# Genetic Testing for Breast Cancer Risk

## What causes breast cancer?

It is not known exactly what causes breast cancer, but there are certain risk factors that seem to increase a person's chance of getting the disease. It's estimated that about 10% of breast cancer cases are hereditary (run in the family). In many of these cases, a person has inherited a gene from his or her parents that has mutated (changed from its normal form). This mutated gene makes it easier for a person to get breast cancer.

## What genes can cause breast cancer to be inherited?

Everyone has two genes called BRCA1 and BRCA2. Normally, these genes help to prevent cancer tumors from growing. But sometimes a person inherits an abnormal (mutated) form of BRCA1 or BRCA2 from his or her family. This person's chance of getting breast cancer increases. Women from Ashkenazi Jewish families are more likely than other women to carry abnormal BRCA1 and BRCA2. Mutations in these genes have also been linked to ovarian cancer.

Besides BRCA1 and BRCA2, there are other mutated genes that may make it easier for a person to get breast cancer. Scientists know about some of these genes, and they are working to identify others.

## What clues in my family history might show I've inherited a risk of breast cancer?

Breast cancer in 2 or more first-degree relatives is a sign that the mutated form of BRCA1 or BRCA2 might run in your family. First-degree relatives include your parents, siblings and children. Another sign of a risk of inherited breast cancer is a first-degree relative who got breast cancer before the age of 50. If you have a first-degree relative with ovarian cancer, that might also mean that you risk carrying one of the mutated genes.

## Does everyone who has family members with breast cancer have these mutated genes?

No. The chances of inheriting breast cancer aren't high, even if someone in your family has had the disease. Many people have parents, siblings or children who have had breast cancer without carrying a mutated form of BRCA1 or BRCA2. Although anyone with first-degree relatives who have had breast cancer is at increased risk, most people don't get the inherited kind of breast cancer.

## Breast cancer seems to run in my family. What should I do?

Talk with your doctor about your family history. For example, your doctor will want to know if you are related by blood to any family members who have had breast cancer. Your doctor will also want to know how old your relatives were when their breast cancer was diagnosed.

## Should I have a test to find out if I carry the breast cancer gene?

The choice is up to you and your doctor. Your doctor can help you decide if a gene test might be useful for you. He or she can also discuss the pros and cons of taking the test. Talking with a genetic counselor might also be helpful.

Think about how you would feel if the test results show that you carry an abnormal BRCA1 or BRCA2 gene and are at greater risk of getting breast cancer. Some people want to know if they have one of the mutated genes. Knowing, instead of wondering, helps them deal with the risk of breast cancer. It allows them and their doctors to watch more closely for early signs of cancer. But other people would rather not know they have the abnormal gene because it would be too hard to cope with. Talk with your doctor about your feelings. It's important to note that even if you have a mutated BRCA1 or BRCA2 gene, your chances of developing breast cancer are still very low.