



FOUNDATION FOR
WOMEN'S CANCER


Gynecologic Cancer
Awareness • Research • Education

Breast Cancer's Link to Ovarian
Cancer: **It's in Your Genes**

foundationforwomenscancer.org

There are now more than 2.6 million women in America who have been diagnosed with breast cancer. A very small fraction of these women, about 5% to 10%, carry gene mutations that put them at high risk for developing a second breast cancer and ovarian cancer (including the fallopian tube (FT) and primary peritoneal (PP) ovarian cancer subtypes). Because there is no effective screening test for ovarian cancer, and early detection is challenging, women need to learn as much as possible about their personal risk for developing ovarian cancer.

BRCA1 and BRCA2 Genes

BRCA1 and *BRCA2* are human genes that are involved with cell growth, cell division and DNA repair. Mutations (changes) in these genes can result in a failure to repair DNA that can, in turn, lead to the development of cancer, especially breast and ovarian cancer. The lifetime risk for developing ovarian cancer is up to 39–46% in *BRCA1* carriers and up to 10–27% in *BRCA2* carriers.

Both men and women can carry *BRCA1/2* mutations and have a 50 percent chance of passing the mutation on to each of their children. About 1 in 400 to 1 in 800 people in the general population have a mutation in one of these genes. While there may be other genes that predispose women to breast cancer and ovarian cancer, *BRCA1* and *BRCA2* are the most common and well-defined among them. Not all women who inherit an altered *BRCA1/2* gene will develop breast cancer and/or ovarian/PP/FT cancer.

Certain groups are more likely to carry an altered *BRCA1* or *BRCA2* gene. For example, about 1 in 40 Jewish women of Eastern European (Ashkenazi) descent have a *BRCA1/2* gene mutation.

Women with Breast Cancer

Women diagnosed with breast cancer should determine if they are at risk for ovarian cancer. While this is true for only a very small number of women with breast cancer, specific preventive steps are available. So it is important and worthwhile to determine if any of the risk factors apply to you and then take appropriate action.

Do You Have Any of the Factors Below That Increase Your Chances of Developing Ovarian Cancer Following a Breast Cancer Diagnosis?

- Personal diagnosis of breast cancer before age 45.
- A close blood relation on either your mother's or father's side of the family diagnosed with ovarian cancer at any age. A close blood relation includes mother, sister, daughter, grandmother, granddaughter, aunt or niece.
- Personal diagnosis of breast cancer before age 50 with at least one close relative who has had breast cancer before age 50 or ovarian cancer at any age.

If you suspect, or have been diagnosed with ovarian cancer or another gynecologic cancer (i.e. cervical, uterine, vaginal or vulvar cancer), you should seek care first from a gynecologic oncologist.

A gynecologic oncologist is a board-certified obstetrician/gynecologist who has an additional three to four years of specialized training in treating gynecologic cancers from an American Board of Obstetrics and Gynecology-approved fellowship program. This subspecialty program provides training in the biology and pathology of gynecologic cancers, as well as in all forms of treatment for these diseases, including surgery, radiation, chemotherapy and research trials.

Data continues to confirm that women who are treated first by a gynecologic oncologist for ovarian cancer experience better outcomes.

- Personal diagnosis of multiple primary cancers (i.e., bilateral breast cancer, or breast and ovarian cancer).
- Close relative with male breast cancer (for example a father, brother, uncle or grandfather).
- Two or more close relatives on the same side of the family (either your mother's or father's) who had breast cancer before age 50 or ovarian cancer at any age.
- Eastern European (Ashkenazi) Jewish ancestry, and you or a close relative on either side of your family has had breast cancer before age 50 or ovarian cancer at any age.

IF YOU ANSWERED YES TO ANY OF THESE, talk to your doctor about genetic counseling and the possibility of genetic testing to help determine the best screening and prevention strategies for you.

Genetic Counseling and Testing

Genetic counselors are certified health-care professionals with specialized graduate training in the areas of medical genetics and counseling. They are somewhat like family tree medical detectives who can advise if you need to consider genetic testing depending upon what they learn from you and your family history.

Genetic testing is a blood test or saliva test. This test can determine if you test positive for a *BRCA1* or *BRCA2* gene mutation, and/or other known cancer gene mutations that increase your lifetime risk for cancer. Testing positive for one of these mutations cannot predict that you will develop cancer. They can only tell you that you are at a higher risk for developing a cancer like ovarian cancer.

Steps to Take If You Test Positive for Either the *BRCA1* or *BRCA2* Gene

- Have a gynecologic exam one to two times each year.
- Have both an annual mammogram and annual breast MRI beginning at age 25.
- Have both a transvaginal ultrasound and CA125 test two times per year starting at age 30–35 until the ovaries and fallopian tubes are removed preventively after childbearing.
- Talk to your doctor immediately if you experience any of the ovarian cancer symptoms described in this brochure on a daily basis for 2–3 weeks.

The Option of Preventive Surgery

For women determined to be at the highest risk for developing ovarian cancer, preventive surgery to remove the ovaries and the fallopian tubes is the most effective method for preventing ovarian cancer. This step can reduce the risk of ovarian cancer by 85–90% in some cases, and can reduce the risk of developing breast cancer.

Surgery however, is an important and personal choice. For pre-menopausal women, this will result in premature menopause. It can also have an impact on many aspects of your life, so it should be discussed with a gynecologic surgeon who specializes in ovarian/gynecologic cancer called a gynecologic oncologist, your family and others whose opinion you value.

Ovarian Cancer Symptoms

Symptoms associated with ovarian cancer are common and subtle, and are often experienced by women without ovarian cancer. This is one reason why detecting ovarian cancer is difficult.

Recent studies, however, have shown that the following symptoms are much more likely to occur in women with ovarian cancer than in the general population.

- Bloating
- Pelvic or abdominal pain
- Difficulty eating or feeling full quickly
- Urinary symptoms (urgency or frequency)

Women with ovarian cancer report that symptoms are persistent and represent a change from normal for their bodies. ***Listen to Your Body.***

Occasionally experiencing any of these symptoms is, of course, normal for most women and does not mean you have ovarian cancer. But if you experience any of these symptoms that are not normal for you, almost daily for 2–3 weeks, talk to your doctor, preferably a gynecologist.

The frequency and/or number of such symptoms are key factors in the diagnosis of ovarian cancer. Several studies show that even early stage ovarian cancer can produce these symptoms.

RESOURCES

American Cancer Society

800.ACS.2345
cancer.org

American College of Obstetricians and Gynecologists

202.863.2518
acog.org
resources@acog.org

CancerCare

800.813.HOPE
cancercare.org
info@cancercare.org

Cancer Support Community

917.305.1200
cancersupportcommunity.org

Centers for Disease Control and Prevention

800.CDC.INFO (800.232.4636)
cdc.gov/cancer
cancerinfo@cdc.gov

EyesOnThePrize.org Support for Gynecologic Cancer

eyesontheprize.org
info@eyesontheprize.org

Force: Facing Our Risk of Cancer Empowered

866.288.RISK
facingourrisk.org
info@facingourrisk.org

Foundation for Women's Cancer

312.578.1439
800.444.4441 (Information Hotline)
foundationforwomenscancer.org
info@foundationforwomenscancer.org

Gilda Radner Familial Ovarian Cancer Registry

800.OVARIAN
716.845.4503
ovariancancer.com
gradner@roswellpark.org

Gynecologic Oncology Group

800.225.3053
gog.org
kness@gog.org

Lynne Cohen Foundation for Ovarian Cancer Research

877.OVARY.11
877.682.7911
lynnecohenfoundation.org
info@lcfocr.org

National Society of Genetic Counselors

312.321.6834
nsgc.org
nsgc@nsgc.org

National Cancer Institute Cancer Information Service

800.4.CANCER
cancer.gov/cis
cisinfo@cancer.gov

National Coalition for Cancer Survivorship

301.650.9127
canceradvocacy.org
info@canceradvocacy.org

National Ovarian Cancer Coalition

888.OVARIAN
ovarian.org
nocc@ovarian.org

Sharsheret

866.474.2774
info@sharsheret.org

Help the Foundation for Women's Cancer Spread the Word

Please consider a donation to the Foundation for Women's Cancer to help us reach more women with these important messages.

You can donate online at foundationforwomenscancer.org, contact Headquarters at 312.578.1439 or info@foundationforwomenscancer.org.

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The Foundation for Women's Cancer gratefully acknowledges Novartis Pharmaceuticals Corporation and Merck, Sharp & Dohme Corp, a subsidiary of Merck & Co., Inc. for the printing of this brochure.

Content developed by the Foundation for Women's Cancer.

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