FAMILY HISTORY

FACT SHEET

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This fact sheet was produced by Breast Cancer Network Australia

When diagnosed with breast cancer, most people want to know whether their relatives are at increased risk of developing breast cancer. Most women who develop breast cancer do not have a family history. In fact, only five to 10 per cent of all breast cancers are the result of a strong family history. However, having a strong family history of breast and/or ovarian cancer may increase your risk.

What is meant by a family history of breast cancer?

A family history of breast cancer is a well-established breast cancer risk factor. A family history can occur:

- just by chance, because breast cancer is common (for every eight women in Australia, one will develop breast cancer before the age of 85)
- because family members are exposed to similar environmental factors
- and rarely (in around five to 10 per cent of all cases) because of an inherited predisposition to breast and ovarian cancer from inherited mutations (faults) in cancer-protection genes (hereditary breast cancer).

Women with a first-degree relative (i.e. mother, sister, daughter) who has had breast cancer have on average twice the risk of developing breast cancer compared with women with no affected first-degree relatives. The more first-degree relatives with breast cancer, the greater the risk.

It is important to note, however, that eight out of nine women who develop breast cancer do not have a mother, sister, or daughter with breast cancer. While women who have first-degree relatives with a history of breast cancer are at increased risk of the disease, most will never develop breast cancer.

Women with breast cancer are often concerned that their breast cancer was caused by ‘an inherited faulty gene’ that could be passed onto future generations. These breast cancers are known as ‘hereditary’ breast cancer and they are very rare.

Features that may alert doctors to consider the possibility of hereditary breast cancer include:

- young age (under 40 years) at diagnosis of breast cancer
- a number of first-degree relatives with breast and/or ovarian cancer
- many people on the same side of the family who are affected by cancers such as ovarian, pancreatic, prostate, sarcoma or melanoma
- breast cancer in a male
- breast cancer occurring in both breasts
- breast and ovarian cancer in the same woman
- Ashkenazi Jewish ancestry.

What is my risk through family history?

Most women in Australia (90–95 per cent) have the average risk for developing breast cancer of one in eight. If you have concerns about your risk because of family history, a simple web-based breast cancer risk calculator can help to clarify whether you have a higher risk than most.

This calculator consists of a set of questions that ask about breast cancer in your family.

By answering the questions, you will find whether you are at the average population risk, moderately

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increased risk or at potentially high risk, for developing breast cancer. You can use the risk calculator by visiting petermac.org/iprevent

In addition, you may also want to talk to your doctor about completing Cancer Australia's Familial Risk Assessment – Breast and Ovarian Cancer (FRA-BOC) assessment. FRA-BOC is an online tool designed for use by health professionals that provides an estimation of the risk of developing breast cancer based on family history, and identifies women who should be referred to a family cancer clinic for further assessment and advice.

Are there specialists I can see about my risk?

All states and territories in Australia have family cancer clinics offering specialist genetic services to individuals and families concerned about cancers in their families (familial cancers). Genetic counsellors and specialists (geneticists or oncologists) provide advice and care to such families.

To find a family cancer clinic near you, you can telephone the Cancer Council on 13 11 20 or go to cancer.org.au and use the search function.

What is the link between genes and breast cancer?

While cancer is always caused by genetic mutations (abnormalities in the genetic material) in the breast tissue, only five to 10 per cent of breast cancers result from mutations in high-risk breast cancer predisposition genes, which can be inherited.

Ninety to 95 per cent of breast cancers are due to genetic abnormalities that happen as a result of the aging process and life in general (somatic mutations) and are not able to be inherited.

What about hereditary breast cancer?

A very small proportion of breast cancer is due to gene mutations that can be inherited. A number of high-risk gene mutations have been identified including BRCA1, BRCA2, TP53, PTEN and CHEK2. Risk of breast cancer is increased by two to 10-fold in women with mutations in these genes.

Research released in 2017 has provided important new information about the lifetime risk of developing breast cancer for women with a BRCA1 or BRCA2 gene mutation.

By the age of 80, the risk of developing breast cancer is 72 per cent for women with a BRCA1 gene mutation and 69 per cent for women with a BRCA2 gene mutation.

The risk of developing breast cancer for women with a BRCA1 or BRCA2 gene mutation has been found to increase rapidly through women's young adulthood before plateauing. For women with a BRCA1 mutation, the risk plateaus at between 31 and 40 years of age. For those with a BRCA2 mutation, the risk plateaus five to 10 years later.

If you have a BRCA1 or BRCA2 gene mutation, counsellors at a family cancer clinic will be able provide you with information about your risk and help you make decisions about risk management strategies that are best for you.

Women with a BRCA1 or BRCA2 gene mutation who have had breast cancer may be at increased risk of developing contralateral breast cancer (i.e. breast cancer in the other breast). Twenty years after an initial diagnosis, the risk of developing contralateral breast cancer is 40 per cent for women with a BRCA1 gene mutation and 26 per cent for women with a BRCA2 gene mutation.

If you have been diagnosed with breast cancer and have a BRCA1 or BRCA2 gene mutation, your treatment team or family cancer centre counsellor will be able to provide you with information about options you may have.

It is important to note that no woman inherits breast cancer, although a very small number inherit a genetic risk or 'predisposition' to the disease.

Am I eligible for a Medicare rebate for genetic testing?

A Medicare rebate is available for genetic testing of up to seven genes, including the BRCA1 and BRCA2 genes. The rebate is for women diagnosed with breast or ovarian cancer who are assessed as likely to have a genetic mutation that increases their risk of breast and ovarian cancer.

You are eligible for the rebate if your cancer specialist has assessed you as being at high risk of having a genetic mutation using one of the established tests, which predict the likelihood of someone having such a genetic mutation.

Factors that may point to this include:

- being 40 years or younger when you were diagnosed with breast cancer
- being diagnosed with triple negative breast cancer at a young age
- having a number of first-degree relatives with breast and/or ovarian cancer
- being of Ashkenazi Jewish descent.

If you are found to have a genetic mutation through this genetic testing, a Medicare rebate is also available to your family members to determine whether they also carry this mutation.

What can I do about reducing my risk?

Breast cancer risk can be reduced by incorporating healthy choices into your life such as limiting alcohol, exercising regularly and limiting weight gain.

Counsellors are available at family cancer clinics to discuss other options for women with a strong family history of breast cancer. These options include:

- more frequent screening to enable the earliest detection of breast cancer
- risk-reducing medications such as tamoxifen
- risk-reducing surgery such as surgical removal of breasts and/or ovaries.

Further information and resources

Sign up to access BCNA's My Journey Online Tool at bcna.org.au/myjourney

The Kathleen Cuningham Foundation Consortium for Research into Familial Aspects of Breast Cancer (kConFab) is a national group of researchers who hope to solve questions about hereditary breast cancer. These researchers have access to breast cancer families that have agreed to participate in studies, through providing blood and tissue samples. Find out more about the eligibility criteria and current research at kConFab.org.

The FORCE website at facingourrisk.org has more information about family history and hereditary breast cancer.

The NSW Centre for Genetics Education website has information about genetic testing, including an information and decision aid entitled Understanding genetic tests for breast and ovarian cancer that runs in the family, which is available at genetics.edu.au.

Here to help

Breast Cancer Network Australia (BCNA) works to support, inform, represent and connect Australians affected by breast cancer.

We have a wide range of free information available including booklets, fact sheets, videos and podcasts. This information can be viewed or ordered at bcna.org.au or by calling our Helpline on 1800 500 258.

Feeling overwhelmed or have further questions?

My Journey online tool

Our new My Journey online tool is available to provide quality, evidence-based information and support tailored to your individual needs and circumstances at all stages of your breast cancer journey. My Journey can be found at bcna.org.au/myjourney

Online Network

BCNA's online network exists to connect you with others going through a similar situation at any time during the night and day. The online network can be found at onlinenetwork.bcna.org.au

BCNA Helpline

Our Helpline cancer nurses are available to help you with any questions you may have. Call 1800 500 258.