A Patient’s Guide to Hereditary Cancer and Genetic Testing
What is Hereditary Cancer?

Some people have a higher risk of developing cancer.

All cancer is caused by harmful changes, known as mutations, in a person’s genes. Most mutations occur by chance and others are thought to be caused by lifestyle and environmental factors. Some mutations are passed down through our family and can cause what is called hereditary cancer.

Types of Cancer

**Sporadic**

Occurs by chance. People with sporadic cancer typically do not have relatives with the same type of cancer.

**Familial**

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 does not appear to be a specific pattern of inheritance (e.g., the cancer risk is not clearly passed from parent to child).

**Hereditary**

Occurs 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 types of cancer. They may develop more than one cancer and their cancer often occurs at an earlier than average age.

Both men and women can inherit and pass down genetic mutations. Men with a family history of cancer, including breast and ovarian, should consider genetic testing.
Knowing your personal and family history of cancer is the first step in determining if you might be at increased risk for cancer.

- Know the history of cancer on 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 relatives)
- Know details such as type of cancer and age of diagnosis
- If you don’t know, take the time to find out!

If you can answer yes to any of the questions below, you could have an inherited risk for cancer and may be appropriate for hereditary cancer testing. Please discuss these red flags with your health care provider.

**RED FLAGS FOR HEREDITARY CANCER**
(Check all that apply)

- **MULTIPLE:** Have you or your family members been diagnosed with more than one cancer or have there been multiple cancers on the same side of the family?
- **YOUNG:** Have you or your family members been diagnosed with cancer at a young age (≤ 50 years old)?
- **RARE:** Have you or your family members been diagnosed with a rare cancer such as ovarian or male breast cancer?
- **ANCESTRY:** Are you of Ashkenazi Jewish ancestry?
What is Genetic Testing for Hereditary Cancer

Hereditary Cancer testing

Hereditary Cancer testing is a genetic test that can help your healthcare provider determine if you are at increased risk for developing cancer due to a genetic mutation passed down through your family.

TESTING IS QUICK & 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 Genetic Laboratories for analysis. Test results will be delivered directly to your provider in approximately 2 weeks. Your provider will schedule an appointment to discuss your results.

WHY IS HEREDITARY CANCER TESTING IMPORTANT
If you have a family history of cancer, hereditary cancer testing is the only way to determine if you have hereditary, familial or general population risk. This information allows you and your provider to make informed healthcare decisions and develop plans to manage any increased cancer risk.

Diane’s family had a strong history of cancer. Over 5 generations, eleven family members had been diagnosed with a total of twenty-two cancers. Sadly, eight of those family members eventually lost their battle with cancer. Diane’s doctor recognized the “red flags” in her family history and advised her to get hereditary cancer testing. Diane’s test was positive for an MSH2 gene mutation. Mutations in the MSH2 gene are associated with Lynch syndrome, which is a syndrome that significantly increases a person’s risk to develop colon, uterine and other cancers. This knowledge allowed Diane and her physician to take control of her increased cancer risk through increased screening and preventive 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 was identified with a genetic mutation, there have been no cancer deaths in her family.

“Most people think about cancer as something you either remove or treat… I’ve learned that cancer is preventable.”

Diane Hardesty
Cancer Previvor
Myriad myRisk® Hereditary Cancer Panel looks for multiple genetic mutations associated with increased cancer risk for 8 different cancers.

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For more information visit mySupport360.com
Possible Myriad myRisk Results

POSITIVE
- A genetic mutation was found in 1 or more of the genes tested
- You are at increased risk for cancer
- A summary of medical management guidelines will be provided specific to your gene mutation(s)

ELEVATED
- No genetic mutation was found in the genes tested
- You are at elevated risk for cancer based on an analysis of additional genetic markers, personal clinical risk factors, and/or your family’s history of cancer
- A summary of medical management guidelines will be provided based on your elevated risk

NEGATIVE
- No genetic mutation was found in the genes tested
- The common causes of hereditary cancer have been ruled out, but depending on family history of cancer, increased risks could still remain.
- Depending on your family history, medical management is usually based on general population screening guidelines; 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
- A change in a gene has been identified
- It is not yet known if the change is associated with increased cancer risk
- Medical management based on personal and family history of cancer until more is understood about this specific change

IF YOU ARE A WOMAN*, YOU MAY ALSO RECEIVE A RISKSCORE™ RESULT AND/OR A TYRER-CUZICK BREAST CANCER RISK ESTIMATE.

riskScore™ is a breast cancer risk prediction result that provides women, who are unaffected by breast cancer, with a personalized calculation of their future breast cancer risk. riskScore result uses a combination of genetic markers and clinical factors in its calculation.

Tyrer-Cuzick is a breast cancer risk model used to predict a woman’s risk of developing breast cancer. The Tyrer-Cuzick model takes into consideration 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, a summary of medical management guidelines will be provided.

*Based on research at time of product launch, riskScore™ is only calculated for women of solely European ancestry 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 woman or a blood relative is known to carry a mutation in a breast cancer risk gene.
Managing Your Increased Cancer Risk

Individuals with familial or hereditary cancer risk have a much greater chance of developing cancer during their lifetime. Knowing if you are at increased risk for cancer empowers you to make life-saving decisions. You and your physician can work together to create a personalized plan to prevent cancer, identify cancer at an earlier, more treatable stage or prevent secondary cancers. Your personalized prevention or treatment plan may include the following:

**INCREASED SURVEILLANCE**
Increased surveillance may identify a cancer at its earliest, most treatable stage

**RISK-REDUCING MEDICATIONS**
Certain medicines may prevent cancer from developing

**RISK-REDUCING SURGERY**
Based on individual considerations, certain surgeries can significantly reduce risk

**TREATMENT OPTIONS**
If you have been diagnosed with cancer, your test results may help determine appropriate treatment options

**DISCUSSING YOUR RESULTS WITH YOUR FAMILY**
It is important to discuss your results with your family. If you have a genetic mutation, your parents, children and siblings have as much as a 50% chance of having the same mutation. Other relatives such as aunts, uncles and cousins may also be at risk. Knowing whether or not they carry a familial mutation can allow family members to make more informed decisions on their cancer prevention strategies. For those who test negative, the results can bring peace of mind.

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

- **Breast**: Up to 87% increase
- **Ovarian**: Up to 63% increase
- **Colon**: Up to 71% increase
- **Endometrial**: Up to 76% increase
- **Melanoma**: Up to 36% increase
- **Gastric**: Up to 80% increase
- **Prostate**: Up to 20% increase

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Who is Myriad?
Myriad is the established leader in the field of hereditary cancer genetic testing with over 25 years of experience and over 2.5 million people tested. Our passion for patients drives everything we do. We are committed to providing healthcare professionals and patients with affordable and accurate information they can rely upon when decisions matter most.

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’s privacy policy, visit www.myriad.com/patients-families/the-myriad-difference/your-privacy.

Will my health insurance pay for my testing?
- 97% of private insurance companies have coverage for hereditary cancer testing
- 3 out of 4 patients pay $0
- Average patient out-of-pocket cost is $54
- Under the Affordable Care Act, BRCA testing is considered a preventive service with $0 patient out-of-pocket costs for women not currently being treated for breast or ovarian cancer

What if I have a high deductible plan or co-insurance?
If you have a high deductible or co-insurance, you may qualify for the Myriad Financial Assistance Program (MFAP) for a reduced out-of-pocket cost of no more than $100.

* For patients with a qualifying family history under all non-grandfathered insurance plans
† Patients who are recipients of U.S. government-funded programs such as Medicaid, Medicare, Medicare-Advantage and Tricare may not be eligible.
How do I apply for Myriad’s 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 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 our 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, even if you receive a denial letter from your insurance company. If you have concerns about your EOB please contact Myriad at (844) 697-4239 or billinghelp@myriad.com.

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

BECAUSE PATIENTS and their families use test results to make life saving medical decisions, Myriad promises to provide affordable access to testing, a lifetime commitment to accurate results, and comprehensive support for ALL appropriate patients and their families.

If you encounter ANY financial hardship associated with your genetic test, Myriad will work with you toward your complete satisfaction. Myriad provides payment plans without interest, where you can pay as little as $15/month if you have a bill.

For more information visit myriadpromise.com
Notice and Statement Concerning Nondiscrimination and Accessibility

Discrimination is Against the Law

Myriad Genetic Laboratories, Inc. (Myriad) complies with applicable Federal civil rights laws and does not discriminate on the basis of race, color, national origin, age, disability, or sex. Myriad does not exclude people or treat them differently because of race, color, national origin, age, disability, or sex.

Aids and Services

Myriad provides free aids and services to people with disabilities to communicate effectively with us, such as TTY/TDD calls or written information in suitable formats. Myriad will also provide free language services to people whose primary language is not English through qualified interpreters.

If you need these services, contact Ms. Sara Greene:

Sara Greene
Compliance Specialist
320 Wakara Way
Salt Lake City, UT 84108
Telephone: (801) 584-3600
Fax: (801) 883-3472
Email: compliance@myriad.com

Grievances

If you believe that Myriad has failed to provide these services or discriminated in another way on the basis of race, color, national origin, age, disability, or sex. You can file a grievance by mail, telephone, fax, or email. If you need help filing a grievance, Ms. Greene is available to help you (see contact information above).

Grievance Procedure

1. Any person who believes someone has been subjected to discrimination by Myriad on the basis of race, color, national origin, sex, age or disability may file a grievance with Myriad. It is against the law for Myriad to retaliate against anyone who opposes discrimination, files a grievance, or participates in the investigation of a grievance.

2. Grievances must be submitted within 60 days of the date the person filing the grievance becomes aware of the alleged discriminatory action.

3. The complaint must be in writing, containing the name and address of the person filing it. The complaint must state the problem or action alleged to be discriminatory and the remedy or relief sought.

4. Myriad will conduct an investigation of the complaint. This investigation may be informal, but it will be thorough, affording all interested persons an opportunity to submit evidence relevant to the complaint. Myriad will maintain the files and records relating to such grievances. To the extent possible, and in accordance with applicable law, Myriad will take appropriate steps to preserve the confidentiality of files and records relating to grievances and will share them only with those who have a need to know.

5. Myriad will issue a written decision on the grievance, based on a preponderance of the evidence, no later than 30 days after its filing, including a notice to the complainant of their right to pursue further administrative or legal remedies.

6. The person filing the grievance may appeal Myriad’s decision in writing to the President of Myriad Genetic Laboratories, Inc. within 15 days of receiving Myriad’s initial decision. The President will issue a written decision in response to the appeal no later than 30 days after its filing.

7. Individuals seeking access to Section 1557 and its implementing regulations may be facilitated by contacting Ms. Greene (see contact information above).

8. The availability and use of this grievance procedure does not prevent a person from pursuing other legal or administrative remedies, including filing a complaint of discrimination on the basis of race, color, national origin, sex, age or disability in court or with the U.S. Department of Health and Human Services, Office for Civil Rights. A person can file a complaint of discrimination electronically through the Office for Civil Rights Complaint Portal, which is available at: https://ocrportal.hhs.gov/ocr/portal/lobby.jsf, or by mail or phone at:

   U.S. Department of Health and Human Services
   200 Independence Avenue, SW
   Room S09F, HHH Building
   Washington, D.C. 20201

9. Complaint forms are available at: http://www.hhs.gov/ocr/office/file/index.html. Such complaints must be filed within 180 days of the date of the alleged discrimination. Myriad will make appropriate arrangements to ensure that individuals with disabilities and individuals with limited English proficiency are provided auxiliary aids and services or language assistance services, respectively, if needed to participate in this grievance process. Ms. Greene will be responsible for such arrangements.
The mySupport360 Community

• Helps guide patients and their family members through the genetic testing process

• Provides valuable information along the way and serves as an avenue to hear from others who are facing the same decisions

Your health care provider is always your number one resource. You are also invited to visit mySupport360.com. Whether you are undertaking the hereditary cancer testing journey for yourself, a loved one, or a friend, mySupport360 will help keep you informed, proactive and confidently prepared throughout the process.

Learn more at mySupport360.com

Hereditary Cancer Testing Provided by:
Myriad Genetic Laboratories, Inc.,
320 Wakara Way, Salt Lake City, UT 84108

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