breast cancer
research centre-wa

Incorporating Perth Breast Cancer Institute

FAMILY HISTORY

of Breast Cancer

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Breast cancer is common and affects 1 in every 8 women during their lifetime. For most women, this is the result of chance and is related to ageing. It may also be a result of environmental and lifestyle factors.

Only 5% of breast cancers are thought to occur due to an inherited genetic fault. Genetic faults can be passed down through either the mother's (maternal) or father's (paternal) line. Factors that may indicate a genetic fault in a particular family include multiple close relatives (men or women) with breast or related cancers (such as prostate, pancreatic or ovarian cancer), cancer diagnosed at a young age (under 40) and more than one related cancer occurring in the same person.

Genetic counselling and testing may be valuable for families in whom there is a suspected genetic fault. High Risk Breast Clinics provide information on preventive and surveillance options for women who are at increased risk of breast cancer due to their family history.

RISK

Categories

When assessing a family history, it is important to consider first and second-degree relatives on both sides of the family. Women are then placed into one of three categories. Each side of the family is assessed separately and the side with the highest risk is used to determine a woman's individual risk of breast cancer.

CATEGORY 1
(At or slightly above average risk)

This comprises 95% of women. The lifetime risk of breast cancer is 1 – 1.5 times average. It includes women with:

- No family history of breast cancer, or
- History of breast cancer in one first-degree relative aged 50 or older, or
- History of breast cancer in one second-degree relative at any age, or
- History of breast cancer in two second-degree relatives, both aged 50 or older.

CATEGORY 2
(Moderately increased risk)

This comprises less than 4% of women. The lifetime risk of breast cancer is 1.5 – 3 times average. It includes women with:

- One first-degree relative with breast cancer diagnosed before age 50, or
- Two first-degree relatives diagnosed with breast cancer*, or
- Two second-degree relatives with breast cancer with at least one diagnosed under age 50*, or
- A first and second-degree relative with breast cancer*

*on the same side of the family and without an additional high-risk feature as outlined below

CATEGORY 3

(Potentially high risk)

This comprises less than 1% of women. The lifetime risk of breast cancer is 3 times average or greater. It includes women with:

- Two first or second-degree relatives with breast or ovarian cancer (on the same side of the family) plus
  - Additional relatives with breast or ovarian cancer
  - Breast and ovarian cancer in the same woman
  - Two separate diagnoses of breast cancer in the same woman
  - Breast cancer diagnosed under the age of 40
  - Breast cancer in a male relative
  - Ashkenazi Jewish ancestry
  - A relative who has tested positive for a high-risk genetic fault.

- In addition, women who have received mantle radiotherapy (such as for Hodgkin's Lymphoma) at a young age, may also be at increased risk of breast cancer.

iPrevent is a useful breast cancer risk assessment and risk management decision tool which can be accessed at www.iprevent.net.au. It is designed to calculate a woman's personal risk of breast cancer and facilitate prevention and screening discussions between the woman and her doctor.

MANAGING WOMEN AT INCREASED RISK

of Breast Cancer

LIFESTYLE FACTORS

There are several steps a woman can take to reduce her risk of breast cancer such as a breastfeeding if possible, having a healthy diet and minimising alcohol intake. Regular physical activity is important, as is avoiding post-menopausal weight gain. Hormonal treatments such as the contraceptive pill and menopause hormone therapy may increase the risk of breast cancer slightly and the benefits and risks should be discussed with a woman's General Practitioner on an individual basis.

BREAST SURVEILLANCE

Breast surveillance aims to pick up changes due to breast cancer at an early stage to improve the long-term outcome. It is important for a woman to be familiar with the normal appearance and feel of her breasts and to promptly report any changes to her doctor. A clinical breast examination (by a doctor) is

recommended to be performed every year. Mammography (breast x-ray) is the best test for early detection of breast cancer and having a regular mammogram has been shown to reduce the risk of dying from breast cancer. Women at average risk are recommended to commence two-yearly screening mammography at 40-50 years of age. The age of commencement and frequency of screening depends on a woman's individual risk category. Mammograms are recommended to start earlier and be performed more often (annually) for women in a higher risk category.

Additional surveillance such as breast MRI or ultrasound may be required for women at higher risk. There are specific Medicare requirements for breast MRI and this test should be considered as part of an overall "high-risk" management strategy in a designated breast clinic.

PREVENTION OF BREAST CANCER

Medications are sometimes taken by women to reduce their risk of developing breast cancer. One such medication is tamoxifen which works by blocking the effects of the hormone estrogen on the breast tissue. Tamoxifen has been shown to reduce the risk of breast cancer by up to 40% when taken daily for five years. The potential risks need to be carefully balanced against the benefit for each individual by an experienced doctor.

Surgery to remove the breasts (risk reducing bilateral mastectomy) with reconstruction also has a role in risk reduction in some women, particularly those with a high-risk genetic fault. Referral to a Breast Surgeon for further discussion is important to allow a women to make an informed choice.

Some women at high risk of breast cancer are also at increased risk of ovarian cancer and may need to be referred to a Gynaecological-oncologist to discuss risk management options. Unfortunately, ovarian surveillance with ultrasound or blood tests is not useful and therefore is not recommended.

GENETIC *Testing*

Genetic testing involves testing a person's genetic code (DNA) to search for an inherited genetic fault, usually by means of a blood or saliva test. Genetic faults in genes such as BRCA 1 and BRCA 2 have been found to increase a woman's risk of breast cancer. These genes are important for controlling cell growth and when faulty, allow cells to grow out of control leading to cancer.

Genetic testing may be offered in cases where there is a high likelihood of a genetic fault being found. This normally requires a significant family history of breast and/or related cancers. There are several risk calculation tools used by geneticists to ascertain if a genetic test is likely to be useful in a particular family. Where there is a greater than 10% chance of identifying a gene fault, families can access MBS funded genetic testing. Ideally, it is best to offer such testing to an affected living family member with breast or a related cancer in the first instance as the ability to interpret the genetic data and the probability of identifying a gene fault is greater in such individuals. If a familial genetic fault is found, then (affected or unaffected) blood relatives of the family member tested are offered predictive genetic test to see whether they have inherited the same gene fault. Genetic testing should be considered after appropriate counselling and referral to a genetic counsellor is important.

HIGH RISK

Breast Clinics

High Risk services operate at both public hospitals and private breast clinics. Referral to a high-risk breast clinic will allow a detailed assessment of the woman's family history of breast cancer to be made. Appropriate risk management strategies can then be implemented including commencement of annual breast surveillance and referral for surgery if appropriate. Referral for genetic testing can also be made if indicated.

It is important to remember that most women with a family history of breast cancer will NOT themselves develop breast cancer. There are many strategies for reducing the risk of cancer and for detecting cancerous changes early which will maximise the chance of successful treatment and long-term survival.

Useful Resources

Breast Cancer Research Centre-WA | **6500 5576**

Cancer Council Cancer Helpline | **13 11 20**

BreastScreen WA

breast cancer
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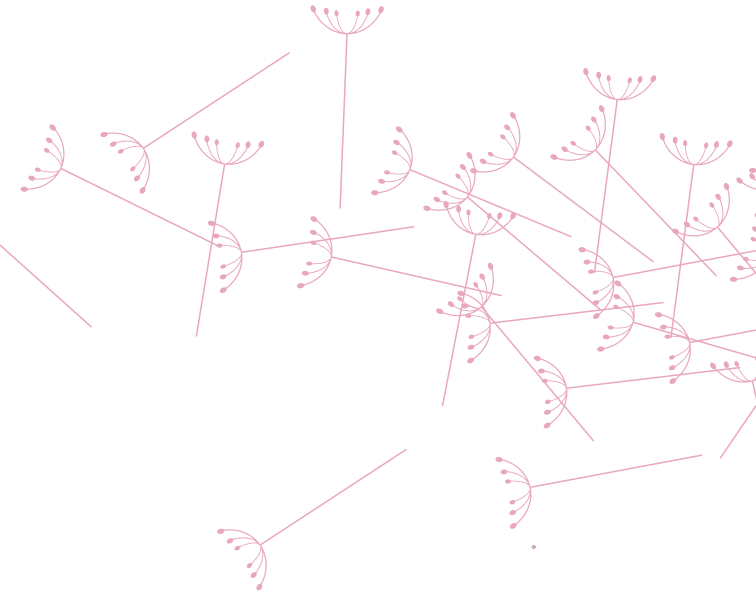

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