

Diagnostic medical testing—whether it's an MRI scan, a biopsy, or a blood test—plays an important role in the care of patients with cancer.

Now, innovative testing technology can provide a great deal of information about each individual tumor, *helping your* care team determine the best options just for you.



MRI, magnetic resonance imaging.

How Is Precision Oncology Changing Lives?

When it comes to treating cancer, each patient has different needs and should have a care plan that is just right for them. Instead of following a "one-size-fits-all" philosophy, your care team can use a *precision oncology* approach to:

- Learn what is unique about your specific tumor
- Act on that information to develop a plan that fits your individual needs sooner rather than later

Tailoring a plan specifically for you







Because the plan is personalized, you and your care team can focus on specific options.





How Are Genes Involved in Cancer?

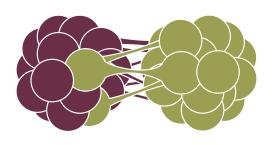
Your genes contain instructions for your body that direct your cells to function and grow.

Sometimes, portions of those instructions are damaged—this is what's known as a *mutation*.

Certain mutations can take over the normal functioning of a cell, leading to tumor growth and the spread of cancer. Just as every person's genes are unique, every tumor is unique, too.

That's what makes precision oncology possible.

Just as every person's genes are unique, every tumor's genes are unique, too."



Are All Mutations the Same?

As modern medicine advances, scientists are identifying more mutations that can play a role in the development of cancer. Two better-known mutations are *HER2* and *EGFR*, which have been studied for many years.

An example of a newly discovered cancer-causing mutation that is attracting interest from oncologists is called neuregulin 1, also known as *NRG1*. Although they are rare, *NRG1* fusions occur more often in lung or pancreatic cancer.

There are many different types of mutations, and some are easier to detect than others.

As new mutations are discovered, scientists are working hard to create more advanced tests to detect them, which are quickly becoming more widely available. That's why it's essential to know what type of testing you have already undergone or plan to receive.



know what type of testing you have already undergone or plan to receive.

What's the Best Way to Test for Mutations?

Checking for mutations is a type of *genomic testing*. The most advanced technology available for genomic testing is called next-generation sequencing, or NGS.

A comprehensive type of NGS is RNA-based NGS. Make sure you get an RNA-based NGS test that covers both DNA and RNA, because some mutations can only be detected using DNA and others only by using RNA.

Compared with other testing methods, NGS technology is:

- Faster and more effective, as it can detect large numbers of different mutations at the same time
- More thorough, as it can detect mutations in multiple types of genetic material, including DNA and RNA

can only be detected using DNA and others only by using RNA, so make sure you get an RNA-based NGS test that covers both DNA and RNA.

What Action Can You Take Right Now?



The first thing you should do is ask your oncology care team if your cancer has been tested using RNA-based NGS.

If not, you can request that it be done at any time.* Your doctor may tell you that NGS is not needed for your care right now. But that could change in the future, with RNA-based NGS playing a key role in personalizing your care plan.



*Many factors determine the cost of comprehensive NGS testing. Speak with your insurance provider (or if applicable, Medicare/Medicaid) about coverage for this kind of testing.

Talk With Your Care Team About the Benefits of RNA-Based NGS Testing Today



- Precision oncology is possible because every person's genes are unique, and every tumor is unique, too
- When damage occurs in a gene that provides instructions to your cells, it's known as a *mutation*
- Mutations can be detected by *genomic testing*, which can help your care team determine the best options just for you
- It's important to specifically ask your doctor for RNA-based NGS testing, because it's the most comprehensive option to find mutations

