

Genetic Testing for Prostate Cancer

What You Should Know



This fact sheet is meant for all people with a prostate gland. It is of great value to know that all people who are born genetically male have a prostate. Any gender can have a prostate and everyone with a prostate should be aware of prostate cancer. Learning you have prostate cancer may be unsettling. You may have a lot to think about, including treatment choices and your future.

What is prostate cancer?

The prostate is part of the male reproductive system. The main job of the prostate is to make fluid for semen. Prostate cancer develops when abnormal cells form and grow in the prostate gland. Not all abnormal growths, also called tumors, are cancerous (malignant). Cancerous growths, such as prostate cancer, can spread (metastasize) to nearby organs and tissues such as the bladder or rectum or to other parts of the body.

Who gets prostate cancer?

As people age, their risk of getting prostate cancer goes up. Studies link being overweight in your 50s and later to a greater risk of advanced prostate cancer. Doctors advise maintaining a healthy weight to reduce risk. African Americans have a higher rate of prostate cancer. People who have a history of prostate cancer in their family face a higher risk of getting the disease. Having family members with breast and ovarian cancer also raises the risk of developing prostate cancer.

How can genetic testing impact cancer?

DNA is the set of genes that gives your body instructions to grow. For example, if your biological mother and biological father both have blue eyes, they will pass the blue eye gene

to you and you will also have blue eyes.

Your genes help determine if your body may have health issues, such as a greater risk for cancers, heart problems, high blood sugar, obesity and so on. Genetic testing is done to learn about a gene(s) and its role in disease.

In the cancer world, genetic testing can come in two main forms. One looks for certain genetic variants which may have been passed down through your family, and the other looks for genetic changes that may have occurred during the growth of a tumor. These can offer important data on the cancer aggressiveness. These two types of testing have distinct names:

- **Germline testing** looks for DNA passed down from one generation to the next. Here, doctors are looking for inherited mutations that can predispose to cancer.
- **Somatic testing** looks at DNA that is not passed down from your parents, but rather DNA changes that have happened in the tumor. This type of mutation does not impact the health of your family, but could help with your own treatment choices.

Why are genetic tests of great value?

Genetic tests may help in different ways. Patients with advanced prostate cancer should think about genetic testing as a way to help with treatment choices. Patients with prostate cancer that has not spread but who have a high Gleason score (Gleason 8-10) and/or a family history of breast, ovarian or prostate cancer should also think about genetic testing. Patients with prostate cancer who have Ashkenazi Jewish ancestry should also talk about genetic testing with their health care team.



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It is of great value to note that popular online genetic test kits and websites do not provide the same information as genetic testing for prostate cancer. It is always best to talk to your doctor about genetic testing for prostate cancer so you are getting an accurate diagnosis and treatment plan.

When can genetic tests help those with prostate cancer?

Genetic tests are usually not recommended for patients without cancer unless they have a close relative with a known variant in a gene related to cancer risk. In these cases, genetic testing can help a person who doesn't have cancer better know their risk of getting cancer. For those with advanced prostate cancer who have a germline or somatic variant, this data can be used to help find the best treatments. These are sometimes called precision or tailored therapy and can replace a "one-size-fits-all" approach.

Genetic testing is not for all people. It is of great value to talk with your doctor to decide if you would be a good fit and to talk over the many testing and treatment choices that may be right for you.

About the Urology Care Foundation

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