Hereditary Breast and Ovarian Cancer Syndrome (HBOC)

Hereditary breast and ovarian cancer syndrome (HBOC) is a genetic condition that makes someone more likely to get breast, ovarian, prostate, and some other cancers. HBOC is caused by a change (mutation) in a gene that can be passed down in families.

When several people on the same side of a family have breast cancer and/or ovarian cancer, a doctor might suspect HBOC syndrome. Often these cancers are found in women who are younger than the usual age, and some women might have more than one cancer (such as breast cancer in both breasts, or both breast and ovarian cancer). HBOC might also be considered when someone has a cancer that is unusual (such as breast cancer in a man).

What causes hereditary breast and ovarian cancer (HBOC)?

Most often, HBOC is caused by an inherited mutation in either the *BRCA1* or *BRCA2* gene. Some families have HBOC based on family cancer history, but they don't have any known mutations in either of these genes. Changes in other yet unknown genes might also cause HBOC.

How is hereditary breast and ovarian cancer (HBOC) diagnosed?

HBOC is diagnosed when a person suspected of having the syndrome has genetic

testing to look for an inherited *BRCA* gene mutation in their cells.

Women with a strong family history of breast cancer and/or ovarian cancer may choose to get genetic counseling to help estimate their risk for having a *BRCA* gene mutation. A genetics professional can estimate a person's risk based on their history of cancer, the history of cancer in their family, and other factors. If they have a high risk, they might choose to be tested for *BRCA* mutations.

Men with breast cancer, which is rare and is sometimes linked with HBOC, are often offered genetic counseling and testing for *BRCA* mutations.

If a person is found to have a *BRCA* gene mutation, other blood-related family members may choose to get tested for it as well, to see if they're also at increased risk.

To learn about more , see Genetic Testing for Cancer Risk[1].

Why is it important to know if you have hereditary breast and ovarian cancer (HBOC)?

People who have a *BRCA* mutation have an increased risk of developing some types of cancer, including :

- Breast[2] (in both women and men)
- Ovarian[3] and fallopian tube
- Primary peritoneal cancer
- Pancreatic[4]
- Prostate[5]

It might let you take steps to lower your cancer risk or find it early

- If you are diagnosed with HBOC, there are things you can do to lower your risk of getting cancer or to help find it early, when it's likely to be easier to treat:
- Ask your doctor if you should start getting cancer screenings at an earlier age, if you should be screened more often than usual, or if you should get certain kinds of screening tests.
- Talk to your doctor about the risks and benefits of taking an oral medicine to lower your risk of developing breast cancer. This is called chemoprevention[6].
- Talk to your doctor about the risks and benefits of preventive surgery[7] to lower your

risk of breast and/or ovarian cancer.
- Ask your doctor if there are other things you can do to lower your cancer risk, such as staying at a healthy weight[8], being active[9], and avoiding or limiting alcohol[10].

Hereditary breast and ovarian cancer (HBOC) is not the only family cancer syndrome that can increase breast or ovarian cancer risk. For information about other genes and syndromes that raise the risk of these cancers, see Breast Cancer Risk Factors[11] and Ovarian Cancer Risk Factors[12].

If you already have cancer, it might affect your treatment

For people already diagnosed with cancer, finding a *BRCA* mutation might also affect their treatment. For example, some medicines are only likely to be helpful if the cancer cells have a *BRCA* mutation.

It might affect your family members

If you have a *BRCA* mutation, some of your blood-related family members might have it, too. Talk to your close relatives (parents, siblings, and children) about getting tested for the *BRCA* mutation you have. They have a 50% chance of having the mutation as well. If they prefer to not get tested, they may want to start screening for certain cancers early or take other precautions to lower their risk of cancer.

Hyperlinks

1. www.cancer.org/cancer/risk-prevention/genetics/genetic-testing-for-cancer-risk.html
2. www.cancer.org/cancer/types/breast-cancer.html
3. www.cancer.org/cancer/types/ovarian-cancer.html
4. www.cancer.org/cancer/types/pancreatic-cancer.html
5. www.cancer.org/cancer/types/prostate-cancer.html
6. www.cancer.org/cancer/types/breast-cancer/risk-and-prevention/deciding-whether-to-use-medicine-to-reduce-breast-cancer-risk.html
7. www.cancer.org/cancer/types/breast-cancer/risk-and-prevention/preventive-surgery-to-reduce-breast-cancer-risk.html
8. www.cancer.org/cancer/risk-prevention/diet-physical-activity/body-weight-and-

cancer-risk.html
9. www.cancer.org/cancer/risk-prevention/diet-physical-activity/get-active.html
10. www.cancer.org/cancer/risk-prevention/diet-physical-activity/alcohol-use-and-cancer.html
11. www.cancer.org/cancer/types/breast-cancer/risk-and-prevention/breast-cancer-risk-factors-you-cannot-change.html
12. www.cancer.org/cancer/types/ovarian-cancer/causes-risks-prevention/risk-factors.html

References

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Yamauchi H, Takei J. Management of hereditary breast and ovarian cancer. *Int J Clin Oncol*. 2018;23(1):45-51. doi:10.1007/s10147-017-1208-9.

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