



FROM THE OFFICE OF DR.

Genetic testing for risk of breast and ovarian cancer: Is it right for you?

What is my risk for developing breast or ovarian cancer?

Women in the United States have a 1-in-10 risk of developing breast cancer and a 1-in-55 chance of developing ovarian cancer in their lifetime.

Certain factors increase this risk. Women who have grandmothers, mothers, aunts, or sisters who have had breast or ovarian cancer are at greater risk. Cancer that develops in more than one member of a family may be caused by a gene mutation that can be passed by parents to their children. A gene mutation is an alteration in genetic material.

However, most breast and ovarian cancers are not caused by inherited gene mutations. Only about 7% of breast cancers and 10% of ovarian cancers are caused by inherited, genetic mutations. Genetic testing is usually ordered by a physician only if your personal or family history suggests that you may carry a predisposing gene mutation. Genetic testing may also be used to determine if a woman who has already been diagnosed with breast cancer is at an increased risk for ovarian cancer or a second breast cancer.

How do genes increase the risk of breast and ovarian cancer?

Each of us is born with two copies of about 100,000 different genes. A copy of each gene comes from your parents. A gene called *BRCA1* was the first gene detected that increased the risk for breast and ovarian cancer. A second gene, *BRCA2* also plays a major part in breast and ovarian cancer.

In most cases these genes help to prevent cancer by creating proteins that keep cells from growing abnormally. But, if a *BRCA1* or *BRCA2* mutation is inherited, you may be more susceptible to developing cancer.

Who should consider testing for *BRCA1* and *BRCA2* genetic mutations?

You may want to discuss genetic testing with your doctor if you answer yes to any of the following questions:

- You have two or more blood relatives—mother, sister, aunt, cousin, or daughter—with premenopausal breast cancer or ovarian cancer at any age

- You have been diagnosed with breast cancer, especially if it was diagnosed before you reached menopause *and* you have a blood relative with breast or ovarian cancer
- You have been diagnosed with ovarian cancer and you have blood relatives who have had ovarian or breast cancer
- You are related to someone (male or female) who has a *BRCA1* or *BRCA2* mutation.

For more information:

Cleveland Clinic
Department of Medical Genetics
(216) 445-5686
or (800) 223-2273 ext. 55686

Myriad Genetic Laboratories
(800) 469-7423
or www.myriad.com

For more information, see the Cleveland Clinic Department of Patient Education and Health Information web site, www.clevelandclinic.org/health.



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