How and when will I get my pharmacogenetics (PGx) test results?

PGx testing takes 3 to 7 days to complete. A report explaining the results will be given to your/your child’s treating doctor at SickKids. Your/your child’s treating doctor will decide how and when to discuss the results of the research study with you/your child. Member(s) of the research team will be available during this meeting. After the review of the report with the results, if you like we can give you a copy of the report.

Who will have access to my PGx result?

The Personal Health Information Protection Act (PHIPA) ensures that your/your child’s personal health information cannot be given out to anyone without your/your child’s written permission. Therefore, only the CPS team and your health care team at SickKids will have access to your test results.

What happens to my genetic material after the testing?

We may keep any leftover genetic material (DNA) during the research study. If we need to re-run a test we will use this leftover sample of DNA instead of asking you/your child for another sample. Once the research study is completed, we will destroy your/your child’s DNA as per SickKids’ policies.

Contact us at:

PGx Clinical Service
Division of Clinical Pharmacology & Toxicology
555 University Avenue
Toronto, ON, M5G 1X8
Phone: 416.813.7654 ext. 201121
Fax: 416.813.7904
email: iris.cohn@sickkids.ca
What is Pharmacogenetics (PGx)?

PGx is the study of how genes can impact a person’s response to medications. Traditional approaches to prescribing medications include a “one size fits all” model. For example the dose and type of medication is often given based on age, weight, gender, ethnicity, body function and whether or not a person smokes or drinks alcohol. This standard approach of prescribing a medication does not work for everyone and does not provide information regarding who will benefit from a medication, who will not respond at all to the medication, and who will experience negative side effects (called adverse drug reactions). Adverse drug reactions can cause hospitalizations or in some very bad cases, death.

How do genes affect medications?

We inherit a single set of genes from our mother and the corresponding set of genes from our father. The exact same gene can differ from one person to the next, and in fact, there can be many different versions of the same gene in the human population (genetic variants). Genetic variants explain how each person is genetically unique. Therefore, genetic variants can affect how medications are taken in by the body (absorbed), broken down (metabolized), and removed from our body (eliminated). These differences in how medications are processed, impact our personal responses to them.

How can PGx affect you?

PGx testing may provide your doctor with information regarding whether or not your current medication type and/or dose is safe and effective.

Depending on the results of your gene testing, you may obtain information regarding whether or not you break down (metabolize) a specific medication at a fast, slow (poor) or normal (extensive) speed. For example if you are breaking down a medication at a slower speed, then your doctor may determine that you need a lesser amount of the medication than would be prescribed to someone who is a normal metabolizer.

You may also receive information regarding whether or not you are at a higher risk of developing an adverse drug reaction to a medication. If you are found to be at a higher risk, then your doctor may choose a different medication to treat your condition.

How is PGx testing done?

A small blood sample is taken from you, which contains your genetic material, DNA. The research study team will use this sample to run the PGx test at SickKids. Your treating doctor will do all other tests that are needed to provide clinical care to you/your child.