

## **Genetic Testing for Medications in Psychiatry Information for Patients**

### **What is genetic testing?**

It is now well known that your genes (inherited from your parents) play a key role in drug response and side effects.

Enzymes found in your liver are responsible for breaking down most medications. In this study, genetic testing will be used to determine the specific forms of liver enzymes that you carry. This will give an idea of how quickly you will break down some antidepressant and antipsychotic medications, whether you might need a different dose than most people, and your likelihood of getting some side effects from these drugs.

### **How is genetic testing done and what is required of you?**

In order to determine the type of liver enzymes you carry we will need to obtain a small sample of blood from you to analyze. We will extract DNA from your blood in order to perform genetic testing.

### **What does genetic testing tell us?**

Genetic testing of your liver enzymes will give an idea of your ability to break down some antipsychotic and antidepressant medications.

It may show that you are more likely to have different (higher or lower) levels of a drug in your blood stream than someone else even if you both get the same dose.

If you are more likely to have low drug levels this may mean that you need a higher dose of drug than other people in order for your medication to be effective. If you are more likely to have high drug levels you may be at greater risk of experiencing side effects from your medication.

### **How will the test results be used?**

The test results may be helpful when your physician is trying to find the best possible dose of a medication for you or choosing your new medication.

However, this form of genetic testing is still being evaluated and test results will not be used alone to make decisions about your medical treatment. In other words, the genetic tests will not provide definitive information about the type or dose of medication you should take.

When your physician is making a decision about your medical treatment they will only use this genetic information in the context of all the other important information regarding your treatment.

### **Some antidepressant and antipsychotic medications affected by the enzymes being tested:**

desipramine, fluoxetine, nortriptyline, paroxetine, risperidone, perphenazine, fluphenazine, aripiprazole, thioridazine, amitriptyline, citalopram, escitalopram, clomipramine, imipramine

### **For more information, please contact:**

Rae Shams  
Research Trainee  
Email: [tahireh.shams@camh.ca](mailto:tahireh.shams@camh.ca)  
Phone: (416) 535 8501 ext 30244

Pharmacogenetics Research Clinic  
Centre for Addiction and Mental Health  
250 College Street  
Toronto, Ontario  
Canada M5T 1R8