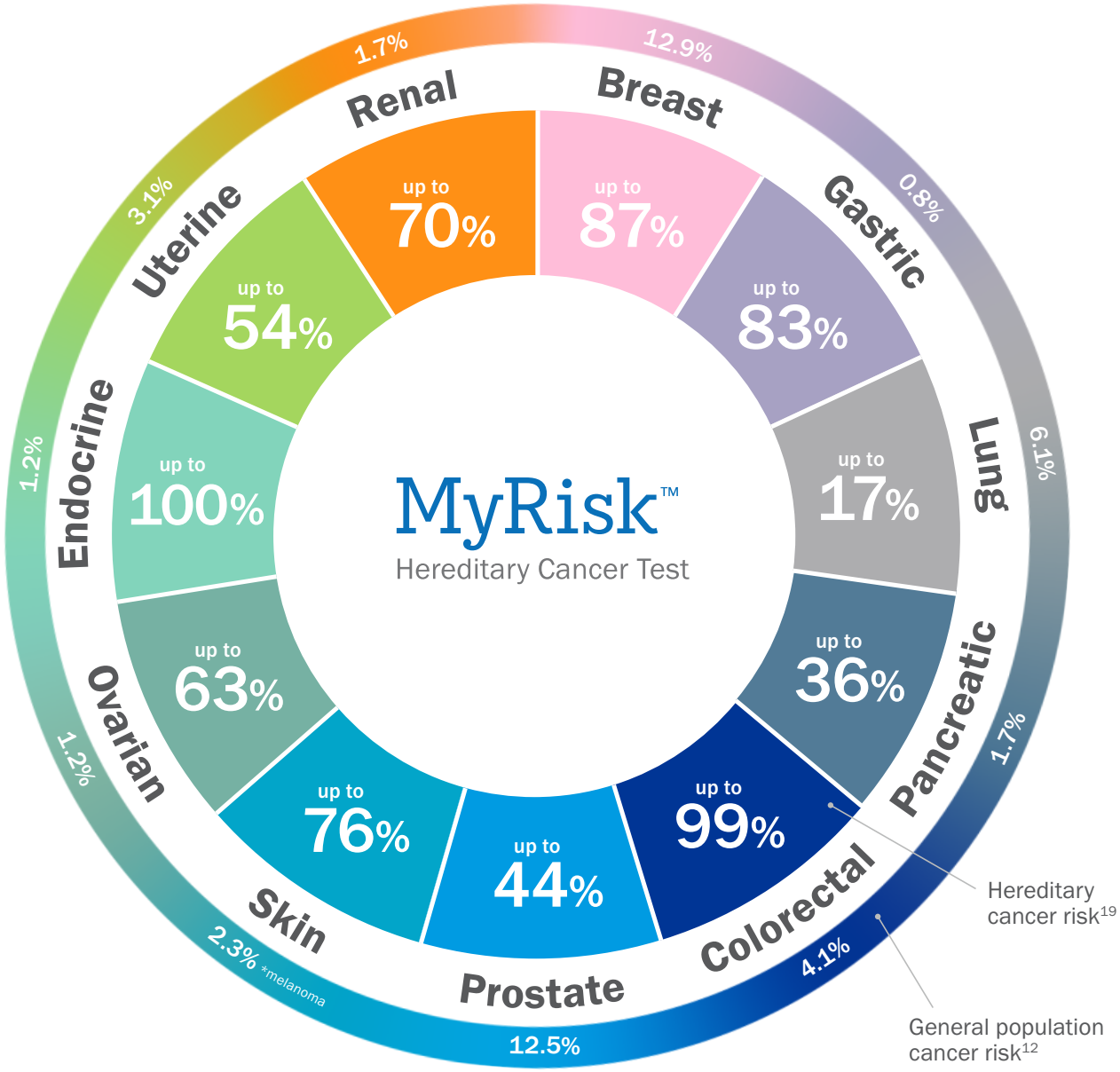
Know your patients. Know their risk.

A guide to managing your patients' cancer risks



Myriad genetics

Health. Illuminated.

Your patients' family history can dramatically impact the medical management decisions you make today

Every patient has some risk of developing cancer

Having patients complete a personal and family cancer history is essential to assessing their risk and stratifying them into the appropriate cancer risk category.

General population

Familial

Hereditary

Low: General population risk

- Occurs by chance
- Doesn't have relatives with the same type of cancer
- Negative for a known deleterious mutation in the family

Moderate: Familial cancer risk

- Likely caused by a combination of genetic and environmental factors
- May have one or more relatives with the same type of cancer
- Doesn't appear to be a specific pattern of inheritance

High: Hereditary cancer risk

- Occurs when an altered gene is passed down from parent to child
- More likely to have relatives with the same or related types of cancer
- May develop more than one cancer
- Cancer often occurs at an earlier than average age

Medical society guidelines recommend collecting and evaluating family history as a screening tool for hereditary cancer risk. Family history information should be reviewed and updated on a regular basis.[1,2]

Hereditary cancer risk assessment is similar to other routine protocols

	Clinical breast exam	HPV and Pap test	Cancer family history
Screen (Rate of Abnormal)	**7%**[3]	**7-22%**[4]	**10-24%**[5,6]
Evaluate	Palpable Mass/Screening Imaging Studies	High-Risk HPV+ Cytology Higher than Low-Grade Squamous Lesion (LSIL) Biopsy proven High-Grade Squamous Lesion (HSIL)	Significance of Cancer Family History
Diagnose	Diagnostic Imaging Studies Breast Aspiration and/or Biopsy	Colposcopy/Biopsy	Hereditary Cancer Testing
Result Rate (% of Abnormal Screens) **Positive** **Negative**	**Cancer Diagnosis:** **~10%** [7,8,9] **~90%**	**Cancer Diagnosis:** **<1%**[4,10] **<99%**	**Hereditary Cancer Diagnosis:** Hereditary Risk up to **12%**[11] Familial Risk **~88%**
Manage	Develop a plan for appropriate medical management		

Who should you test with MyRisk™?

We've created an easy-to-use list of critical questions that will help you identify patients for screening. If your patient answers “Yes” to any of the questions below, it's time to discuss hereditary cancer testing.

Do you have a personal history of:

Breast, ovarian, colon or rectal, or pancreatic cancer at any age?	☐ Yes	☐ No
Uterine cancer at age 64 or younger?	☐ Yes	☐ No

Has any relative (parent, sibling, half-sibling, child, grandparent, grandchild, aunt/uncle, niece/nephew) been diagnosed with: → Most common

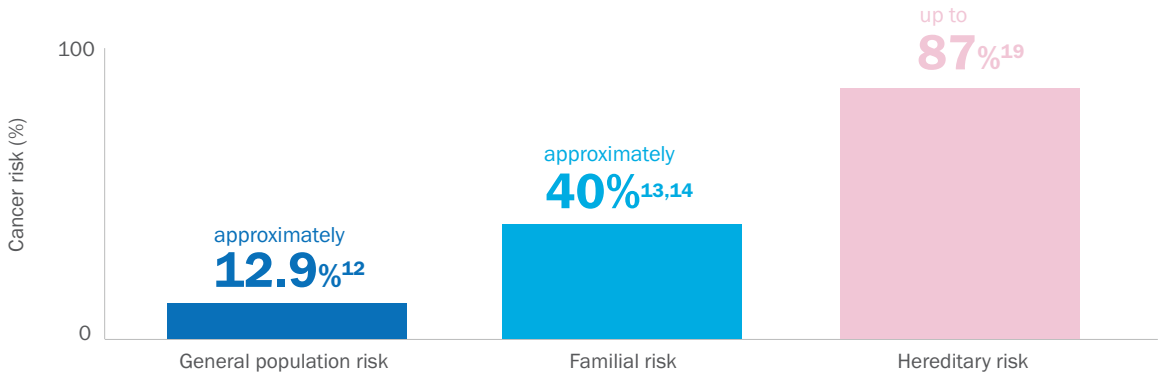
Breast cancer at age 49 or younger?	☐ Yes	☐ No
Ovarian cancer at any age?	☐ Yes	☐ No

Has a parent, sibling, or child been diagnosed with:

Pancreatic cancer at any age?	☐ Yes	☐ No
Colon or rectal cancer at age 49 or younger?	☐ Yes	☐ No
Endometrial cancer at age 49 or younger?	☐ Yes	☐ No

Managing breast cancer risk for an unaffected patient based on family history and hereditary cancer status

Breast cancer



Management considerations

General population risk[7]

Female:
- Education about breast awareness and clinical breast exams every 1-3 years beginning at age 25
- Annual clinical breast exams and screening mammography beginning at age 40. Consider tomosynthesis
- Women should be informed of the potential benefits and limitations of breast cancer screening

*Breast cancer screening recommendations varies between professional societies. For a comparison between, please review Breast Cancer Screening Guidelines for Women (cdc.gov)

Male (cancer risk <0.1%15 by age 70):
- No current screening guidelines exist

Familial risk[7,16]

Female:
- Clinical breast exams every 6-12 months beginning at age as being at increased risk, but not prior to age 21
- Annual screening mammography (with consideration of tomosynthesis) AND breast MRI with contrast beginning at age 10 years prior to the earliest diagnosis in the family and no later than age 40
- Additional risk reduction strategies, such as chemoprevention

Male (cancer risk up to 1%[15] by age 70):
- Clinical breast exams every 6-12 months beginning at age 35
- Consideration of mammography

Hereditary risk[17,18]

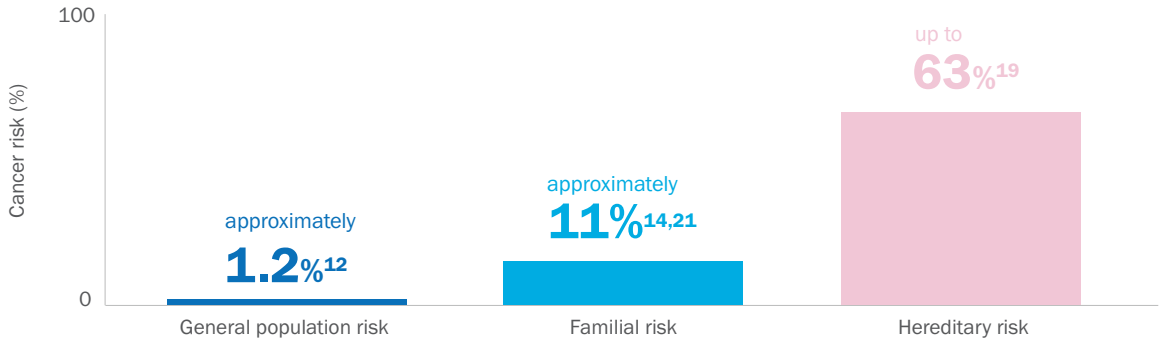
Female:
- Breast awareness education beginning at age 18
- Clinical breast exams every 6-12 months beginning at age 25
- Annual breast MRI beginning at age 25
- Annual mammography beginning at age 30
- Consideration of additional risk reduction strategies, such as chemoprevention
- Consideration of risk reducing mastectomy
- Breast self-exam training and education beginning at age 35 years

Male (cancer risk up to 6.8%[19] by age 70):
- Breast self-exam training and education beginning at age 35 years
- Clinical breast exam every 12 months beginning at age 35 years
- Consideration of mammography

*For the most up-to-date gene-associated cancer risks, management criteria, and other syndrome-related cancers not listed here refer to the Gene Tables located at https://myriad.com/gene-table. Risks are for patients who have never had cancer. Patients with hereditary risk may have increased risk for other syndrome related cancers.
**Familial management options are dependent on the age of onset and degree of relationship of affected family members. Refer to published guidelines, as needed.

Managing ovarian cancer risk for an unaffected patient based on family history and hereditary cancer status

Ovarian cancer



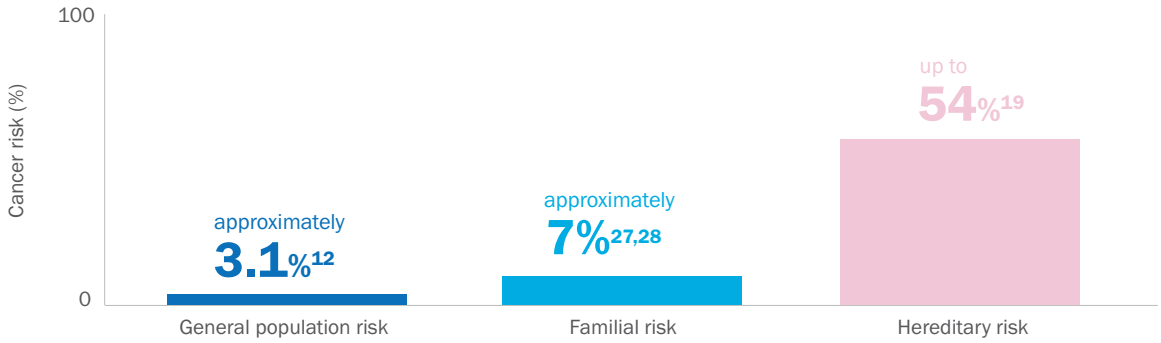
Management considerations

General population risk[20]	• No current screening guidelines exist
Familial risk[20]	• No current screening guidelines exist
Hereditary risk[17,18]	• Consideration of chemoprevention options, such as oral contraceptives • Consideration of transvaginal ultrasound, pelvic examination and/or CA-125 measurement beginning at age 30 or individualized • Bilateral salpingo-oophorectomy at age 35-40 after completion of childbearing or individualized based on age of earliest diagnosis in the family

* For the most up-to-date gene-associated cancer risks, management criteria, and other syndrome-related cancers not listed here refer to the Gene Tables located at https://myriad.com/gene-table. Risks are for patients who have never had cancer. Patients with hereditary risk may have increased risk for other syndrome related cancers.

Managing endometrial cancer risk for an unaffected patient based on family history and hereditary cancer status

Endometrial cancer



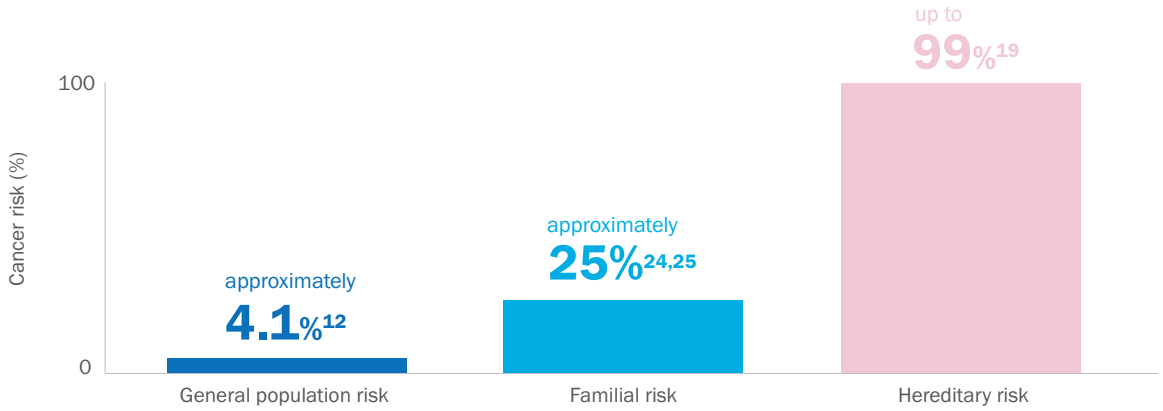
Management considerations

General population risk[29]	• No current screening guidelines exist
Familial risk[29]	• No current screening guidelines exist
Hereditary risk[22,26]	• Educate patient about endometrial cancer symptoms • Consideration of annual pelvic exam and transvaginal ultrasound as early as age 18-20 • Consideration of endometrial sampling beginning at age 30-35 • Consideration of hysterectomy after completion of childbearing

* For the most up-to-date gene-associated cancer risks, management criteria, and other syndrome-related cancers not listed here refer to the Gene Tables located at https://myriad.com/gene-table. Risks are for patients who have never had cancer. Patients with hereditary risk may have increased risk for other syndrome related cancers.

Managing colorectal cancer risk for an unaffected patient based on family history and hereditary cancer status

Colorectal cancer



Management considerations

General population risk[23]

- Screening beginning at age 45 by colonoscopy or a combination of other modalities such as stool testing and flexible sigmoidoscopy

Familial risk[23,26]

- Colonoscopy screening every 3-5 years beginning as early as age 40 or 10 years before the earliest diagnosis of colorectal cancer

Hereditary risk[23,26]

Lynch Syndrome

- High quality colonoscopy screening every 1-2 years beginning at age 20-25 or 2-5 years before the earliest diagnosis of colorectal cancer in the family if it is diagnosed before age 25
- Consideration of aspirin as a risk reduction agent

Familial Adenomatous Polyposis (FAP)

- Annual colonoscopy beginning as early as age 10-15
- Consideration of chemoprevention with NSAIDs
- Consideration of colectomy based on polyp burden and other clinical features

*For the most up-to-date gene-associated cancer risks, management criteria, and other syndrome-related cancers not listed here refer to the Gene Tables located at https://myriad.com/gene-table. Risks are for patients who have never had cancer. Patients with hereditary risk may have increased risk for other syndrome related cancers.
** Familial management options are dependent on the age of onset and degree of relationship of affected family members. Refer to published guidelines, as needed.
* Medical management guidelines provided are related to the genetic condition Lynch syndrome, while the up to 99% risk of colon cancer is related to the a rarer syndrome, Familial Adenomatous Polyposis (FAP).

Meet MyRisk™ with RiskScore® – the all-in-one hereditary cancer test, risk assessment, and care plan

MyRisk is more than a test

Most hereditary cancer tests only give you a positive or negative result. MyRisk takes things to the next level with personalized care plans that make it easy to manage your patients' risk for cancer.

Provides a **5-year and lifetime risk** for breast cancer

Deliver **personalized care** plans

Every patient deserves answers

As the only hereditary cancer test designed for patients of all ancestries, MyRisk with RiskScore helps you give more patients answers about their hereditary cancer risk than ever before.

56%[30] of patients tested with MyRisk **qualify for a change** in their medical management vs. approximately 10% expected if tested with other labs

A RiskScore for patients **of all ancestries**

More than a test, we're a partner

Integrating MyRisk into your practice has never been easier with second-to-none expert support and the easy-to-use MyRisk Management Tool that simplifies reading and implementing results.

27 years of genetic insights at your fingertips

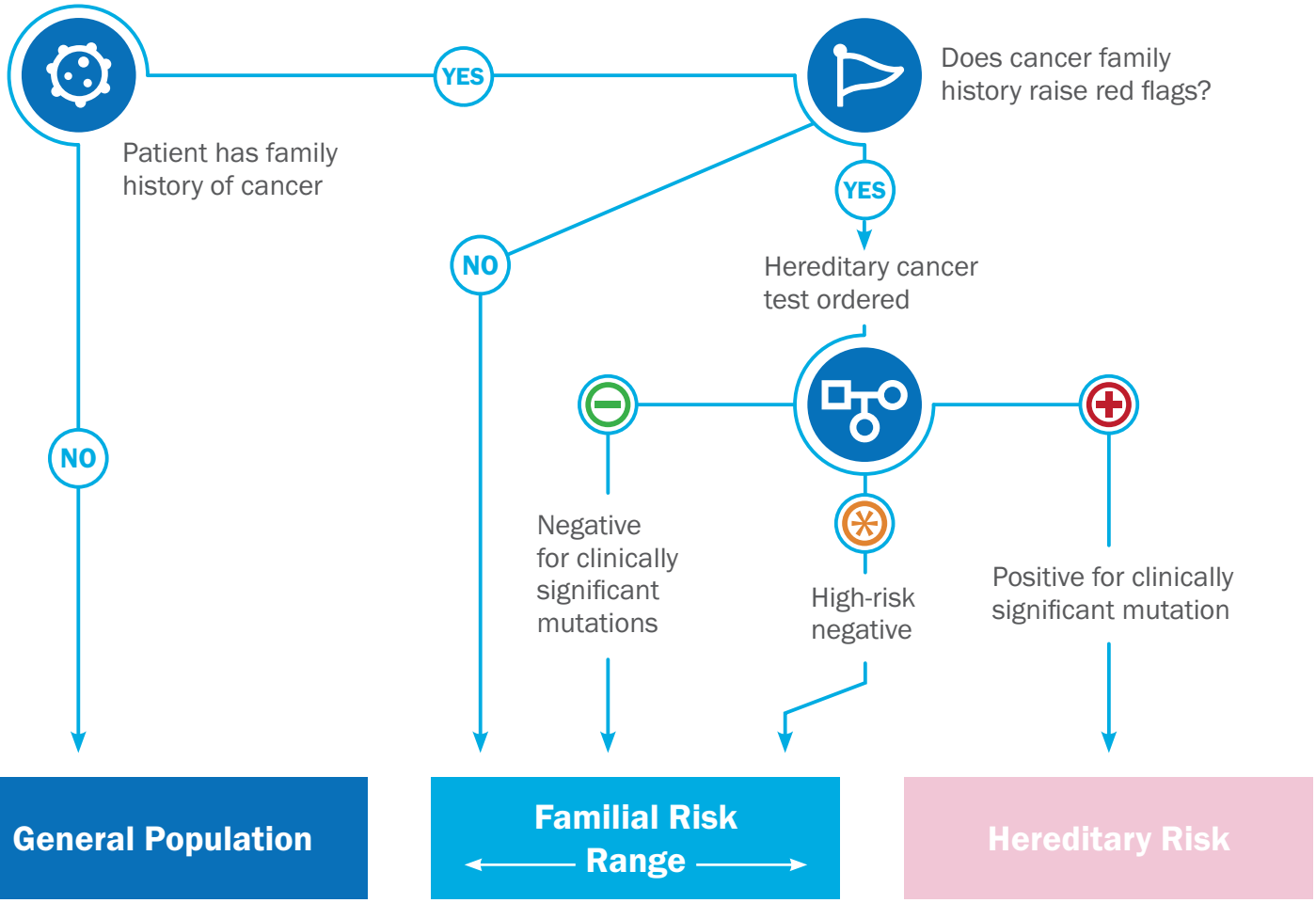
First-class support from our team of experts

Easy-to-read results at the click of a button

Get more from every result

Identify more at-risk patients

Stratifying your patients' cancer risk will enable you to identify patients who are appropriate for hereditary cancer testing. The results, whether negative or positive, can be used to your patients' benefit. Combined with their cancer family history, the results can provide you with the valuable information to effectively make decisions and medically manage patients' risks on an individual basis.



* This is an example workflow and this graph does not reflect all aspects of patients risk. This graph does not represent all result types

Turn negative results into positive action

Most hereditary cancer tests only produce positive or negative results. But MyRisk™ goes a step further by giving patients who receive a negative test result a RiskScore®. What's a RiskScore? It's a defined risk estimate for a patient's likelihood to get breast cancer over the next 5 years and their lifetime, guiding patients and providers to make more confident and informed medical management decisions for managing their risk.

Turning generational risk into preventative action – a theoretical case study

Jane

Patient information

Age: 39 year-old female
Self-Reported Ancestry: Black/African
Cancer: unaffected
Pregnancy: G2P2

Cancer family history

Maternal Grandmother: Breast, Age 48

Medical history

Height: 5’6”
Weight: 170
Age of menarche: 13
Menopausal status: pre-menopausal
Age at first child’s birth: 24
Hormone replacement therapy: Never
Breast Biopsy History: None

Female relatives

Daughters: 2
Sisters: 4
Maternal aunts: 1
Paternal aunts: 0

Risk Model Information

Tyrer-Cuzick: 16.6%

What it's like to use MyRisk™ with RiskScore®

You're seeing Jane and after taking her family history, you discover that her maternal grandmother was diagnosed with breast cancer at the age of 48. Knowing that a close relative with a breast cancer diagnosis under the age of 50 qualifies a patient for hereditary cancer testing, you order her a MyRisk test.

The document to the right is an excerpt of Jane's MyRisk results – specifically, the MyRisk Management Tool. This easy-to-use guide breaks down everything you need to know about how these results should be used to inform your patient's personal care plan both today and in the future. Just like the rest of MyRisk, it's as informative as it is intuitive.

Results that inform medical management decisions

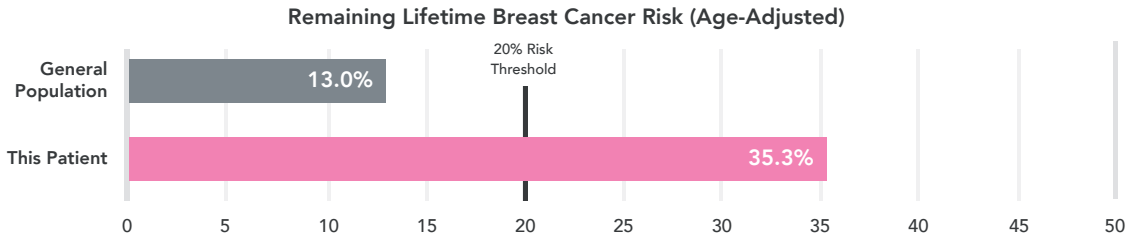
Excerpt: RiskScore® Results

Breast Cancer RiskScore®

Breast Cancer RiskScore®:

35.3%

RESULT: 35.3% Remaining Lifetime Breast Cancer Risk
1.7% 5-Year Breast Cancer Risk



Excerpt: MyRisk™ Management Tool

GENETIC 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.

BREAST CANCER RISKSCORE®: REMAINING LIFETIME RISK 35.3%

This level of risk is at or above 20% threshold for consideration of modified medical management.
See RiskScore Interpretation Section for more information.

CLINICAL HISTORY ANALYSIS: NO ADDITIONAL MANAGEMENT GUIDELINES IDENTIFIED BASED ON THE CLINICAL HISTORY PROVIDED

Other clinical factors may influence individualized management. This analysis may be incomplete if details about cancer diagnoses, ages, family relationships or other factors were omitted or ambiguous. If this patient also has a clinically significant mutation, the recommendations based on the clinical history analysis should be considered in light of the possibility that this mutation explains all or some of the cancer history in the family.

BREAST CANCER RISKSCORE™	THIS BREAST CANCER RISKSCORE™ IS ASSOCIATED WITH THE FOLLOWING CANCER RISKS:
At or above 20%	ELEVATED RISK: Female Breast

No clinically significant mutations were identified in this patient. However, based on personal/family history, the patient's cancer risks may still be increased over the general population. See information below.

Please see the Genetic Test Result for more details on any variant(s) detected in this patient, including variant classification information.

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

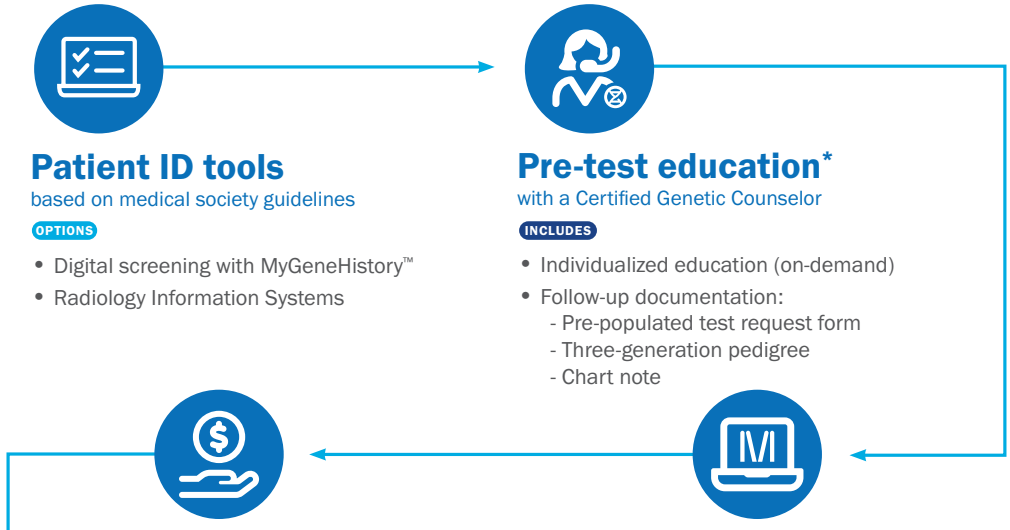
TYRER-CUZICK BREAST CANCER RISK CALCULATION

REMAINING LIFETIME BREAST CANCER RISK: 16.6%	5-YEAR BREAST CANCER RISK: 0.7%

Myriad Complete™
Get support at every step of the way

We streamline the genetic screening process, so you can seamlessly integrate Myriad Genetics into your practice

We support patients and healthcare providers throughout the genetic screening process, with pre-test education, billing support, clear results reporting, and post-test education. These supporting services allow for simple integration of Myriad Genetics' genetic screens into routine clinical care and help patients better understand and benefit from their test results.



Patient ID tools
based on medical society guidelines

OPTIONS

- Digital screening with MyGeneHistory™
- Radiology Information Systems

Pre-test education*
with a Certified Genetic Counselor

INCLUDES

- Individualized education (on-demand)
- Follow-up documentation:
  - Pre-populated test request form
  - Three-generation pedigree
  - Chart note

Personalized affordability

INCLUDES

- Personalized cost estimates
- Financial assistance and payment plans for those that qualify

Simple ordering

OPTIONS

- Online portal and RIS/EMR integration

Actionable results
with MyRisk™ Management Tool

INCLUDES

- Personalized Tyrer-Cuzick/RiskScore® when applicable

OPTIONS

- Online portal
- EMR integration

Post-test consults
with a Certified Genetic Counselor

INCLUDES

- Individualized discussion of results (on-demand or scheduled)
- Detailed summary notes

Put MyRisk™ to work in your practice

Screen

- Collect cancer family history for every patient annually
- Remind patients to be complete and accurate with their cancer family history

Evaluate

- Review cancer family history information
- Use consistent testing criteria and evaluation methods

Manage

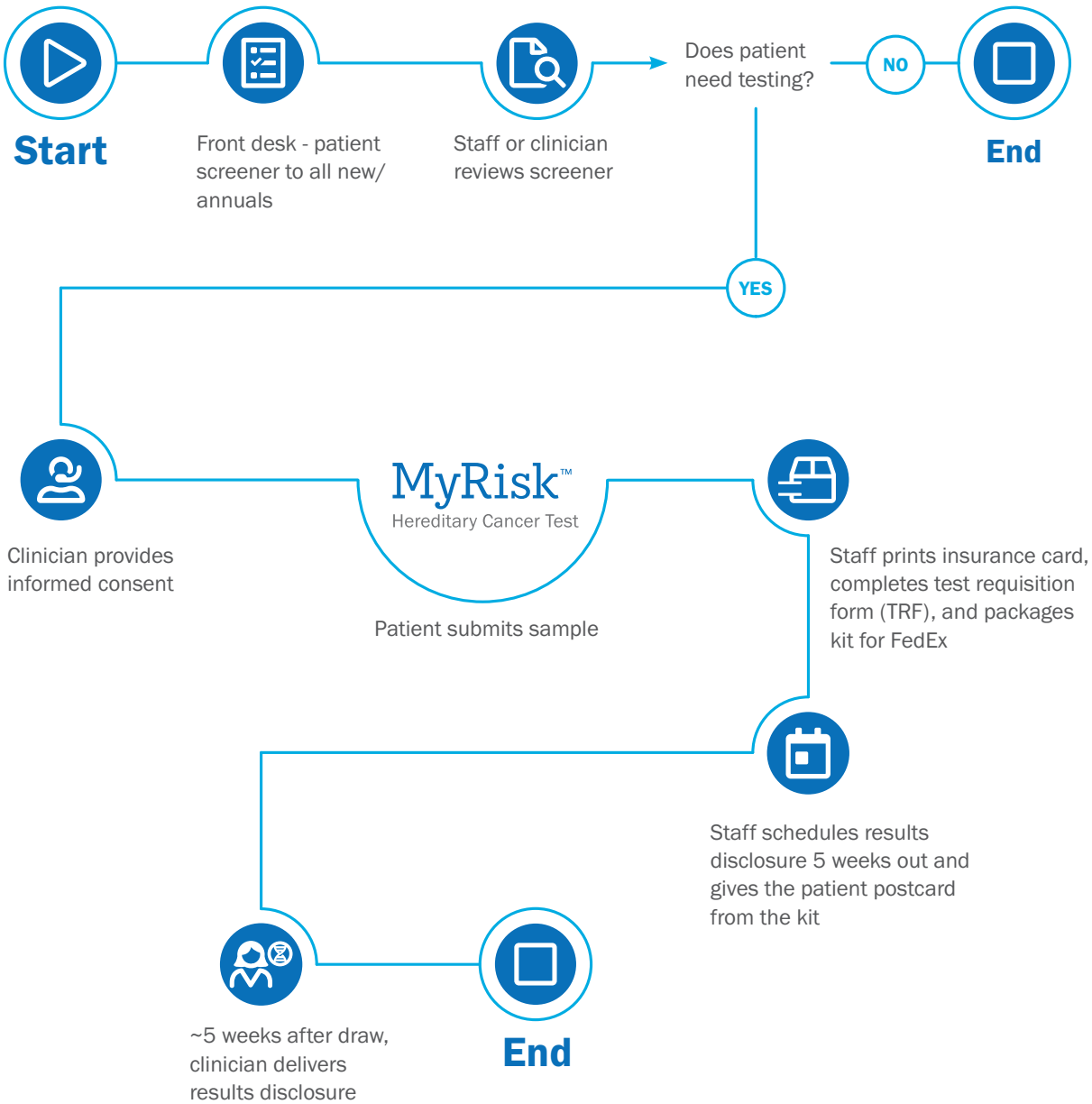
- Schedule follow-up appointment for results discussion with all patients (negative, increased-risk, and positive results)
- Manage patients based on individual risk
- Refer patients to additional providers when appropriate

Diagnose

- Test appropriate patients
- Use follow-up protocol for all patients whether tested or not
- Document follow-up appropriately

Sample MyRisk™ workflow

The below represents a sample workflow of how MyRisk could integrate into your practice. You can discuss other potential workflow solutions with the Myriad Genetics team.



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