefit when it comes to breast cancer prevention. Cruciferous vegetables, like cauliflower, cabbage, broccoli and bok choy, contain special phytochemicals known as indoles and isothiocyanates, which enhance the body's ability to remove toxins and promote the healthy metabolism of oestrogen.

A recent major review of the research published in *The Breast* examined data from 18,673 women and found that a diet rich in cruciferous vegetables was associated

with a significantly reduced risk of breast cancer. Another study, published in *Cancer Research*, this time investigating their protective effects in women already diagnosed with breast cancer, found that women who had the highest intake of crucifers reduced their risk of dying from the disease by 62 percent and reduced their risk of it recurring by 35 percent.

5 Avoid alcohol

You might enjoy a glass of wine after work each day to unwind, but it's a habit that may increase your risk of developing breast cancer. Even low to moderate amounts of alcohol have been associated with an increased risk of breast cancer. Drinking between 15-30g of alcohol (one to two standard drinks) per day over the course of a woman's life can increase her risk of developing breast cancer by 33 percent, particularly in women with a low body weight. This risk was found to be the same regardless of the type of alcohol consumed. While we do know that alcohol acts as a toxin in the body, how it contributes to breast cancer risk is unclear. Studies suggest that it interferes with DNA repair on some level. So limit your alcohol intake.

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Complex causes

What causes breast cancer? If only there were a simple answer to this question. Breast cancer is a complex disease process that is thought to be triggered by a 'perfect storm' of factors, including hormonal changes, inflammation, genes, environment, diet and lifestyle. Some of those risk factors may be difficult or impossible to modify – for example, being older, starting your periods before the age of 11, never having had a baby or being older than 30 when your first child is born.

We also know that some breast cancers are due to inherited gene mutations, handed down through families. Recently, Angelina Jolie bravely went public with her decision to undergo a preventive mastectomy in order to

avoid breast cancer. She was found to be a carrier of the BRCA1 gene, which increases the risk of developing breast cancer by 60-80 percent and ovarian cancer by 40-50 percent.

Unfortunately the answer doesn't solely lie in identifying those at greatest genetic risk, as less than five percent of all breast cancers are found to be positive for one of the two faulty BRCA genes. Genes associated with oestrogen metabolism, detoxification pathways, inflammation, oxidative stress and cell repair may also play a role in breast cancer. We know that positive changes in diet, lifestyle and environment may alter the way genes work and help protect us against this killer disease.

Case study: Glenys Gaston



Glenys, a renowned central Victorian artist, was found to have a lump in her breast at a regular mammogram in 2004. She was

surprised, as she hadn't noticed it herself and there had been no history of breast cancer in the family. She was referred for further investigations and was found to have breast cancer. Glenys says she was in shock initially after being given the news and wished someone had been with her at the time of diagnosis. She underwent surgery to remove the lump and had three months of radiation therapy. Despite having great support from her daughter and family, Glenys says that the process of going through treatment was stressful. "Treatment was made a little easier by the wonderful support of the specialist breast care nurses", says Glenys. Today Glenys is cancer-free and has made a wonderful recovery; she has regular mammograms and recommends that all women do the same.

