



GENETIC TESTING

FOR UNDERSTANDING CANCER RISK



WHAT IS GENETIC TESTING?

Genetics is the field of medicine that looks at how traits are passed down from parents to their children. A higher risk for cancer can also be passed down from generation to generation.

Genes are the parts of the DNA that tell our bodies how to function. Some genes protect us from getting cancer. When someone has a cancer protecting gene that is not working, they are more likely to develop certain types of cancer compared to the average person.

Genetic testing is a blood or saliva test that looks at a person's cancer protecting genes to see if they are working or not working.

WHAT IS GENETIC TESTING USED FOR?

- If genetic testing finds that someone is more likely to develop cancer, this information can help guide cancer screening, such as how often someone should get colonoscopies, mammograms, prostate screening, etc.
- If someone has cancer, genetic testing might be used to determine what the best treatment for that cancer is (chemotherapies, surgeries, etc).
- If someone has had cancer in the past, genetic testing might help explain why the cancer developed.
- Genetic testing does not determine if someone has cancer. It just helps to understand if someone is more likely to develop certain types of cancer compared to the average person.

WHO SHOULD CONSIDER GENETIC TESTING?

- If you have a personal history of cancer.
- If you have several close family members who have had cancer, such as your parents, siblings, aunts, uncles, cousins, and/or grandparents
- If you have a family member with:
 - more than one type of cancer
 - pancreatic or ovarian cancer at any age
 - a rare type of cancer or tumor, such as male breast cancer, retinoblastoma, pheochromocytoma, paraganglioma, or neuroendocrine tumor
 - a known cancer predisposition, or gene mutation, in the family

WHAT HAPPENS AT A GENETICS APPOINTMENT?

Coming to a genetics appointment does not mean you have to do genetic testing. You can always decline testing or choose to do testing at a later point. We can help you with that decision.

- We will focus on cancer diagnoses in your family and draw a family tree. We will ask about many family members, including cousins, grandparents, aunts/uncles, siblings, children, and grandchildren. This helps us understand what testing would be appropriate, if any.
- We will discuss genetic testing options and review the benefits and limitations of testing.
- Not everyone who is referred to genetics needs or qualifies for testing. We will determine this during the appointment.
- Appointments can generally take up to an hour. They can be in-person or over the phone.
- We discuss billing for genetic testing at the appointment. If you qualify based on your family history or personal history, insurance generally approves of testing.
- It takes several weeks for genetic testing results to come back.
- If testing is pursued, we will call you when the results are available and discuss them in detail. At that time, we will be able to help determine the next best steps for you and your family members.

HOW DO I PREPARE FOR A CANCER GENETICS APPOINTMENT?

- Gather as much information about your family's history of cancer as possible. Focus on:
 - Type of cancer(s) diagnosed - if possible, try to find out where the cancer started (primary diagnosis)
 - Age at diagnosis
 - Age and cause of death, if applicable
 - Note if any family members have had colon polyps found during colonoscopy
- If anyone in your family has already had genetic testing, please bring a copy of their genetic test report. This is important to ensure proper evaluation and testing if testing is pursued.

I WANT TO SEE SOMEONE IN CANCER GENETICS.

WHAT DO I DO NEXT?

- Talk to your primary care provider, or someone from your healthcare team, about your personal and/or family history of cancer and let them know that you are interested in meeting with a cancer genetic counselor.
- A referral is needed to see a member of the Boston Medical Center's Cancer Genetics Team, such as a cancer genetic counselor. If your healthcare provider has questions on how to refer, they can call 617-638-6428.
- If you or your family members live outside of Boston, you can visit the following website to locate a genetic counselor in your area: findageneticcounselor.nsgc.org