DOES CANCER RUN IN YOUR FAMILY?

A Patient's Guide to Hereditary Cancer and Genetic Testing

MYRIAD myRisk® 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)

PERSONAL HISTORY OF:	FAMILY HISTORY OF:
☐ Breast cancer at any age	☐ Breast cancer at 49 or younger
☐ Ovarian cancer at any age	☐ Two breast cancers in one relative at any age
☐ Metastatic prostate cancer at any age	☐ Three or more breast cancers in relatives on the same side of the family at any age
☐ Pancreatic cancer at any age	☐ Ovarian, metastatic prostate, pancreatic cancer, or male breast cancer at any age
☐ Colon, rectal, or uterine cancer at 64 or younger	☐ Colon, rectal, uterine cancer at 49 or younger (1st degree relative)
	☐ A gene mutation found in a family member
	☐ Ashkenazi Jewish ancestry with breast cancer in one relative at any age

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 22 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.

Gene	Breast	Ovarian	Colorectal	Endometrial	Melanoma	Pancreatic	Gastric	Prostate	Other Cancers
BRCA1	●	●				●		●	
BRCA2	●	●			●	●		●	
MLH1		●	●	●		●	●	●	●
MSH2		●	●	●		●	●	●	●
MSH6		●	●	●		●	●	●	●
PMS2		●	●	●		●	●	●	●
EPCAM		●	●	●		●	●	●	●
APC			●			●	●		●
MUTYH (2 copies)			●						●
MUTYH (1 copy)			●						
CDKN2A (p16INK4a)					●	●			
CDKN2A (p14ARF)					●	●			
CDK4					●	●			
TP53	●	●	●	●	●	●	●	●	●
PTEN	●		●	●	●				●
STK11	●	●	●	●		●	●		●
CDH1	●		●				●		
BMPR1A			●			●	●		●
SMAD4			●			●	●		●
PALB2	●					●			
CHEK2	●		●						
ATM	●					●			
NBN	●							●	
BARD1	●								
BRIP1, RAD51C, RAD51D		●							
HOXB13								●	
POLD1, POLE, GREM1, AXIN2, GALNT12, MSH3 NTHL1, RPS20, RNF43			●						

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

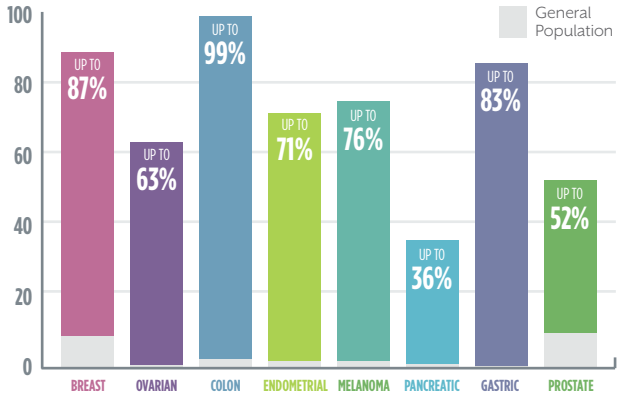
RISK-REDUCING SURGERY
Based on individual considerations, certain surgeries can significantly reduce risk

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.

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 http://myriadmyrisk.com/products/myriad-myrisk/myrisk-gene-table

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

- Through insurance coverage and financial assistance
  - 75% of patients pay $0
  - ≥90% of patients have or will qualify for a payment of $100 or less

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.†

†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

Myriad **Promise**™

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 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 Don Martin:
Don Martin
Compliance Director
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, Mr. Martin 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 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 Mr. Martin (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 509F, 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. Mr. Martin will be responsible for such arrangements.

Español (Spanish)
Myriad cumple con las leyes federales de derechos civiles aplicables y no discrimina por motivos de raza, color, nacionalidad, edad, discapacidad o sexo. ATENCIÓN: si habla español, tiene a su disposición servicios gratuitos de asistencia lingüística. Llame al 1-801-584-3600.

繁體中文 (Chinese)
Myriad. 遵守適用的聯邦民權法律規定，不因種族、膚色、民族血統、年齡、殘障或性別而□視任何人。
注意：如果□使用繁體中文，□可以免費獲得語言援助服務。請致電 1-801-584-3600.。

Tiếng Việt (Vietnamese)
Myriad tuân thủ luật dân quyền hiện hành của Liên bang và không phân biệt đối xử dựa trên chủng tộc, màu da, nguồn gốc quốc gia, độ tuổi, khuyết tật, hoặc giới tính.
CHÚ Ý: Nếu bạn nói Tiếng Việt, có các dịch vụ hỗ trợ ngôn ngữ miễn phí dành cho bạn. Gọi số 1-801-584-3600.

한국어 (Korean)
Myriad 은(는) 관련 연방 공민권법을 준수하며 인종, 피부색, 출신 국가, 연령, 장애 또는 성별을 이유로 차별하지 않습니다.
주의: 한국어를 사용하시는 경우, 언어 지원 서비스를 무료로 이용하실 수 있습니다. 1-801-584-3600. 번으로 전화해 주십시오.

Tagalog (Tagalog – Filipino)
Sumusunod ang Myriad sa mga naaangkop na Pederal na batas sa karapatang sibil at hindi nandidiskrimina batay sa lahi, kulay, bansang pinagmulan, edad, kapansanan o kasarian. PAUNAWA: Kung nagsasalita ka ng Tagalog, maaari kang gumamit ng mga serbisyo ng tulong sa wika nang walang bayad. Tumawag sa 1-801-584-3600.

Русский (Russian)
Myriad соблюдает применимое федеральное законодательство в области гражданских прав и не допускает дискриминации по признакам расы, цвета кожи, национальной принадлежности, возраста, инвалидности или пола. ВНИМАНИЕ: Если вы говорите на русском языке, то вам доступны бесплатные услуги перевода. Звоните 1-801-584-3600.

العربية (Arabic)
يلتزم [Myriad Genetic Laboratories, Inc.] بقوانين الحقوق المدنية الفدرالية المعمول بها ولا يميز على أساس العرق أو اللون أو الأصل الوطني أو السن أو الإعاقة أو الجنس.

ملحوظة: إذا كنت تتحدث اذكر اللغة، فإن خدمات المساعدة اللغوية تتوافر لك بالمجان. اتصل برقم1-801-584-3600

Kreyòl Ayisyen (French Creole)
Myriad konfòm ak lwa sou dwa sivil Federal ki aplikab yo e li pa fè diskriminasyon sou baz ras, koulè, peyi orijin, laj, enfimite oswa sèks. ATANSYON: Si w pale Kreyòl Ayisyen, gen sèvis èd pou lang ki disponib gratis pou ou. Rele 1-801-584-3600.

Français (French)
Myriad respecte les lois fédérales en vigueur relatives aux droits civiques et ne pratique aucune discrimination basée sur la race, la couleur de peau, l'origine nationale, l'âge, le sexe ou un handicap. ATTENTION: Si vous parlez français, des services d'aide linguistique vous sont proposés gratuitement. Appelez le 1-801-584-3600.

Português (Portuguese)
Myriad cumpre as leis de direitos civis federais aplicáveis e não exerce discriminação com base na raça, cor, nacionalidade, idade, deficiência ou sexo.
ATENÇÃO: Se fala português, encontram-se disponíveis serviços linguísticos, grátis. Ligue para 1-801-584-3600.

Italiano (Italian)
Myriad è conforme a tutte le leggi federali vigenti in materia di diritti civili e non pone in essere discriminazioni sulla base di razza, colore, origine nazionale, età, disabilità o sesso. ATTENZIONE: In caso la lingua parlata sia l'italiano, sono disponibili servizi di assistenza linguistica gratuiti. Chiamare il numero 1-801-584-3600.

Deutsch (German)
Myriad erfüllt geltenden bundesstaatliche Menschenrechtsgesetze und lehnt jegliche Diskriminierung aufgrund von Rasse, Hautfarbe, Herkunft, Alter, Behinderung oder Geschlecht ab. ACHTUNG: Wenn Sie Deutsch sprechen, stehen Ihnen kostenlos sprachliche Hilfsdienstleistungen zur Verfügung. Rufnummer: 1-801-584-3600.

Polski (Polish)
Myriad postępuje zgodnie z obowiązującymi federalnymi prawami obywatelskimi i nie dopuszcza się dyskryminacji ze względu na rasę, kolor skóry, pochodzenie, wiek, niepełnosprawność bądź płeć.
UWAGA: Jeżeli mówisz po polsku, możesz skorzystać z bezpłatnej pomocy językowej. Zadzwoń pod numer 1-801-584-3600.

日本語 (Japanese)
Myriad は適用される連邦公民権法を遵守し、人種、肌の色、出身国、年齢、障害または性別に基づく差別をいたしません。
注意事項：日本語を話される場合、無料の言語支援をご利用いただけます。1-801-584-3600.

فارسی (Farsi)
[Myriad Genetic Laboratories, Inc.] از قوانین حقوق مدنی فدرال مربوطه تبعیت می کند و هیچگونه تبعیضی بر اساس نژاد، رنگ پوست، اصلیت ملیتی، سن، تاتوانی یا جنسیت افراد قایل نمی شود.
توجه: اگر به زبان فارسی گفتگو می کنید، تسهیلات زبانی بصورت رایگان برای شما فراهم می باشد. با 1-801-584-3600 تماس بگیرید.

The mySupport360 Community

MYSUPPORT360

- 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**

myriad®
WHEN DECISIONS MATTER

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