

# Spotlight on Health

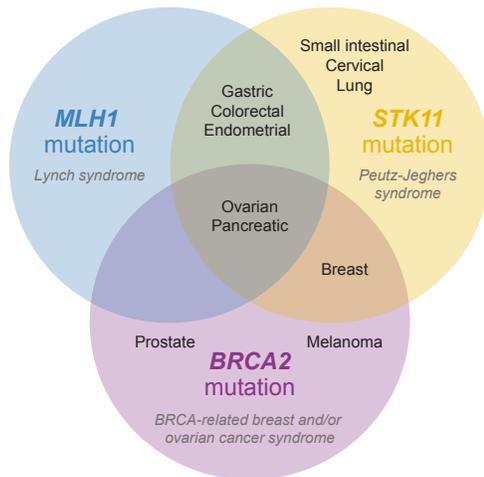
## Hereditary Cancer

Cancer is more common in some families than in others. This could be due to hereditary cancer. Hereditary cancer is caused by unwanted changes (mutations) in a gene that may be passed down from a parent to a child. People who have 1 of these mutations may have a higher risk of cancer.

About 5% to 10% of all cancers are hereditary cancers.<sup>1</sup>

### Certain Genes Are Linked to Certain Types of Cancer

Mutations in a single gene may be linked to more than 1 type of cancer. The figure below shows the types of cancer linked to 3 genes: *BRCA2*, *MLH1*, and *STK11*. Note how some of the cancers can be caused by a change in more than 1 gene.



### Who Is At Risk?

Certain people are at risk for having a mutation that could cause hereditary cancer. These include people who:

- Have a relative who has tested positive for a mutation linked to hereditary cancer
- Have had cancer before the age of 50 years
- Have had cancer at any age *and* a strong family history
- Have had a rare type of cancer (eg, male breast cancer, ovarian cancer)
- Have had more than 1 cancer of the same type (eg, 2 breast cancers)



### What Does a Negative or a Positive Test Result Mean?

A *negative* result means that no mutations were found in the genes tested. If a mutation has never been detected in blood relatives, the person could still be at risk for a hereditary cancer. The person could have a mutation in a gene that wasn't tested. But if a blood relative has a known mutation, then the risk of hereditary cancer is low. There could still be a risk for cancer, though. Other factors can lead to cancer. These include chance, things in the environment, and lifestyle choices such as smoking.

A *positive* result indicates that a mutation was found. This does not mean the person has or will get cancer. It does mean the person is at an increased risk for certain types of cancer. This knowledge empowers the person and his or her doctor to manage that risk. The person might be able to take steps that can prevent cancer or help detect it earlier. Early detection of a cancer improves chances of survival.

- Have a strong family history of cancer
- Are of Ashkenazi Jewish ancestry

If you think that you or a loved one may be at risk, you might want to take an online quiz. You can find this quiz at [QuestVantage.com/Take-Control](http://QuestVantage.com/Take-Control). Consider sharing the results with your doctor or genetic counselor. They can help you find out if you meet the criteria for genetic testing.

## Genetic Testing

Genetic tests are done on blood samples. These tests can let a person know if he or she has inherited a mutation that is linked to an increased risk for cancer.

There are different types of genetic tests. The right test for each person is based on his or her personal and family history of cancer. If a blood relative has a known mutation, then a test for just that 1 mutation may be the right test. If not, a test that looks for mutations in more than 1 gene might be the right test.

The decision of whether to be tested is a personal one. A doctor or genetic counselor can help a person make that decision. It is important to talk with one of them before and after being tested. They also can help a person:

- Learn about the pluses and minuses of testing
- Choose a test and interpret the results
- Decide what to do after test results come back

## Hereditary Cancer Testing From Quest Diagnostics

QuestVantage™ tests are genetic tests. They can be used to find out if a person is at risk for hereditary cancer. Some tests detect mutations in a single gene. Other tests detect mutations in many genes at the same time. Doctors choose the right test for each person based on his or her personal and family history of cancer.

## Additional Information

Learn more about hereditary cancer and genetic testing at:

- Quest Diagnostics ([QuestVantage.com](http://QuestVantage.com))
- Facing Our Risk of Cancer Empowered (FORCE) ([FacingOurRisk.org](http://FacingOurRisk.org))

## Reference

1. Nagy R, Sweet K, Eng C. Highly penetrant hereditary cancer syndromes. *Oncogene*. 2004; 23:6445–6470.