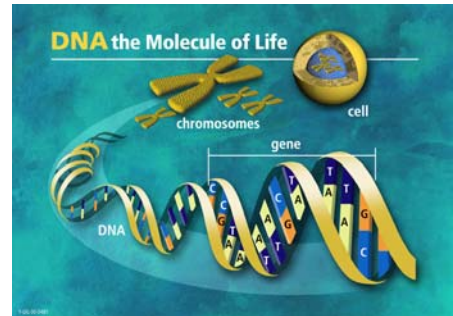


Genetic Testing For Cancer Risk

What is a genetic test?

A genetic test looks at the material in our cells that is passed from one generation to another.

Within each cell of our body are genes that instruct our cells about how to grow and behave. These genes are made up of DNA and passed along in families, from one generation to the next. Sometimes, cancer runs in a family because a gene undergoes a change that causes cells to behave in a different way. This changed gene is then passed through family generations. A genetic test is usually a blood test that looks for changes in genes.



How do I know if genetic testing for cancer risk is right for me?

Many factors influence the decision to have (or not have) a genetic test.



Not everyone with cancer or a family history of cancer will have a gene change that can be found by genetic testing. In fact, most people will not have such a change. A genetic counselor is a medical professional that can review any personal and family history of cancer and help you decide if genetic testing might be useful. A genetic counselor will also address personal beliefs and values that might influence your decision about whether or not to have genetic testing.

How might genetic testing for cancer risk be helpful?

Genetic testing can be both medically and emotionally useful.

- **Medical decisions:** The results of genetic testing may give you more accurate information about your chances of developing cancer. A positive test result or a negative test result can help you and your doctors plan appropriate screening and risk reduction.
- **Information for family members:** Results of genetic testing can give you information about cancer risk for other family members, including your children.
- **Emotional well-being:** Being at risk for cancer can cause some people to feel anxious or depressed. The results of genetic testing can sometimes help to reduce such feelings. Some may even feel relieved if a genetic change is found because they better understand their risk.

What are the risks of genetic testing for cancer risk?

Genetic testing can have emotional and social impacts.

Although there are minimal physical risks associated with taking blood for genetic testing, other risks are important to discuss.

- **Emotional risks:** Discovering genetic risks for cancer may cause fear, worry, or confusion.
- **Family relationships:** Because the results of a genetic test can have implications for family members, problems can be experienced in family relationships and communication.
- **Insurance discrimination:** Although few cases have been reported, many people have concerns about the potential for insurance discrimination. There are some federal and state protections, particularly with regard to health insurance. However, few protections exist for life and disability insurance.

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What are the limitations of genetic testing for cancer risk?

Genetic testing cannot always find a genetic change, even if one exists.



Not every genetic change has been discovered. In fact, scientists have only found a handful of cancer genes at this point. It is possible that a genetic change exists in your family that cannot be detected by current testing methods.

Genetic testing only provides risk information. If a genetic change is found, it does not necessarily mean that you will develop cancer. Likewise, if no genetic change is found, it does not mean that you will never develop cancer.

When possible, genetic testing should begin with a family member who has had cancer. When a family member who has not had cancer is tested first, a genetic test result may be difficult to interpret.

What do genetic testing results tell me?

There are several possible results for a genetic test.

Many people will have a genetic test result that says **no mutation found**. This means that it is unlikely that there are changes in the genes that were tested. But, there may be changes in cancer genes that are not yet known. If you get this kind of result, you may still be at risk for cancer that runs in your family.

A **positive genetic test** says that the genetic change that was tested for is found in your blood. A positive test means that you are at higher risk for getting cancer compared with the average person. It does not mean you will get cancer. Cancer occurs when many factors work together at the same time. These factors include genes, environmental exposures and lifestyle factors (e.g., smoking, poor dietary habits, etc).

A **true negative genetic test** says with very little doubt that you do not have the genetic change that was tested for.

A **test of indeterminate significance** means that there is a genetic change present, but scientists do not yet know exactly what that change means. Your health care providers will likely want to be cautious. They will encourage you to live a very healthy lifestyle, to have screening tests more often, and to see them for regular visits.

What if I am undecided about genetic testing?

Genetic testing for cancer risk is always optional.

Whether you decide to have genetic testing or not, the genetic counselor will help you understand your health care options. If you choose to have genetic testing, the genetic counselor will help you to consider how you might use the results to make future medical decisions. If you choose *not* to have genetic testing, cancer screening and risk reduction will be based on your personal and family medical information.

How can I get more information?

To learn more, talk to your health care provider or contact a genetics professional.

For more information about genetic testing and genetic counseling or for a referral in an area near you, please call the **Mid-Atlantic Cancer Genetics Network Toll Free at 1-877-880-6188** or visit our Web site at www.MACGN.org.

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