

## What other lifestyle factors affect breast cancer risk?

### Vitamin and mineral supplements

There is evidence that a plant-based diet rich in vitamins and minerals is protective against breast cancer. The nutrients found naturally in fruits and vegetables, which include fibre and many types of antioxidants, may all work together to produce beneficial effects. However, research using vitamin and mineral supplements shows mixed findings. For instance, some studies using vitamin or mineral supplements show beneficial effects whereas others show adverse effects. Therefore, until the evidence is clearer, the best advice is to try to get all the nutrients you need from eating a wide variety of nutritious plant based foods.

However, some people may benefit from specific supplements such as calcium, vitamin D, omega-3 fatty acids and iron as many people find it difficult to meet their requirements for these nutrients from their diet alone. There are also situations where a broad multivitamin and mineral supplement may be necessary such as when you are unable to eat a nutritious, balanced diet most of the time. However the amount of vitamins and minerals should not exceed more than twice the recommended daily requirement. If you are considering taking supplements, it's a good idea to speak to your doctor or dietitian about a safe amount to take.

### Is physical activity important?

It is well established that regular physical activity reduces the risk of breast cancer, possibly because exercise has a direct effect on reducing hormones thought to be involved in breast cancer development.

The recommended amount of physical activity is at least 30 minutes (preferably up to 60 minutes) of moderate exercise (e.g. brisk walking) on most days. This can be done in short bouts of 10 minutes or in one long session.

As well as reducing breast cancer risk, exercise helps maintain weight in the healthy range and reduces the risk of cardiovascular disease and many other types of cancer.



### What about other foods like chocolate, coffee and sugar?

There is no evidence that any particular food increases or decreases the risk of breast cancer. However, any food eaten in excess can lead to weight gain, which is an established risk factor for breast cancer. If a large quantity of sugary or other high-GI foods, such as white bread, are eaten on a regular basis, there is the potential for this to cause high levels of insulin which may promote cancer development.

Conversely, there is no evidence to suggest that eating large amounts of particular foods, such as broccoli or goji berries, will reduce the risk of breast cancer. There are many beneficial compounds found in foods, so eating as wide a variety as possible will help ensure you get as many of these compounds as possible.

## What is healthy eating?

Healthy eating means eating a varied diet consisting of a minimum of five serves of vegetables and two serves of fruits each day. The amount of protein, fat and carbohydrate you need is determined by your age, height and activity level.

The Dietary Guidelines for Australian Adults recommend that you:

- > Enjoy a wide variety of nutritious foods
- > Eat plenty of wholegrain breads and cereals
- > Eat a diet low in fat (particularly saturated fat)
- > Keep a healthy body weight by balancing physical activity and how much you eat
- > Limit how much alcohol you drink
- > Eat only moderate amounts of sugars and foods containing added sugar
- > Choose low-salt foods and use only a little extra salt
- > Encourage and support breast feeding

## What can I do to reduce my risk of breast cancer?

Having a healthy lifestyle is the most important thing that you can do to prevent breast cancer and to reduce your risk of other chronic illness such as cardiovascular disease and diabetes. This means keeping your weight in the healthy range, eating a varied and balanced diet, exercising regularly and limiting or completely avoiding alcohol. For further advice about lifestyle and breast cancer specific to your circumstances, consult an accredited practising dietitian.

Regular breast checks and mammograms are the best way to pick up breast cancer early.

### Useful contacts/websites

<b>Cancer Australia</b>	<a href="http://cancer australia.gov.au">cancer australia.gov.au</a>
<b>Cancer Council</b>	<a href="http://cancer.org.au">cancer.org.au</a>
<b>Cancer Council helpline</b>	13 11 20
<b>Breast Cancer Network Australia (BCNA)</b>	1800 500 258 <a href="http://bcna.org.au">bcna.org.au</a>

## Supporting People with Breast Cancer Today and Every Day

- ✿ Providing screening, diagnosis, treatment and care by expert teams
- ✿ With world-class research, education and innovation
- ✿ Engaging the help of our community and supporters
- ✿ To shine a Ray of Hope



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# Diet, Lifestyle & Breast Cancer Risk

Westmead Breast Cancer Institute



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## What lifestyle factors are important in breast cancer risk?

There are several lifestyle factors believed to be associated with an increased risk of developing breast cancer. These include being overweight, having a poor diet, drinking alcohol, smoking and not doing enough physical activity. These factors may affect the levels of some hormones involved in breast cancer development.

### Overweight and obesity

There is strong scientific evidence showing that women who are overweight or obese after menopause have a higher risk of developing breast cancer than women whose weight is in the healthy range.

The reason obesity increases the risk of breast cancer after menopause is likely to be due to overweight women having higher levels of oestrogen than non-overweight women. This is because after menopause oestrogen is produced by fatty body tissue rather than by the ovaries. Therefore, women with high levels of fatty tissue in their bodies after menopause have higher levels of oestrogen than women with lower amounts of fatty tissue.

Body mass index (BMI) is a number used to tell if your weight is in the healthy range. You can work out your BMI by dividing your weight (in kilograms) by your height (in metres) squared.

For example, for a woman who weighs 63 kg and is 165 cm (1.65 m) tall:

$$\begin{aligned} \text{BMI} &= 63 / (1.65)^2 \\ &= 23 \end{aligned}$$

The woman in the example above has a BMI of 23, which is in the healthy range.

What is a healthy BMI?

< 18	Underweight
18–24	Healthy weight
25–30	Overweight
> 30	Obese
> 35	Morbidly obese



### Alcohol

Research has consistently shown that drinking alcohol increases the risk of breast cancer. The evidence suggests that having one alcoholic drink a day increases the risk of breast cancer by 9%, and that this risk increases with higher alcohol consumption. For example, a woman who has three standard drinks of alcohol daily has a higher risk of breast cancer than a woman who has one or two standard drinks a day.

### Fatty foods

There is a small amount of evidence suggesting that some types of fat in the diet increase the risk of breast cancer, however the research is still not conclusive. Fat is very calorie dense, so a high fat diet is more likely to cause weight gain, which increases the risk of breast cancer.

It is important to keep in mind that not all fats are unhealthy as small amounts of poly- and mono-unsaturated fats ("healthy" fats) are essential for health. In fact some recent research suggests that diets that contain fats such as olive oil and fish oils may actually decrease the risk of breast cancer. Saturated and trans fats (which are found in foods such as fatty meats, takeaway foods and processed foods such as biscuits and chips) on the other hand should be avoided as they may increase the risk of breast cancer.

### Fruit and vegetable consumption

A plant-based diet is known to protect against a range of cancers, particularly those of the digestive tract. These foods contain a variety of substances called phytonutrients, some of which are referred to as antioxidants, that are believed to reduce the risk of cancer. Plant foods also tend to be high in fibre and low in fat which can assist with weight maintenance, therefore indirectly reducing the risk of breast cancer.



### Dairy foods

There is a lot of misinformation about the role of dairy food in cancer development. Dairy foods are an important source of calcium, protein and vitamins which are essential for health. Some studies show that dairy foods are protective against breast cancer while others show either no association or a very slight increased risk. It is possible that the increased risk is due to the high fat content of some dairy foods, however this has not been proven. In addition, they contain lots of compounds that have the potential to prevent breast cancer. The recommendations for dairy foods advise that three serves of low fat dairy foods each day are consumed.

### Phytoestrogens and soy

Phytoestrogens are naturally occurring oestrogens found in plant foods. Many women eat foods high in these nutrients, or take phytoestrogen supplements, in the belief that they will help to reduce menopausal symptoms, however research has not been able to prove that they are helpful. There are many foods that contain phytoestrogens such as soy beans and foods containing soy, such as tofu, tempeh and soy drinks, multigrain bread, linseeds and sesame seeds. There is some evidence to suggest that phytoestrogens may have a protective effect against breast cancer. However, it is also possible that eating very high amounts of phytoestrogens could cause hormone-sensitive cancers to grow.

Until more is known about the effect of phytoestrogens on breast cancer, women are advised that one to two serves of foods containing phytoestrogens can be safely eaten each day as part of a nutritious diet. However, taking phytoestrogen-containing supplements or eating large amounts of concentrated soy products, such as soy protein isolate or phytoestrogen supplements, is not recommended.

### Red meat and other protein-rich foods

There has been some research suggesting that eating red meat, especially meat that has been charred (burnt on the outside), may cause breast cancer and other cancers. While charred meats are known to produce carcinogenic (cancer-causing) substances called heterocyclic amines, which have been linked to bowel cancer, their association with breast cancer has not been proven at this stage.



It is possible that the association between meat consumption and breast cancer is due to the high amounts of saturated fat found in some meats. Alternatively it is possible that eating a diet containing a lot of fatty meat leads to weight gain, which increases the risk of breast cancer.

There is no association between chicken and breast cancer whereas there is some suggestive evidence that fish reduces the risk of breast cancer. Fish and lean chicken (without the skin) are good sources of protein, and can be included as part of a healthy diet. Fish is also a source of vitamin D and omega-3 fatty acids, which are under investigation for their potential benefits in reducing the risk of breast cancer.

### Carbohydrates and the glycaemic index (GI)

Carbohydrates that are rapidly absorbed are called high GI carbohydrates. High GI foods have a greater effect on insulin levels, particularly in overweight women who are insulin sensitive. Insulin is a hormone essential for normal carbohydrate metabolism, and if it circulates in high amounts for a long time it may stimulate to cancer growth.

There is still a lot of research to be done, but the best advice at this stage is to eat a diet containing moderate amounts of low-to-moderate GI foods and limit excess consumption of high-GI foods.