Are you at risk of Hereditary Cancer?

Your Guide to the Answers
What is Hereditary Cancer?

The genes we are born with may contribute to our risk of developing certain types of cancer, including breast, ovarian, colorectal, and prostate cancer. **If you have a family history of cancer, Aeon’s CGx Advantage™ screening can help you to understand your risk for disease.**

Everyone has some risk of developing cancer, and in most cases the disease develops by chance. However, some people are genetically predisposed to developing certain types of cancer. These people have a higher risk of developing the disease than those in the general population.

**Genes and Cancer**

Cancer is usually caused by gene mutations that occur randomly in one or a few cells of the body. Such gene changes, called somatic mutations, may arise as a natural consequence of aging or when a cell’s DNA has been damaged. Acquired mutations are only present in some of the body’s cell, and they are not passed on from parents to children.

However, in a small percentage of people with cancer, the disease is due to a different type of mutation called a hereditary mutation, or a germ-line mutation. These mutations are usually inherited from one or both of the person’s parents, and are present in nearly every cell of the body. Because hereditary mutations are present in the DNA of sperm and egg cells, they can be passed down in families.

People who carry such hereditary mutations do not necessarily get cancer, but their risk of developing the disease at some point during their lifetime is higher than average.
Cancer stories inspired by true events

Did You Know

Genetic mutations: Some women who develop ovarian cancer have an inherited mutation on one of two genes called breast cancer gene 1 (BRCA1) and breast cancer gene 2 (BRCA2). Women with the BRCA1 mutation, have a 35 to 70 percent higher risk of ovarian cancer. Women with the BRCA2 mutation have a 10 to 30 percent higher risk. However, the vast majority of women who are diagnosed with ovarian cancer don’t have either mutation. If you are concerned about this risk factor for ovarian cancer, you can discuss getting tested for both of the BRCA mutations with your OB-GYN.

Ellen 45 - Diagnosed With Stage IIIA Breast Cancer

- Mother passed at 48
- Diligent about annual physicals
- Routine Mammograms
- Takes good care of herself by eating healthy
- Walks and hikes on a regular basis

“At age 45 I was diagnosed, but because of my mother’s history, I was not completely surprised. I wasn’t scared, but I was concerned.”

Previous Conditions

- Breast, colorectal or endometrial cancer: Women who’ve been diagnosed with one of these cancers have a higher risk of developing ovarian cancer.

Jim 81 – Diagnosed With Stage II Colon Cancer

- Routine colonoscopies
- Doctor discovered polyps
- Caught early stage II before spreading
- Had surgery to remove part of his colon

“I am a lucky man! I am going to beat this thing! I am thankful to God for sparing my life and allowing me to be where I am right now. I have learned that life is too precious to give up to cancer. Every day is a gift and I am grateful to be continuously blessed. Battling cancer at the age of 81 has taught me not just to survive, but thrive. Most people think that I have lived my life but only I know how much more I want to experience.”

Did You Know

According to The National Cancer Institute, 25% of patients have a family history of CRC that suggests a hereditary contribution, common exposures among family members, or a combination of both. Genetic mutations have been identified as the cause of inherited cancer risk in some colon cancer–prone families.

Studies suggest that lack of access to health care and a lack of awareness in both young patients and their doctors about the signs and symptoms of colon and rectal cancers are causing the higher incidence of colon cancer and rectal cancer in young adults under age 50.
Hereditary Cancer Risk

- If you have a gene mutation, your parents, your children and your brothers and sisters could have a 50% chance of having the same gene mutation.

- Other relatives such as aunts, uncles and cousins may also be at risk to carry the same gene mutation.

- Testing is the only way to identify mutations which could impact your medical management.

- Remember, you can inherit a gene mutation from either your mother or your father, so it is important to look at both sides of your family.

Lifetime Cancer Risk for people with an identified hereditary cancer risk

- Breast: UP TO 87%¹
- Ovarian: UP TO 44%¹
- Colon: UP TO 99%²
- Melanoma: UP TO 76%³
- Pancreatic: UP TO 36%⁴
- Gastric: UP TO 80%⁵
- Prostate: UP TO 80%⁶
Breast Cancer

What Is Breast Cancer?
Breast cancer is an abnormal change or mutation in the genes that are responsible for regulating the growth and maintenance of a cell. A breast consists of three main parts: Glands produce milk, Ducts are passages that carry milk, and Connective Tissue (which consists of fibrous and fatty tissue) holds everything together. Any mutation or abnormal changes in these main parts usually results in breast cancer.

Studies show that 1 out of every 8 women in the United States will be diagnosed with breast cancer, however, your risk may be higher or lower based on various factors, one of which is family history.

Colorectal Cancer

What Is Colorectal Cancer?
Colorectal cancer is cancer that occurs in the colon or rectum. Sometimes it is called colon cancer, for short. As the drawing shows, the colon is the large intestine or large bowel. The rectum is the passageway that connects the colon to the anus.

Sometimes abnormal growths, called polyps, form in the colon or rectum. Over time, some polyps may turn into cancer. Screening tests can find polyps so they can be removed before turning into cancer. Screening also helps find colorectal cancer at an early stage, when treatment often leads to a cure.
# Cancer Detect Profile Chart

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CGx Advantage™ Profile Test Results

Clinically Relevant
A mutation has been identified

Increased Cancer Risk
Medical management based on recommendations for the specific gene mutation(s).

Not Clinically Relevant
No mutations identified

A gene mutation has been previously identified in the family (Single Site Analysis)

No Increased Risk
Medical management based on general population cancer screening recommendations

No gene mutation has been previously identified in the family (Comprehensive Analysis)

Risk Not Fully Defined
Medical management based on personal and family history of cancer

Uncertain Variant
A change has been identified in the DNA, but is not currently known if the change will cause a disease.

Risk Not Fully Defined
Medical management based on personal and family history of cancer

Genetic Counseling
Genetic counseling is defined by the National Society of Genetic Counselors as the process of helping people understand and adapt to the medical, psychological, and familial implications of genetic contributions to disease.

Genetic counselors are trained to advise you about:
• Your risk of developing specific types of cancer, based on your family history
• The availability of genetic tests that can give you more information about your risk of these types of cancer.
• Testing procedure limitations and accuracy of genetic tests
• Emotional, psychological, and social consequences of knowing the test results
• Cancer screening and surveillance options
• Preventive measures
• Diagnostic and treatment options
• The privacy of your genetic information
In 2016 in the United States, there will be an estimated 1,685,210 new cancer cases and 595,690 cancer related deaths. Every day that is approximately 4,620 new cases and 1630 deaths.

About 48,960 people will be diagnosed with Pancreatic Cancer and 40,560 will die of Pancreatic Cancer - American Cancer Society 2015

When Ovarian Cancer is diagnosed at an early stage (when cancer remains confined to the ovary), up to 90% of women are likely to survive for more than 5 years.

Colorectal Cancer incidence and mortality rates are highest in African American men and women.

The most common cancer in women, no matter your race or ethnicity, is Breast Cancer. It is the 2nd most common cause of cancer deaths.

1 in 50 Americans will develop melanoma in their lifetime. It is the fastest growing cancer in the US and worldwide.

References
8. fightingcoloncancer.com