Genetic Support Foundation

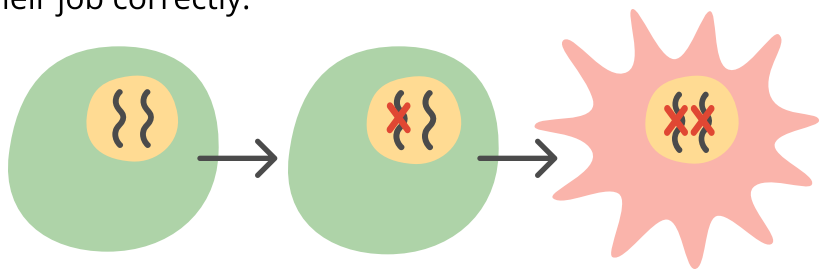
A Patient's Guide to

Hereditary Breast & Ovarian Cancer

Understanding Hereditary Cancer Risks

What causes cancer?

- **Genes** are the instruction manuals that tell our bodies how to grow and function.
- Certain genes, sometimes called cancer susceptibility genes, help protect against cancer development in specific parts of the body. Cancer occurs when multiple harmful mutations accumulate in these genes and prevent them from doing their job correctly.



A cell that acquires multiple harmful mutations in cancer susceptibility genes can turn into a tumor, which can eventually lead to cancer.

What is sporadic cancer?

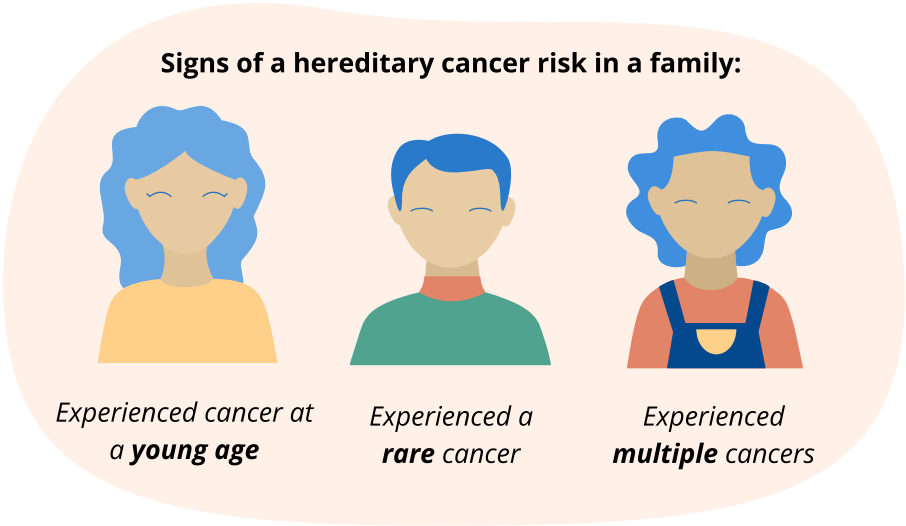
The **majority** of cancer cases are *sporadic*, or caused by acquired genetic mutations that occur just **by chance**.

- These acquired mutations cannot be passed on to children.
- Certain environmental and lifestyle factors can increase the risk of sporadic cancer, like tobacco smoke and UV rays.
- Signs of sporadic cancer include a personal/family history of:
  - Cancer diagnosed later in life (e.g., after the age of 50)
  - No family history of cancer or a family history of only a few common cancers diagnosed later in life

What is hereditary cancer?

Less often, cancer is caused by a *hereditary cancer syndrome*, or an **inherited genetic mutation** that increases the risk of developing certain types of cancer over a lifetime.

- When a person has an inherited genetic risk, their parents, siblings, and children each have a 50% chance of inheriting this risk.
- **Genetic counseling and testing** can identify a hereditary cancer syndrome in a family. This can inform an entire family's cancer screening and preventative practices and save lives.
- Signs of a hereditary cancer syndrome include a personal or family history of:
  - Cancer diagnosed at age 50 or younger
  - Multiple types of cancer in one individual
  - Multiple family members with the same type of cancer
  - Rare types of cancer (such as ovarian cancer, pancreatic cancer, or prostate cancer that spreads to other parts of the body)



Understanding Hereditary Breast & Ovarian Cancer

When does breast cancer have a hereditary cause?

- Breast cancer is unfortunately very common, affecting around 1-in-8 people assigned female at birth.
- Most often, breast cancer is *not* hereditary, and instead occurs due to a combination of random chance, reproductive and hormonal factors, the body's anatomy, and more.
- **5-10%** of the time, breast cancer is caused by a hereditary cancer syndrome.

Signs of hereditary breast cancer in a family:

- Breast cancer diagnosed at age 50 or younger
- Triple negative breast cancer
- Breast cancer in a person assigned male at birth
- Lobular breast cancer and a type of stomach cancer known as "diffuse gastric cancer"
- Multiple family members with breast cancer
- Breast cancer and prostate, ovarian, or pancreatic cancer

- If you recognize these signs in yourself or your family, **genetic counseling** is recommended to help determine whether there may be a hereditary cancer risk in your family.

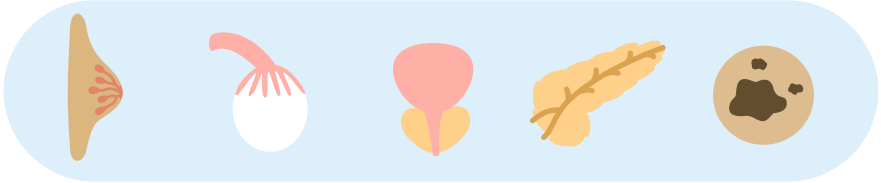
When does ovarian cancer have a hereditary cause?

- Ovarian cancer is much more rare than breast cancer, affecting around 1-in-80 people assigned female at birth.
- **20-25%** of the time, ovarian cancer is caused by a hereditary cancer syndrome. Because this number is relatively high, genetic counseling is recommended for *anyone* with a personal or family history of ovarian cancer.

Genetic counseling is recommended for anyone with a personal or family history of ovarian cancer.

What causes hereditary breast & ovarian cancer?

- Hereditary breast and ovarian cancer can be caused by inherited mutations in a number of different genes, but the most common cause is mutations in the ***BRCA1*** and ***BRCA2*** genes.
- *BRCA1/2* mutations increase the risk of developing **breast** (female and male), **ovarian**, **prostate**, and **pancreatic** cancer, as well as a type of skin cancer called "**melanoma**" in some families.



Meeting with a Genetic Counselor

What can I expect?

- A genetic counselor will ask you questions about your personal and family history and determine whether a hereditary cancer syndrome is suspected.
- If indicated, the genetic counselor will offer you the best genetic testing for your specific circumstances.
- The genetic counselor will talk with you about the potential benefits and limitations of genetic testing, including:

Potential Benefits

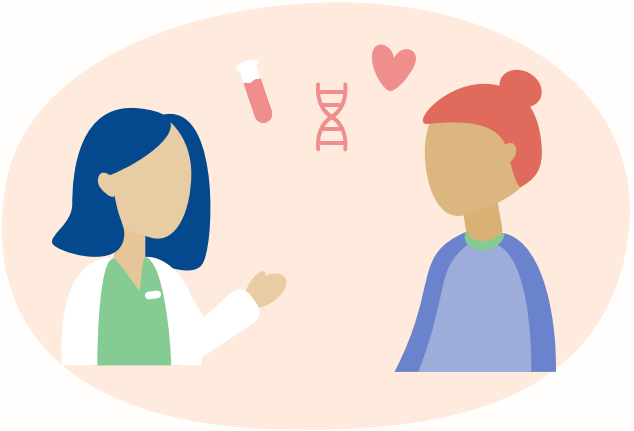
- Results can guide cancer screening and preventative practices (such as early breast MRIs/mammograms, surgical removal of the breasts/ovaries, and risk-reducing medication).
- Results can impact cancer treatment recommendations.
- Results can inform cancer risk in other family members.

Potential Limitations

- There is no guarantee that genetic testing will identify a hereditary cause of cancer in a family even if one exists.
- Genetic testing may identify genetic mutations that are not well understood.
- Genetic test results may be used by life, long-term care, and disability insurance companies when making policy decisions (but NOT by health insurance companies).

How can I schedule an appointment?

- Your provider can refer you to a certified genetic counselor through Genetic Support Foundation by faxing the relevant medical records and insurance information to 844-813-3892.



- You can also schedule a secure video appointment yourself by visiting geneticsupportfoundation.org/appointments.

Questions?

Talk to a certified genetic counselor by calling:

1-800-364-1641