



Genetic Testing

in Cancer



What is Genetic Testing?

Have you or a loved one been diagnosed with cancer? If so, your care team may recommend genetic testing.¹

Genetic testing is a type of test that examines your genes. Genetic testing can be performed on either a biopsy sample or a blood sample. Genetic testing can be used to help doctors choose the best treatment for a patient with cancer.²

These tests can also help doctors predict how well you might do on certain medications. Doctors can also use genetic tests to check how well your treatment is working to fight the cancer.²

You might hear these types of tests also called genomic tests, biomarker testing, tumor testing, tumor profiling, somatic testing, or targeted testing.³

Genetic Tests:



Identify parts of DNA that cause cancer



Help doctors to:



Select an appropriate treatment



Predict how well you might do on certain medications



Check how well your treatment is working

If there is a family history of cancer, your doctors might order a different type of genetic test called a germline test or send you for genetic counseling. A germline test can determine if the cancer is one that could be passed down from generation to generation in your family.^{4,5,6} Genetic counselors can tell you if other family members may be at risk of potentially developing cancer. Genetic counselors can also tell you if your test results could put you at risk for a different cancer.⁷

1. National Human Genome Research Institute (NHGRI). <https://www.genome.gov/genetics-glossary/Genetic-Testing>. 2. Debortoli E, et al. *J Natl Cancer Inst*. 2024:djae233. 3. Ovarian Cancer Research Alliance. Germline vs Somatic Testing; Genomic vs Genetic Testing -- what it means and why it matters. <https://ocrahope.org/news/germline-vs-somatic-testing-genomic-vs-genetic-testing/>. 4. Subbiah V, Kurzrock R. *J Clin Oncol*. 2023;41(17):3100-3103. 5. Godley LA. *Front Oncol*. 2023;13:1084736. 6. Ceyhan-Birsoy O. *Clin Lab Med*. 2022;42(3):497-506. 7. Bedrosian I, et al. *J Clin Oncol*. 2024;42(5):584-604.



Why should I have genetic testing?

There are several benefits to having genetic testing early in your cancer care journey¹⁻⁴:

- **Help doctors understand the specific cancer type you have,**
- **Give you a more accurate prognosis,**
- **Rule out medications that likely won't work on your cancer,**
- **Prevent you from taking medications that could cause serious harm,**
- **Help you learn if you're eligible for a clinical trial,**
- **Less trial-and-error with medications: get the right medication the first time based on your cancer type,**
- **Determine if there could be a family history.**



How is genetic testing performed?

Genetic testing can be performed with a simple blood test, cheek swab, or in conjunction with other medical procedures like a biopsy.⁵



Who should order the testing?

Cancer treatment is more precise than even a few years ago. As a result, many insurance companies, including Medicare,^{6,7} now cover genetic testing for some patients. Genetic counseling can be covered, too.

More than a dozen states have passed laws, often called “biomarker mandates,” that require genetic testing for patients on certain health plans.⁸ Because of these laws, more patients are eligible for testing than before.

In general, your treating physician, usually your oncologist, will be the one to order genetic testing.

1. Pritchard D, et al. *JCO Precis Oncol*. 2022;6:e2100349. 2. Subbiah V, Kurzrock R. *J Clin Oncol*. 2023;41(17):3100-3103. 3. Godley LA. *Front Oncol*. 2023;13:1084736. 4. Ceyhan-Birsoy O. *Clin Lab Med*. 2022;42(3):497-506. 5. Ovarian Cancer Research Alliance. Germline vs Somatic Testing; Genomic vs Genetic Testing -- what it means and why it matters. <https://ocrahope.org/news/germline-vs-somatic-testing-genomic-vs-genetic-testing/>. 6. <https://www.cms.gov/medicare-coverage-database/view/lcd.aspx?lcdid=36499&ver=28&>. 7. <https://www.cms.gov/medicare-coverage-database/view/lcd.aspx?lcdid=35025>. 8. Lin GA, et al. *JAMA*. 2024;331(22):1885-1886.

How can I talk to my doctor about genetic testing?

Genetic testing is becoming standard of care for some cancers. Questions to ask your care team may include:

- Would genetic testing help to select the best treatment for my cancer?
- How long will I have to wait before getting the results of a genetic test?
- What type of procedure is necessary for me to undergo genetic testing? Can it be done as a blood test or during other testing I'm already having, like a biopsy?
- Will insurance cover genetic testing? If not, are there patient access programs that can make testing affordable for me?
- Is there a genetic counselor I can speak with about risks for additional cancers or my family's risks of cancer like mine?

For a printable version of the questions, [click here](#)



How do I find out if my insurance covers testing?

Many insurance companies cover genetic tests for patients with cancer when the information could help decide the best course of treatment.

If your insurance does not cover a test your doctor has prescribed, it may be possible for your care team to appeal to the insurance company to cover your test. Alternatively, many testing companies have assistance programs that limit patient out-of-pocket costs.

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