

Talk to your doctor about Screening and Genetic Tests.

Early detection saves lives.

If you are concerned about your risk of breast and ovarian cancer or other types of cancer, talk to your doctor. Consider asking the following questions during your doctor's appointment:

- What is my risk of developing breast and ovarian cancers?
- What can I do to reduce my risk of cancer?
- What are my options for cancer screening?

If you are concerned about your family history, and you feel that your family may have HBOC, consider asking the following questions:

- Does my family history increase my risk of breast and ovarian cancers?
- Should I meet with a genetic counsellor?
- Should I consider genetic testing?



Up to 25 percent of ovarian cancers may have a hereditary basis

How can I get more information?

Review your family history of cancer with your doctor.

Cancer Genetics Service

National Cancer Centre Singapore
Level B2, 11 Hospital Drive Singapore 169610
Call **6436 8088** for a referral or an appointment.

Mondays - Fridays: 8.30am to 5.30pm
Closed on Saturdays, Sundays and Public Holidays

For general information about cancer:

Call the Cancer Helpline at **6225 5655**
or email cancerhelpline@nccs.com.sg

Visit the Cancer Genetics Service webpage at
<http://www.nccs.com.sg/PatientCare/CancerGeneticsService>

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Cancer Genetics Service



National Cancer
Centre Singapore
SingHealth

Hereditary Breast and Ovarian Syndrome (HBOC)

Has anyone in your family had breast or ovarian cancer?



What is Hereditary Breast and Ovarian Cancer (HBOC) syndrome?

HBOC is an adult-onset, cancer predisposition syndrome which can be passed down through generations. HBOC increases the risk of developing breast and ovarian cancers in women, prostate cancer in men, and other cancers such as pancreatic, and melanoma.

While hereditary cancer is not common, it may affect how you and your family should be screened and managed.

What causes HBOC syndrome?

Genetic change (mutation) in *BRCA1* or *BRCA2* genes is the most common cause of HBOC. Mutations in other less common genes have also been found to increase the risk of developing breast and other cancers. Individuals with *BRCA1* or *BRCA2* mutations tend to develop cancer at an earlier age than the general population and have higher risk for bilateral breast cancer, a second primary tumor in a different tissue, and cancer recurrence.

Most families do *not* have HBOC syndrome.



Is my family at risk for HBOC syndrome?

In Singapore, breast cancer is the most frequent cancer occurring among women: the lifetime risk for breast cancer is 6.45%, thus 1 out of 16 women will develop a breast cancer in Singapore. Whereas ovarian cancer is less frequent.

About 5-10% of breast cancers and 15-20% of ovarian cancers can be attributed to HBOC.

The history of cancer in your close relatives is a clue about the chance of HBOC syndrome in your family. Close relatives include: children, brothers and sisters, parents, aunts, uncles, grandchildren and grandparents on **one side of the family**. A history of cancer in cousins and more distant relatives may also be important.

HBOC syndrome is more likely if one or more of the following features can be confirmed in your family:

- A young woman (age <50) with breast cancer.
- A woman with ovarian/fallopian/peritoneal cancer.
- A woman (age <60) with triple negative breast cancer.
- A woman with 2 or more separate breast cancers
- A woman with both breast and ovarian cancer.
- A man with breast cancer.
- Strong family history of breast cancer or ovarian cancer or pancreatic cancer or prostate cancer on the same side of the family.

What can I do to reduce my risk of developing cancer of the breast or ovary if I have a BRCA gene mutation?

Increased surveillance (clinical breast exam, mammogram, and MRI) and consideration of risk reducing interventions (such as chemoprevention and preventive mastectomy or oophorectomy) are recommended.

How is HBOC syndrome diagnosed?

Genetic testing for HBOC syndrome is a blood test that is available through the Cancer Genetics Service when specific criteria are met. Genetic testing is complex, thus, it does not take place without genetic counseling and the process of informed consent.

If your family history of cancer suggests HBOC syndrome, please talk to your doctor. A referral to the Cancer Genetics Service can help you find out more about HBOC syndrome and genetic testing.

Finding a genetic mutation of HBOC syndrome may help to

- Inform family members about their own cancer risk
- Direct appropriate cancer screening and risk reduction options
- Explain the history of cancer in a family

