

Simple billing, no surprises

Within the United States

INSURANCE

You won't need to contact your insurance company to find out if testing is covered or to obtain reimbursement; Invitae will work directly with them to coordinate coverage and payment. Typically patients pay no more than \$100 out of pocket for one of our tests. If you receive a bill for more than \$100, please call us to discuss payment options. For testing related to a personal or family history of breast, ovarian, colorectal, or uterine cancer (also referred to as HBOC and Lynch syndrome), Invitae offers an out-of-pocket cost estimator, accessible at www.invitae.com/patient-billing.

PATIENT PAY

You have the option to pay \$250 for your hereditary cancer genetic testing. This option requires upfront payment before test results are released. In addition, your clinician must place the order online and provide your e-mail address so we can send you a link to pay online using a credit card.

MEDICARE & FINANCIAL ASSISTANCE

Invitae accepts Medicare and Medicaid. We may also be able to offer testing at limited or no expense to those who qualify for need-based assistance.

For further information, please contact Client Services at clientservices@invitae.com or 800-436-3037.

Outside the United States

COVERED TESTING

In some countries, genetic testing may be covered by your healthcare system or a third-party insurer. Please discuss with your healthcare provider.

PATIENT PAY

When covered testing is not available through your healthcare system or a third-party insurer, you have the option to pay \$250 USD for your genetic testing. This option requires upfront payment before test results are released. In addition, your clinician must place the order online and provide your e-mail address so we can send you a link to pay online using a credit card.

For further information about testing outside the US, please contact Global Support at globalsupport@invitae.com or for a list of local contact numbers outside of the US, please visit www.invitae.com/contact.



About us

Invitae is a genetics company whose mission is to bring comprehensive genetic information into mainstream medicine to improve healthcare for billions of people. Invitae testing provides answers to essential health questions—understanding disease risk, guiding a healthy pregnancy, or finding a diagnosis—at high quality, fast turnaround, and low prices.

We strive to make testing affordable and accessible.

Understanding hereditary gynecologic cancers



This guide applies only to gene and panel testing; for exome testing please see the Invitae exome patient guide.

The genetics of gynecologic cancers

Gynecologic cancers include those of the ovary and uterus. About 1.3% of women will develop ovarian cancer and 2.7% will develop uterine cancer. Most cases of gynecologic cancers are sporadic and not inherited; however, approximately 5%–10% of gynecologic cancers are inherited.

Variants in two genes, BRCA1 and BRCA2, account for the majority of hereditary ovarian cancer cases in women with a strong family history or an early-onset diagnosis. These variants can increase your lifetime risk by up to 54%. Lynch syndrome is the most common inherited cause of uterine cancer.

Lifetime cancer risks

A genetic variation in BRCA1 or BRCA2 and/or Lynch syndrome genes can increase the likelihood that a person will develop not just gynecologic cancer, but also several other types of cancer in his or her lifetime.

| | | Ovarian Cancer | Uterine Cancer | Breast Cancer | Colorectal Cancer | Pancreatic Cancer |
|----------------------|-------|---|--|----------------------------|--|--------------------------|
| BRCA GENES | BRCA1 | Up to 54% ^{1,4} | No known risk | Up to 87% ^{1,4} | No known risk ²¹ | 1–3% ^{3,15,18} |
| | BRCA2 | Up to 27% ² | Unknown ^{12,20} | Up to 84% ² | No known risk ²¹ | 2–7% ^{3,15,18} |
| LYNCH SYNDROME GENES | EPCAM | Elevated ⁸ (higher closer to MSH2 promoter) ¹³ | 12–55% ¹³ | Unknown ^{6,17} | 75–82% ^{11,13} | Up to 4% ^{9,22} |
| | MLH1 | Up to 20% ²² | 14–54% ²² | Unknown ^{6,17,24} | Up to 82% ^{9,19} | Up to 4% ^{9,22} |
| | MSH2 | Up to 24% ¹⁴ | 20–30% ^{5,14,19} Up to 54% ¹⁹ | Unknown ^{6,17} | Up to 82% ^{11,22} | Up to 4% ^{9,22} |
| | MSH6 | Elevated; 6–8% ¹⁷ | Up to 71% ^{5,16} | Unknown ^{6,17} | Men: up to 44% ¹⁰ Women: up to 20% ¹⁰ | Up to 4% ^{9,22} |
| | PMS2 | Elevated ²³ | Up to 15% ²³ | Unknown ^{6,17} | Up to 20% ⁷ | Elevated ⁹ |

1. PMID: 7907678 7. PMID: 18602922 13. PMID: 21145788 19. PMID: 23255516
 2. PMID: 9497246 8. PMID: 19177550 14. PMID: 21642682 20. PMID: 23562522
 3. PMID: 12237281 9. PMID: 19861671 15. PMID: 22187320 21. PMID: 24292448
 4. PMID: 12677558 10. PMID: 20028993 16. PMID: 22619739 22. PMID: 25070057
 5. PMID: 15236168 11. PMID: 20301390 17. PMID: 23091106 23. PMID: 25856668
 6. PMID: 18398828 12. PMID: 20850175 18. PMID: 23099806 24. PMID: 26101330

Who should consider genetic testing?

Genetic testing may be appropriate if you have:

- ☐ Any of the following in yourself or a relative*:
 - Ovarian cancer
 - Endometrial (uterine) cancer, especially when diagnosed before age 50
 - Pancreatic cancer
 - Male breast cancer
 - Metastatic, intraductal, or high grade prostate cancer
- ☐ Two or more relatives on the same side of the family with any of the following cancers at any age: breast, colorectal, endometrial (uterine), prostate
- ☐ Ashkenazi Jewish ancestry on either side of your family
- ☐ A relative who tested positive for a genetic variant related to cancer risk

*Relatives to consider include siblings, children, parents, aunts, uncles, and grandparents.

What are the benefits of testing?

Knowing if you have an inherited risk for cancer can be a useful tool to guide prevention and risk-reduction. If you have an elevated risk of developing cancer based on your genetic test result, you can work with your healthcare provider to create a plan designed to prevent a cancer entirely, or help to identify a cancer at its earliest, most treatable stage.

In addition, genetic testing produces information that may help you and your healthcare provider:

- provide an explanation for your personal or family history of cancer
- evaluate your risk of developing future cancers
- make informed medical decisions, including treatment for an already-diagnosed cancer and/or surveillance and preventive options to help detect or prevent future cancers
- qualify you for participation in clinical trials or research studies
- identify other at-risk relatives for whom genetic testing is recommended

What can my family do with this information?

Identifying at-risk family members is one of the most important benefits of genetic testing. Screening family members for known familial genetic variants gives those who test positive the opportunity to make informed decisions on prevention strategies. For those who test negative, the results can bring peace of mind.

Invitae is dedicated to ensuring that both you and your family know your risk. If you receive a positive test result from Invitae, we can test your blood relatives for that same alteration under our family variant testing program. Learn more at www.invitae.com/patients/family-testing.

Genes tested with Invitae hereditary gynecologic cancer panels

Invitae has extensive gynecologic cancer testing options, with results available in 10–21 calendar days on average.

GENES TESTED:

- ☐ ATM
- ☐ BARD1
- ☐ BRCA1
- ☐ BRCA2
- ☐ BRIP1
- ☐ CDH1
- ☐ CHEK2
- ☐ DICER1
- ☐ EPCAM
- ☐ MLH1
- ☐ MSH2
- ☐ MSH6

Learn more at

www.invitae.com/individuals.