MyRisk®
Hereditary Cancer Test

# Illuminating hereditary cancer risk with genetic testing

Myriad genetics

Health. Illuminated.

# What is hereditary cancer?

## Hereditary cancer can develop in families due to changes in their genes

All cancer is caused by harmful changes, known as mutations, in a person's genes. Many mutations happen by chance and others are thought to be caused by lifestyle and environmental factors. Other mutations, however, are passed down through our family and can be related to hereditary cancer.

## There are three main categories of cancer

### Hereditary

This type of cancer happens when a gene mutation is passed down in the family from parent to child. People with hereditary cancer are more likely to have relatives with the same type or other related types of cancer. They may develop more than one cancer and their cancer often happens at an earlier-than-average age.

### Sporadic

This type of cancer happens by chance. People with sporadic cancer usually don't have relatives with the same type of cancer.

### Familial

This type of cancer is likely caused by a combination of genetic and environmental factors. People with familial cancer may have one or more relatives with the same type of cancer; however, there doesn't appear to be a specific gene mutation increasing the cancer risk in the family.

**Any individual can inherit and pass down genetic mutations. All individuals with a family history of cancer, including breast and ovarian, should consider genetic testing.**

# Illuminating your risk

## Understanding if you're at risk for hereditary cancer starts with knowing your personal and family history

- Know the history of cancer on your mom and dad's side of the family
- Know at least three generations of history (parents, children, siblings, grandparents, aunts, uncles, nieces, nephews, and other close blood relatives)
- Know details such as the type of cancer and what age your relative was when they were diagnosed
- If you don't know, take the time to try and find out

## Red flags for hereditary cancer

If you can answer yes to any of the questions below, you may be a good candidate for hereditary cancer testing and should discuss further with your healthcare provider. (Check all that apply)

### Do you have a personal history of:

- ☐ Breast cancer at any age
- ☐ Ovarian cancer at any age
- ☐ Colon or rectal cancer at any age
- ☐ Pancreatic cancer at any age
- ☐ Metastatic prostate cancer at any age
- ☐ Uterine cancer at age 64 or younger

### Do you have a family history of:

- ☐ Breast cancer at age 50 or younger
- ☐ Two breast cancers in one relative at any age
- ☐ Three or more breast cancers in relatives on the same side of the family at any age
- ☐ Ovarian or male breast cancer at any age
- ☐ Pancreatic or metastatic prostate cancer at any age (1st-degree relative)*
- ☐ Colon, rectal, or uterine cancer at age 49 or younger (1st-degree relative)*
- ☐ A gene mutation associated with cancer found in a family member
- ☐ Ashkenazi Jewish ancestry with breast cancer at any age

# What is genetic testing for hereditary cancer?

## Hereditary cancer testing basics

Hereditary cancer testing is a type of genetic test that can help your healthcare provider find out if you're at higher risk for developing cancer, due to a genetic mutation that may have been passed down through your family.

## Testing is quick and easy

If your healthcare provider recommends hereditary cancer testing, it can be done right in your provider's office. Your provider will collect a blood or saliva sample using a special kit, which will be shipped to Myriad Genetics for analysis. Test results will be delivered directly to your provider in approximately two weeks. Your provider may schedule an appointment with you to discuss your results.

## Why is hereditary cancer testing important?

If you have a family history of cancer, hereditary cancer testing is the primary way to find out if you are at hereditary, familial, or general population risk. This information helps you and your provider make informed healthcare decisions.

**"Most people think about cancer as something you either remove or treat... I believe that cancer can be preventable."**

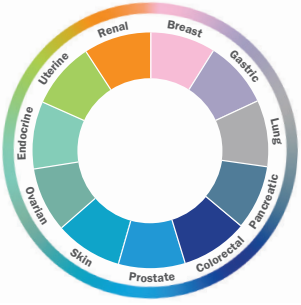
*– Diane Hardesty: A previvor's story*

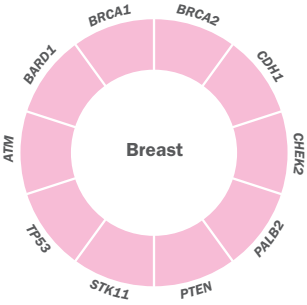
## Diane Hardesty: From patient to previvor

Diane's family had a strong history of cancer. Over five generations, 11 family members had been diagnosed with a total of 22 cancers. Sadly, eight of those family members eventually lost their battle with cancer. Diane's provider recognized the "red flags" in her family history and advised her to get hereditary cancer testing. Diane tested positive for a genetic mutation that significantly increases a person's risk to develop colon, uterine, and other cancers. This knowledge allowed Diane and her provider to take control of her increased cancer risk through increased screening and preventative surgeries. Today Diane is a cancer "previvor," which means despite her genetic mutation, she has not been diagnosed with cancer. This information has also impacted the lives of generations of her family. Since Diane and her family learned about their genetic mutation and the additional medical management options there have been no cancer deaths in their family.

# How can a risk for hereditary cancer be passed down?

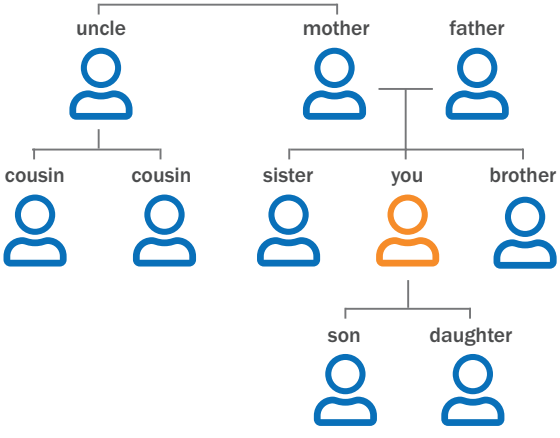
## Multiple genes can be associated with a single cancer




## It's a family affair

- If you have a gene mutation, your parents, children, and siblings could have a 50% chance of having the same genetic mutation.
- Other blood relatives (aunts, uncles and cousins) on the same side of the family are at risk of carrying the same genetic mutation.
- Testing is the primary way to identify gene 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.



# Multiple genes across 11 common cancer types

| Genes | Breast | Ovarian | Colorectal | Uteri |
|---|---|---|---|---|
| *BRCA1* | ● | ● | | |
| *BRCA2* | ● | ● | | |
| *MLH1, MSH2, MSH6, PMS2, EPCAM* | | ● | ● | ● |
| *APC* | | | ● | |
| *MUTYH* | | | ● | |
| *CDK4, CDKN2A (p16INK4a, p14ARF)* | | | | |
| *TP53* | ● | | ● | ● |
| *PTEN* | ● | | ● | ● |
| *STK11* | ● | ● | ● | ● |
| *CDH1* | ● | | | |
| *BMPR1A, SMAD4* | | | ● | |
| *PALB2* | ● | ● | | |
| *CHEK2* | ● | | ● | |
| *ATM* | ● | | | |
| *BARD1* | ● | | | |
| *BRIP1* | | ● | | |
| *RAD51C, RAD51D* | ● | ● | | |
| *POLD1, POLE, GREM1, AXIN2* | | | ● | |
| *HOXB13* | | | | |
| *NTHL1* | ● | | ● | |
| *MSH3* | | | ● | |
| *FH, FLCN* | | | | |
| *MET* | | | | |
| *TSC1, TSC2* | | | | |
| *SDHA, SDHB, SDHC, SDHD,VHL* | | | | |
| *BAP1* | | | | |
| *MITF, TERT* | | | | |
| *CTNNA1* | | | | |
| *EGFR* | | | | |
| *MEN1, RET* | | | | |

| ne | Skin | Pancreatic | Gastric | Prostate | Renal | Lung | Endocrine | Other |
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# MyRisk® Hereditary Cancer Test

## Possible MyRisk results

### ⊕ Positive

- A genetic mutation was found in one or more of the genes tested
- You're typically at higher risk for cancer
- A summary of medical management guidelines will be given to you based on your gene mutation(s)

### ✱ Elevated

- No genetic mutation was found in the genes tested
- You're at a higher risk for cancer based on what we saw in your genes, personal clinical risk factors, and/or your family history of cancer
- A summary of medical management guidelines will be given to you based on your higher risk

### ⊖ Negative

- No genetic mutation was found in the genes tested
- The common causes of hereditary cancer have been ruled out, but depending on your family history of cancer, higher risks could still remain
- Depending on your family history, medical management is usually based on screening guidelines for the average person; however, you should talk with your healthcare provider to determine if there are any changes in medical management that are right for you

**Variant of uncertain significance.** Testing may also find a variant of uncertain significance (VUS). This means a change in a gene has been found and it's not known if the change is linked with a higher cancer risk. Medical care decisions should not be made based on a VUS. If new information becomes available about a specific VUS detected in your testing, Myriad will contact your healthcare provider.

## Females* may also receive a RiskScore® result and/or a Tyrer-Cuzick breast cancer risk estimate

**RiskScore** is a breast cancer risk prediction result that gives patients, who don't have breast cancer, a personalized calculation of their future risk of developing breast cancer. RiskScore uses a combination of genetic markers and clinical factors in its calculation.

***CHEK2* modified RiskScore** delivers a more tailored personalized risk assessment for patients who are positive for a *CHEK2* mutation based on a combination of genetic markers and clinical factors.

**Tyrer-Cuzick** is a breast cancer risk model used to predict a patient's risk of developing breast cancer. The Tyrer-Cuzick model looks at your family history of cancer and other personal clinical risk factors.

If your remaining lifetime breast cancer risk is calculated to be 20% or greater with Tyrer-Cuzick or RiskScore, you'll be given a summary of medical management recommendations.

*Under the age of 85 and without a personal history of breast cancer, LCIS, hyperplasia, atypical hyperplasia, or a breast biopsy of unknown results. RiskScore is not calculated if a patient or a blood relative is known to carry a mutation in a breast cancer risk gene, with the exception of *CHEK2*. Female refers to sex assigned at birth.

# Knowledge is everything

## Lowering your risk for cancer means managing it

People with familial or hereditary cancer risk have a higher chance of developing cancer during their lifetime. Knowing if you are at higher risk for cancer empowers you to make life-saving medical management decisions. You and your provider can work together to create a personalized plan to reduce your risk of developing cancer, or increase the likelihood of finding cancer at an earlier and more treatable stage. Your personalized prevention or treatment plan may include the following:

### Extra surveillance

Extra surveillance may find cancer at an earlier and more treatable stage

### Risk-reducing medications

There are medications that can lower the risk for certain cancers

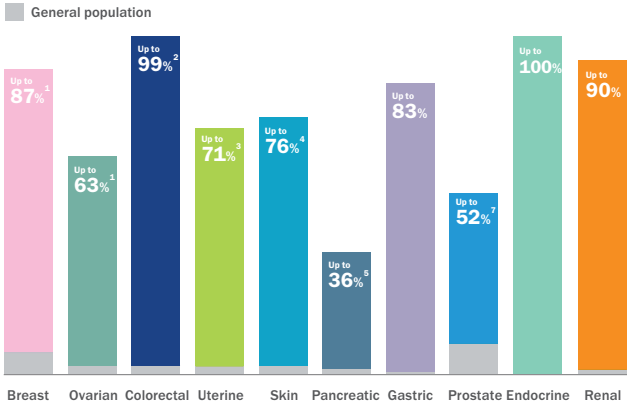
### Risk-reducing surgery

Based on your unique situation, certain surgeries can greatly lower your risk

### Treatment options

If you've been diagnosed with cancer, your test results may help determine appropriate treatment options for you

## Lifetime cancer risk for people with an identified hereditary cancer risk**




**For the most up-to-date general population and gene-associated cancer risks, refer to the Gene Tables located at myriad.com/gene-table

# Questions you may have...

## Who is Myriad Genetics?

Myriad Genetics illuminates the path to better health through genetic insights. For over 27 years, we've assisted providers and empowered patients by revealing insights that help answer health's toughest questions.

## Can my health insurance coverage be impacted by the results?

The Genetic Information Non-discrimination Act (GINA) and laws in most states prohibit discrimination regarding employment eligibility, health benefits, or health insurance premiums solely on the basis of genetic information. For information about Myriad Genetics's privacy policy, visit *myriad.com/patients-families/the myriad-difference/your-privacy*.

## Will my health insurance pay for my testing?

**95%** **of private insurance companies** have coverage for hereditary cancer testing

**90%** **of patients pay**

**$0** through insurance coverage and financial assistance

## What if I have a high deductible plan or co-insurance?

- If you have a high deductible or co-insurance, under the Myriad Financial Assistance Program (MFAP), you may qualify for $0 or reduced out-of-pocket cost, dependent on your family size and income.
- We offer interest-free payment plans for as low as $15 per month.
- Myriad Genetics offers a direct pay option for the MyRisk® test for patients who don't meet payer policy, are uninsured, or have a high unmet deductible. Patients can choose to forego insurance and pay for the MyRisk test directly in the rare situations where paying directly is financially preferable to using insurance.

## Learn more at myriad.com/myrisk

†Patients who are recipients of U.S. government-funded programs such as Medicaid, Medicare, Medicare-Advantage and Tricare may not be eligible.

*For uninsured patients, please go to www.MyriadPro.com/mfap for application information

## How do I apply for the Myriad Financial Assistance Program?*

1. Include your income and number of family members in your household on the Test Request Form (TRF) your healthcare provider asks you to sign.
2. Provide your correct email address and phone number on the TRF so Myriad Genetics can contact you with further details.
3. Provide income verification (from your most recent tax return) and complete a 1-page application.

## What is the difference between an Explanation of Benefits (EOB) and a bill?

Your insurance carrier will process the claim and then send you an Explanation of Benefits (EOB). THIS IS NOT A BILL. Most patients do not receive a bill, and you will NOT be responsible for any balance unless you receive a bill directly from Myriad Genetics, even if you receive a denial letter from your insurance company. If you have concerns about your EOB, please contact Myriad Genetics at (844) 697-4239 or billinghelp@myriad.com.

## The Myriad Genetics Promise

Because patients and their families use test results to make life-saving medical decisions, Myriad Genetics promises to provide affordable access to testing, a lifetime commitment to accurate results, and support every step of the way for ALL appropriate patients and their families.

The Myriad Genetics Promise is our commitment to give patients access to accurate and affordable genetic results.

**Hereditary cancer testing provided by:**

Myriad Genetic Laboratories, Inc.
320 Wakara Way, Salt Lake City, UT 84108

Myriad genetics