MYRIAD myRisk®

Hereditary Cancer

A Patient's Guide

GENETIC TESTING FOR HEREDITARY CANCER

myriad®

WHEN DECISIONS MATTER

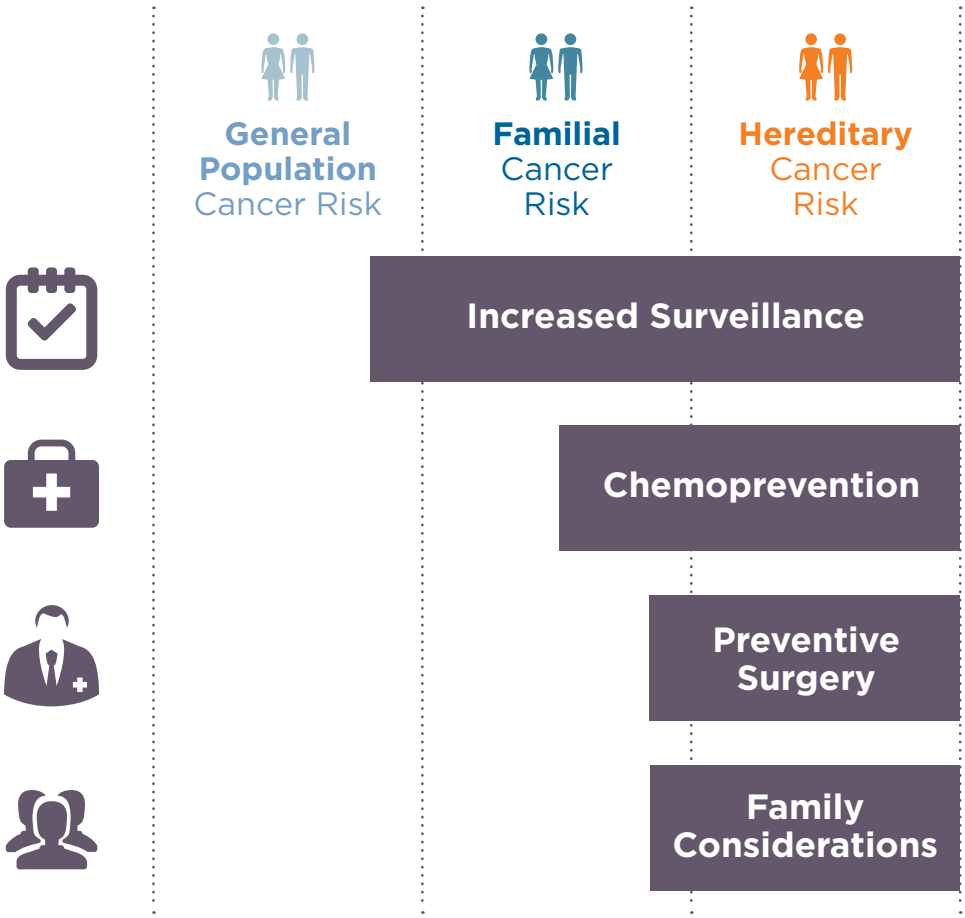
Hereditary Cancer & You

Up to 10% of all cancers develop because a person inherited a genetic mutation in a way that encourages the disease to grow. Individuals with these genetic mutations are far more likely to develop certain cancers, often at much earlier ages than the general population.

Understanding your cancer risk

Medical management of people with a higher cancer risk (i.e., hereditary risk) can be very different from that for people with a lower cancer risk (i.e., general population risk). You and your healthcare provider can determine your cancer risk and course of management by understanding your family history and pursuing hereditary cancer testing when appropriate.

Personalized Cancer Risk Reduction Plan



Red Flags for Hereditary Cancer

After careful review, your healthcare provider determined that Myriad myRisk® Hereditary Cancer was the right genetic test for you because your personal and/or family history matched one or more of the risk factors below for possible hereditary cancer risk.

An individual with a personal or family history of **any ONE of the following**:

MULTIPLE CANCERS A combination of cancers on the same side of the family	• **2 or more:** breast / ovarian / prostate / pancreatic cancer • **2 or more:** colorectal / endometrial / ovarian / gastric / pancreatic / other cancers (i.e., ureter/ renal pelvis, biliary tract, small bowel, brain, sebaceous adenomas) • **2 or more:** melanoma / pancreatic cancer
YOUNG CANCERS Any 1 of the following cancers at age **50 or younger**	• Breast cancer • Colorectal cancer • Endometrial cancer
RARE CANCERS Any 1 of these rare presentations at **any age**	• Ovarian cancer • Breast: male breast cancer or triple negative breast cancer • Colorectal cancer with abnormal MSI/IHC, MSI associated histology†† • Endometrial cancer with abnormal MSI/IHC • 10 or more gastrointestinal polyps*

Certain ancestries may have greater risk for hereditary cancer syndromes (e.g., Ashkenazi Jewish ancestry)

††Presence of tumor infiltrating lymphocytes, Crohn's-like lymphocytic reaction, mucinous/signet-ring differentiation, or medullary growth pattern.
*Adenomatous type.
Assessment criteria based on medical society guidelines. For these individual medical society guidelines, go to www.MyriadPro.com/guidelines.
Family members include first-, second-, and third-degree blood relatives on both your mother's and father's sides.

MYRIAD myRisk® Hereditary Cancer

About Myriad myRisk®

What is Myriad myRisk?

Myriad myRisk is the only hereditary cancer test that combines your genetic information with the personal and family history you give your healthcare provider to generate guideline-based management options to help you lower cancer risks.

What does Myriad myRisk do for me?

The test result provides critical information for your healthcare provider to make optimal medical decisions and take action in building a personalized cancer risk-reduction plan.

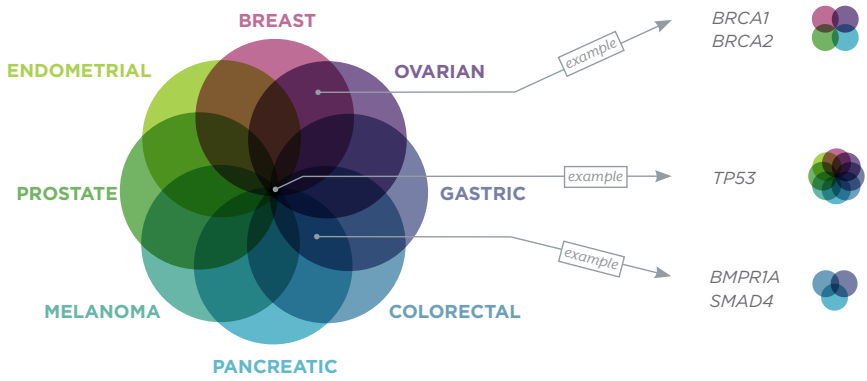
What does Myriad myRisk test for?

Myriad myRisk looks at multiple genes that impact inherited risks for eight important cancers. Testing multiple genes increases the chance of finding an explanation for your personal and/or family history of cancer.

Why Myriad myRisk?

Myriad myRisk incorporates your family history and genetic results to help optimize your medical management. Myriad myRisk is the gold standard in accuracy and offers fast turnaround time for panel testing.

Myriad myRisk analyzes multiple genes associated with overlapping cancer risk



Gene panel includes: *BRCA1, BRCA2, MLH1, MSH2, MSH6, PMS2, EPCAM, APC, MUTYH, CDKN2A, CDK4, TP53, PTEN, STK11, CDH1, BMPR1A, SMAD4 , PALB2, CHEK2, ATM, NBN, BARD1, BRIP1, RAD51C, RAD51D, POLE, POLD1, and GREM1*

Myriad myRisk® Report Overview

Myriad myRisk reports can be positive or negative for genetic mutations known to increase cancer risk. The management plan that you and your healthcare provider follow may need to change based on the findings of cancer risk.

If your result is positive

You carry a genetic mutation that increases your cancer risk. There are many ways to manage your cancer risk. The Myriad myRisk report is a helpful tool for you to understand some of your options.

The report your healthcare provider receives will include information about the genetic mutation and your personal and/or family cancer history. Both may contribute to increased cancer risk. Management recommendations for specific cancer risks are generated on the basis of well-established and respected medical guidelines.

These recommendations may help you and your healthcare provider discuss and determine the right course of management for you and your family. Talking with family members about your test result is very important so they can take steps to determine their own risk.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Integrated BRAC*Analysis*® with Myriad myRisk® Hereditary Cancer

myRisk Genetic Result

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RECEIVING HEALTHCARE PROVIDER	SPECIMEN		PATIENT	
Physician Name, MD	Specimen Type:	**Blood**	Name:	**Case Study 3**
Myriad Oncology Partners	Draw Date:	**Apr 1, 2015**	Date of Birth:	**Jan 1, 1971**
320 Wakara Way	Accession Date:	**Apr 2, 2015**	Patient ID:	**0000**
Salt Lake City, UT 84108	Report Date:	**Apr 30, 2015**	Gender:	**Female**
			Accession #:	**00000000-000**
			Requisition #:	**0000000**

ORDERING PHYSICIAN: **Physician Name, MD**

RESULT: POSITIVE - CLINICALLY SIGNIFICANT MUTATION IDENTIFIED
Note: "CLINICALLY SIGNIFICANT," as defined in this report, is a genetic change that is associated with the potential to alter medical intervention.

GENE	MUTATION	INTERPRETATION
BRCA1	**c.241C>T (p.Gln81*)** Heterozygous	**High Cancer Risk** This patient has Hereditary Breast and Ovarian Cancer syndrome (HBOC).

DETAILS ABOUT: ***BRCA1*** **c.241C>T (p.Gln81*): NM_007294.3; (aka: Q81X (360C>T))**

Functional Significance: Deleterious - Abnormal Protein Production and/or Function
The heterozygous germline *BRCA1* mutation c.241C>T is predicted to result in the premature truncation of the *BRCA1* protein at amino acid position 81 (p.Gln81*).

Clinical Significance: High Cancer Risk
This mutation is associated with increased cancer risk and should be regarded as clinically significant.

ADDITIONAL FINDINGS: NO VARIANT(S) OF UNCERTAIN SIGNIFICANCE (VUS) IDENTIFIED

Details About Non-Clinically Significant Variants: All individuals carry DNA changes (i.e., variants), and most variants do not increase an individual's risk of cancer or other diseases. When identified, variants of uncertain significance (VUS) are reported. Likely benign variants (Favor Polymorphisms) and benign variants (Polymorphisms) are not reported and available data indicate that these variants most likely do not cause increased cancer risk. Present evidence does not suggest that non-clinically significant variant findings be used to modify patient medical management beyond what is indicated by the personal and family history and any other clinically significant findings.

Variant Classification: Myriad's myVision™ Variant Classification Program performs ongoing evaluations of variant classifications. In certain cases, healthcare providers may be contacted for more clinical information or to arrange family testing to aid in variant classification. When new evidence about a variant is identified and determined to result in clinical significance and management change, that information will automatically be made available to the healthcare provider through an amended report.

ADDITIONAL INFORMATION

GENES ANALYZED

Unless otherwise noted sequencing and large rearrangement analyses were performed on the following genes:

APC, ATM, BARD1, BMPR1A, BRCA1, BRCA2, BRIP1, CDH1, CDK4, CDKN2A, CHEK2, EPCAM (large rearrangement only), *MLH1, MSH2, MSH6, MUTYH, NBN, PALB2, PMS2, PTEN, RAD51C, RAD51D, SMAD4, STK11, TP53.*

** Other genes not analyzed with this test may also be associated with cancer.

Indication for Testing: It is our understanding that this individual was identified for testing due to a personal or family history suggestive of a hereditary predisposition for cancer.

Associated Cancer Risks and Clinical Management: Please see the "myRisk Management Tool" associated with this report for a summary of cancer risk and professional society medical management guidelines that may be useful in developing a plan for this patient based on test results and reported personal/family history, if applicable. Testing of other family members may assist in the interpretation of this patient's test result.

Analysis Description: The Technical Specifications summary (MyriadPro.com/myRisk) describes the analysis, method, performance, nomenclature, and interpretive criteria of this test. The classification and interpretation of all variants identified in this assay reflects the current state of scientific understanding at the time this report was issued, and may change as new scientific information becomes available. The interpretation of this test may be impacted if the patient has a hematologic malignancy or an allogeneic bone marrow transplant.

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myRisk Genetic Result: **Page 1 of 2**

If your result is negative

You do not carry a known genetic mutation that increases cancer risk. However, it is not uncommon for cancer(s) to "run in the family" even when there is no identified genetic cause. If this is the case for you, you might still have a higher risk than the general population because of the unexplained cancer family history.

As a result, your healthcare provider may want to personalize a management plan on the basis of your personal and/or family history.

It is important that you continue to update your healthcare provider with a complete and accurate cancer family history. This helps to manage your cancer risks appropriately.


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myRisk Genetic Result

MYRIAD myRisk® Hereditary Cancer | Powered by myVision

RECEIVING HEALTHCARE PROVIDER	SPECIMEN		PATIENT	
Physician Name, MD	Specimen Type:	**Blood**	Name:	**Case Study 2**
Myriad Oncology Partners	Draw Date:	**Apr 1, 2015**	Date of Birth:	**Jan 1, 1979**
320 Wakara Way	Accession Date:	**Apr 2, 2015**	Patient ID:	**0000**
Salt Lake City, UT 84108	Report Date:	**Apr 30, 2015**	Gender:	**Female**
			Accession #:	**00000000-000**
			Requisition #:	**0000000**

ORDERING PHYSICIAN: **Physician Name, MD**

RESULT: NEGATIVE - NO CLINICALLY SIGNIFICANT MUTATION IDENTIFIED
Note: "CLINICALLY SIGNIFICANT," as defined in this report, is a genetic change that is associated with the potential to alter medical intervention.

ADDITIONAL FINDINGS: NO VARIANT(S) OF UNCERTAIN SIGNIFICANCE (VUS) IDENTIFIED

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Please contact Myriad Medical Services at 1-800-469-7423 X 3850 to discuss any questions regarding this result.

This **Authorized Signature** pertains to this laboratory report:

Benjamin B. Roa, PhD
Diplomate ABMG
Laboratory Director

Richard J. Wenstrup, MD
Diplomate ABMG
Chief Medical Officer

These test results should only be used in conjunction with the patient's clinical history and any previous analysis of appropriate family members. The patient's clinical history and test results should not be disclosed to a third party, unless related to treatment or payment for treatment, without the patient's express written authorization. It is strongly recommended that these results be communicated to the patient in a setting that includes appropriate counseling. This test was developed and its performance characteristics determined by Myriad Genetic Laboratories. It has not been cleared or approved by the U.S. Food and Drug Administration (FDA). The FDA has determined that clearance or approval for laboratory-developed tests is not required.

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myRisk Genetic Result: **Page 1 of 1**

MYRIAD myRisk® Hereditary Cancer

Other questions you might be asking

Who is Myriad?

With over 25 years of experience and more than 1.6 million people tested, Myriad is the established leader in the field of hereditary genetic testing. Myriad's genetic tests are known for quality and accuracy. The extensive knowledge base, a highly specialized professional staff, and the commitment to support healthcare providers and patients make Myriad the unquestioned leader in genetic testing for hereditary cancer.

What is Myriad's lifetime commitment?

Myriad performs ongoing investigations and research on all findings. Your healthcare provider will be contacted if new genetic information affects your medical management. Patients who were previously tested by Myriad may benefit from test updates to adjust their personal cancer risk-reduction plans.

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?

Most insurance carriers cover genetic testing services for hereditary cancer. In fact, most appropriate patients pay $0. Myriad helps you receive the appropriate coverage from your plan. Please read the important information about the Myriad Promise™ on the next page.

Where can I find patient support?

Visit mySupport360.com to learn more. mySupport360® is a website where patients and their families can learn about other patients' experiences and gather comprehensive information about hereditary cancer syndromes—what they are, what the risks are, and what can be done about them. Your experience can be completely personalized so that you receive reminders about appointments and options for management.

Financial Support & Flexibility

Myriad Promise™

Our 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.

When one of our tests is ordered for you, we will work with your insurance provider to help you get the appropriate coverage allowed by your plan.

Coverage is excellent:
- Average patient out-of-pocket is $54
- 3 out of 4 patients pay $0
- 97% of private insurance companies have coverage for hereditary cancer testing

You may qualify for Myriad's Financial Assistance Program (MFAP) if you meet certain medical and financial criteria.

If you encounter ANY financial hardship associated with your bill, Myriad will work directly with you toward your complete satisfaction, GUARANTEED.

If you have questions regarding your insurance Explanation of Benefits or less frequently, a Myriad bill, please contact Myriad rather than your health care provider. Myriad is here to help: **844-MYRIAD9** (844-697-4239) or **billinghelp@myriad.com.**

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 healthcare 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.

Visit **MyriadPromise.com** and **mySupport360.com** to learn more

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