

Managing your breast cancer risk: Prevention strategies



If you have been told by your doctor that you are at high risk of breast cancer, you are probably wondering if there is anything you can do to reduce your risk.

This information sheet tells you about prevention strategies that may reduce your risk. It is based on current scientific evidence. Other sheets in this series tell you about screening methods and lifestyle factors.

This information is for women who are at high risk because they have:

- a strong family history of breast and/or ovarian cancer, and/or
- a change in a gene that normally protects against breast/ovarian cancer (see: gene change).

What are cancer prevention strategies?

Your doctor may discuss surgery as a way of preventing cancer. Removal of breast tissue (mastectomy) and removal of ovarian tissue (oophorectomy) are possible options. Cancer prevention can also involve taking anti-oestrogen drugs.

Preventive strategies: removing breast tissue and reconstruction

A preventive mastectomy is an operation where as much breast tissue as possible is removed to prevent a new breast cancer from occurring in the future. Not every breast cell can be removed by surgery, so a small breast cancer risk still remains after surgery – less than 5% over a lifetime.

Reconstruction is further surgery to rebuild the breast, for example by using a breast implant or your own fatty or muscle tissue.

Not all types of surgery or reconstruction are suitable for all women. You need to discuss your situation with an experienced

breast surgeon who is familiar with the techniques and the reasons for the surgery.

There are different types of mastectomy:

Total mastectomy

This operation removes as much breast tissue as possible. This includes the nipple and areola (coloured skin around the nipple) and the skin covering the breast.

Skin sparing mastectomy

This also removes as much breast tissue as possible, including the nipple and areola, but leaves the skin. This enables a better reconstruction of the breast following the mastectomy.

Subcutaneous mastectomy

Like the skin-sparing mastectomy, this removes as much breast tissue as possible but leaves the nipple, areola and skin. The incision/s to the breast in a subcutaneous mastectomy are less obvious than in a skin-sparing mastectomy. While this is likely to give the best appearance after reconstruction, more breast tissue at risk of cancer is left behind. This procedure still substantially reduces the risk of breast cancer however.

Breast reconstruction

Many women decide to have a breast reconstruction after a mastectomy. Some women decide not to: it's a personal choice.

Breast reconstruction is a separate surgical procedure. It may be done by a different surgeon from the one who does the mastectomy. It may be done at the same time as the mastectomy or may be done later.

There are different ways of reconstructing the breast, but not all methods are suitable for each woman. Your decision will be affected by factors such as your breast size, body shape, the amount of time you have available for

recovery, cost and the surgeon's advice.

Check ups following surgery

Following surgery, most women do not need to have regular breast checks. However, depending on your situation, follow-up may be necessary so you should check with your surgeon or doctor what will be best for you.

Making decisions about surgery

Making the decision about a preventive mastectomy is not easy. Not all women at high risk of breast cancer decide to have the surgery; a small number do. These are some of the things that influence a woman's decision:

- having already had a breast cancer
- having had a scare with an abnormal screening test
- anxiety about getting a breast cancer
- faith in the ability of screening tests to pick up a cancer
- other influences, such as family and work commitments.

It is important to realise that if you have already had a breast cancer that having the other breast removed only stops new breast cancers developing. It will not reduce any risk you may have of your original breast cancer recurring.

If you are considering this surgery, talk with plastic surgeons and psychologists/psychiatrists who are trained in cancer risk management.

How would preventative mastectomy reduce my risk of cancer?

There is evidence that removing the breast tissue reduces the risk of breast cancer to less than 5% over a lifetime. This is well below the risk of a woman at average risk of breast cancer, that is, a woman who has no family history of breast cancer.

Preventative strategies: removing the ovaries and Fallopian tubes

The ovaries produce oestrogen which can impact on breast cancer risk. An operation (known as oophorectomy) removes the ovaries and Fallopian tubes to prevent cancer. If you are at risk for both breast and ovarian cancer, your doctor may discuss this with you as a possible prevention strategy.

Most women can have the surgery using keyhole surgery as a day procedure or an overnight stay. Seek advice from an experienced cancer gynaecologist who is familiar with the techniques and reasons for the surgery.

How would preventative oophorectomy reduce my risk of cancer?

In women at risk of ovarian and breast cancer, there is evidence that removing the ovaries and Fallopian tubes reduces the risk of ovarian cancer by at least 80%.

If a woman has the surgery before natural menopause she also has some additional benefits:

- the risk of breast cancer is reduced by up to a half (50%)
- and in women who have already had a breast cancer, the risk of a second breast cancer in the other breast may be reduced by up to 70%.

Will I go through menopause?

Once your ovaries are removed, you won't be able to conceive a baby naturally. You will go through menopause.

Normally, menopause is a gradual process. However, with surgery, it happens straight away. You are more likely to have symptoms than with normal menopause.



Symptoms may include hot flushes, difficulty with sleeping, vaginal dryness, decreased sexual desire, joint and muscle aches, mood changes and bone thinning (osteoporosis). Talk to your doctor about preventing bone thinning and heart disease, and also about treating the symptoms, if they trouble you.

Preventative strategies: anti-oestrogen drugs 'medical prevention'

Certain drugs act like 'anti-oestrogens', which means the effect of oestrogen is blocked in breast tissue. This may reduce the risk of cancer occurring, since breast cancer can be promoted by oestrogen.

One type of this class of drugs is called 'SERMs', which means 'selective [o]estrogen receptor modulators'.

Tamoxifen is most commonly used in Australia to prevent recurrent breast cancer in women who have been treated for breast cancer. Raloxifene is used to treat severe osteoporosis in women who have been through menopause. However, both drugs reduce the risk of hormone receptor positive breast cancer by up to a half (50%). Neither is subsidised for this use in Australia.

If you have been through menopause, you may also wish to talk to your doctor about a newer anti-oestrogen drug, Anastrozole, being tested in the 'IBIS II' trial for postmenopausal women at high risk of breast cancer. More information is available from Family Cancer Centres.

What that word means

average risk This means that someone's chance of developing a disease is no higher or lower than average. Also known as population risk.

Fallopian tubes The tubes that carry the ova (eggs) from the ovary to the uterus. Each woman has two Fallopian tubes, one from each ovary.

Family Cancer Centres Where people can get information about a family cancer history. Their services include genetic counselling, testing, medical advice, psychological support and information about research.

family history A careful assessment by a Family Cancer Centre of cancer occurrences in a family.

gene change A change somewhere in a gene. A change may be inherited or be caused by an error while a cell is reproducing itself, by factors such as some chemicals or viruses, or by events that science is yet to discover. A change in a gene may lead to disease such as cancer. However, people with a change in a gene that may predispose to cancer don't always get cancer. Also known as a gene error or gene mutation.

high risk This means that someone's chance of developing a disease in the future is higher than average, due to a family history of the disease and/or a change in a gene known to predispose to that disease. People assessed as at high risk are advised to consider strategies that could reduce their risk.

mastectomy Surgical removal of the breast.

oestrogen One of several hormones that control female reproductive development. Oestrogen is mainly made in the ovaries.

ovaries Female sex organs that secrete important hormones and contain the ova, which are eggs released at ovulation.

recurrent cancer Cancer that grows from cells of a primary cancer which evaded treatment. Recurrent cancer may appear up to 20 years after the primary cancer was treated.

Last updated: March 2011

