

Hereditary Breast & Ovarian Cancer

■ What is hereditary breast and ovarian cancer?

Hereditary breast and ovarian cancer (HBOC) is a genetic condition that increases the lifetime risk for breast, ovarian, and other cancers in women and breast, prostate, and other cancers in men. HBOC is inherited, which means that the cancer risk can be passed from generation to generation in a family.

■ What causes hereditary breast and ovarian cancer?

Genes are found in every cell of your body, controlling how each cell functions. Abnormal changes to genes, called mutations or pathogenic variants, can contribute to the growth and development of cancer. HBOC is usually caused by an inherited mutation in the *BRCA1* or *BRCA2* genes. A person with a *BRCA1* or *BRCA2* mutation has a 50% chance of passing it on to each child.



■ How is hereditary breast and ovarian cancer identified?

Your health care team or a genetic counselor will review your family cancer history, looking for specific situations that could mean HBOC might be in a family. These include having 1 or more women diagnosed with cancer at age 45 or younger; 1 or more women diagnosed with breast cancer before age 50 and there are other cases of cancer in the family, such as prostate cancer, melanoma, and pancreatic cancer; multiple generations on the same side of a family have had breast and/or ovarian cancer; a woman is diagnosed with a second breast cancer in the same or the other breast or has both breast and ovarian cancer; a male relative is diagnosed with breast cancer; there is a history of breast cancer, ovarian cancer, prostate cancer, and/or pancreatic cancer on the same side of a family; or the family has Ashkenazi Jewish ancestry.

Genetic testing can confirm if a person has a hereditary increased risk for these cancers using blood or saliva tests. You should meet with a genetic counselor before and after genetic testing. This helps you better understand the results so you and your health care team can develop a plan for screening and monitoring. You may need increased monitoring even if the genetic test finds no *BRCA* mutation because of your specific family history. Find more information at www.cancer.net/hboc.

■ How is hereditary breast and ovarian cancer managed?

Not everyone with HBOC develops cancer, and there are ways to reduce your cancer risk. A specialized cancer screening plan for women may include breast self-examinations beginning at a younger age, magnetic resonance imaging (MRI) scans of the breasts, pelvic exams, and vaginal ultrasound tests. Recommendations and clinical examinations for men may include breast self-examinations, clinical breast examinations, a baseline mammogram, and prostate cancer screening. Women may also consider surgical removal of both breasts and/or the ovaries and fallopian tubes. The medication tamoxifen (available as a generic drug) may lower breast cancer risk associated with *BRCA1* and *BRCA2* mutations, and birth control pills may lower ovarian cancer risk associated with *BRCA1* and *BRCA2* mutations. Your health care team can determine the best course of action, based on your health and your individual risk for developing cancer.

■ How can I cope with hereditary breast and ovarian cancer?

Absorbing the news that genetic testing found a *BRCA1* or *BRCA2* mutation and communicating with your genetic counselor and health care team are key parts of the coping process. Seeking support, organizing your health information, making sure all of your questions are answered, and participating in the decision-making process are other steps. Understanding your emotions and those of people close to you can help you cope.

ASCO ANSWERS is a collection of oncologist-approved patient education materials developed by the American Society of Clinical Oncology (ASCO) for people with cancer and their caregivers.

Questions to ask the health care team

Regular communication is important in making informed decisions about your health care. It can be helpful to bring someone along to your appointments to take notes. Consider asking your health care team the following questions:

- ▶ Does my family history increase my risk of breast or ovarian cancer?
- ▶ Can you explain to me what causes HBOC and the roles genes play in cancer?
- ▶ Should I meet with a genetic counselor? What support and information can they provide?
- ▶ Should I consider genetic testing for a *BRCA1* or *BRCA2* gene mutation? How accurate is testing?
- ▶ What will genetic testing tell me? What are the possible results?
- ▶ Does health insurance cover the cost of *BRCA1* and *BRCA2* testing?
- ▶ What is my risk of developing cancer if I test positive for a *BRCA1* or *BRCA2* gene mutation?
- ▶ If I have a *BRCA1* or *BRCA2* gene mutation, what steps can I take to reduce my risk of breast or ovarian cancer?
- ▶ If I have genetic testing, how should I share the results with family members? Will they also need to be tested?
- ▶ If I am worried about managing the costs of genetic testing or cancer care, who can help me?
- ▶ What support resources are available to help people cope with an increased risk of cancer?
- ▶ Are there clinical trials for HBOC?
- ▶ Where can I find emotional support for my family?
- ▶ If I have a question or problem, who should I call?

Find more questions to ask the health care team at www.cancer.net/hboc and information about genetics at www.cancer.net/genetics. For a digital list of questions, download Cancer.Net's free mobile app at www.cancer.net/app.

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Health Care Professionals: To order more printed copies, please call 888-273-3508 or visit www.cancer.net/estore.

Words to know

Bilateral mastectomy: Surgical removal of breast tissue in both breasts.

Bilateral salpingo-oophorectomy: Removal of both ovaries and fallopian tubes.

***BRCA1* and *BRCA2*:** Genes associated with an increased risk of breast, ovarian, and other cancers, including melanoma, prostate cancer, and pancreatic cancer.

Chemoprevention: Use of medications to lower the risk of developing cancer.

Genetic counselor: A health professional with specialized training in medical genetics, counseling, and genetic testing.

Genetic testing: Analysis of genes, chromosomes, or proteins for changes that may increase the risk of cancer.

Germline mutation: A gene mutation that is usually present in every cell in the body and can be passed from parent to child.

Magnetic resonance imaging: Test that uses a magnetic field to produce detailed images of the body.

Mammogram: An x-ray of the breast to help find breast cancer.

Predictive testing: Genetic testing for hereditary risk in someone who has never had cancer. Usually this tests for a known mutation that is in the family.

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Doctor-Approved Patient Information from ASCO®

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