Pharmacogenetics Test (Gene Test for Medicines)

In this document, “you” and “your” may mean either an adult patient or the parents or legal guardians of a pediatric patient.

What are genes?

Genes are pieces of DNA that we inherit from our parents. Genes give instructions to make our bodies look and work as they do.

What do genes have to do with medicines?

Some genes affect the way medicines work in the body. When comparing a group of people, there can be slight differences in each gene’s structure. These differences can affect how people react to medicine.

- Some gene differences might make it harder for the body to get rid of some medicines. This may mean that usual doses of medicine could give some people unexpected side effects.
- Some gene differences can cause the body to use a medicine too fast. This may mean that normal doses don’t work as well. This person may need higher doses of medicine.
- Some gene differences won’t let certain medicines work in the body at all. This may mean a different medicine may work better.

What is this gene test called?

The gene test being considered for you is called a pharmacogenetic test. You may also see it called PGx test.

Is the PGx test required?

Most PGx tests are optional. There are some new medicines that are designed for people with certain cancers or infectious diseases. A PGx test of a tumor or a person’s blood may be needed to know if a medication will work. Most times, you can be treated with standard medicine doses without a PGx test. Make sure you understand why your doctor is recommending a PGx test for you.

Why might you want a PGx test?

A PGx test can be done before or after a medicine is given to you.

Before medicine is given:

A PGx test may help your doctor choose the medicine and dose that will work best for you.

After medicine is given:

A PGx test may help the doctor understand why you are having problems with a medicine. The test may also help your doctor if a different dose or different medicine should be tried.

What are the potential benefits of a PGx test?

- The test may improve the chances that the medicine will help you as intended.
- The test may lower the chance of severe side effects from the medicine.
- The PGx test for the medicine may only need to be done once in a lifetime.
- The gene(s) tested today may be important for medicines you need in the future.

What are some limitations of the PGx test?

- The test only looks at common gene differences. This means if the test does not find any of the common gene differences, you could still have one or more rare gene differences. The test will not detect rare gene differences that might affect how you react to the medicine.
- Gene differences are only one of many factors that can affect how you react to medicine. A few examples of other factors are age, weight, other medicines, and illnesses. Your doctor will need to consider these factors along with the PGx test results.

What is needed for the PGx test?

About ½ teaspoon of your blood is needed for the PGx test. It is also possible to do the test on scrapings from the inside of your cheek or from saliva. Special brushes are needed to get the cheek scrapings. Special sponges are needed to get saliva.

Is there anything else I should know about the PGx test?

In the future, some of these common gene differences may be found to be associated with other medical conditions. The test results may be important for other family members. Biologic brothers, sisters and parents may have one or more of the same tested genes in common.

How much does the PGx test cost?

The cost of the PGx test depends on many factors. Insurance companies usually cover the costs of genetic tests that are used to guide medical management. Insurance companies vary in their coverage policies. Ask them directly if they will cover the cost of PGx testing.

How long does it take to get the test results?

Test results, depending on whether taken from blood, cheek scrapings or saliva, will take 2-4 business days.

How will I learn about the test results?

The test results will show up in your medical record. The doctor or nurse will discuss the test results with you when they get the report from the lab. The report will describe how your doctor can adjust your medicine based on your test results.

Will the gene result be in the medical records?

Yes. Cincinnati Children's strictly follows HIPAA guidelines to protect medical information.

What will happen to my sample?

Your DNA from the sample may be stored for up to two years in case future tests are needed. Neither your sample nor DNA will be used for research purposes, unless you have given permission for a research study.

For any additional questions about this test, please email GPSconsult@cchmc.org.

