

UF Health Personalized Medicine Program
CYP2D6 Patient Education Sheet

Title: Genetic Testing for CYP2D6 to predict response to opioid analgesics

As part of a research study that you enrolled in, your doctor ordered a genetic test through the UF Health Personalized Medicine Program to help determine if certain pain medications, called opioid analgesics, are likely to work for you.

This sheet provides information about genetic testing for opioid analgesic medications.

HOW DO MY GENES AFFECT MY RESPONSE TO MEDICATIONS?

Genes, which are made of DNA, act as the instruction manual for making all of the proteins in your body. Proteins help your body process medications, and differences in genes can affect the proteins that process certain medications. Screening for specific genetic variations can help you receive the proper dose, experience fewer side effects or avoid drugs that might not work well.

WHAT ARE OPIOID ANALGESICS?

Opioid analgesics include codeine, tramadol (Ultram® and others), hydrocodone (Vicodin® and others), and oxycodone (Percocet® and others), in addition to other drugs. These medications are used to treat pain associated with a variety of conditions, including injury, arthritis, cancer and others.

WHY AM I GETTING A GENETIC TEST?

In order for some opioid analgesic medicines to work, especially codeine and tramadol, a protein called **CYP2D6** (pronounced “SIP-2-dee-6”), has to help your body process the medication. This protein may work faster or slower than usual depending on your genetics. If the protein works slower, the medication may not work as well to manage pain. If the protein works faster, there may be a higher chance of developing some side effects.

Information about your genes that influence CYP2D6 may help your doctor determine the right medicine to treat your pain.

CAN GENETIC TESTING FOR CYP2D6 HELP WITH OTHER DRUGS

CYP2D6 helps your body process opioid analgesics. It can also process other drugs. Tricyclic antidepressants are often prescribed for pain relief, especially for nerve pain. The genetic test for CYP2D6 can help determine how likely tricyclic antidepressants will work for you. The genetic test might also help to determine your chance for side effects with tricyclic antidepressants.

HOW CAN I LEARN ABOUT MY TEST RESULTS?

Your test results will be stored in your UF Health electronic medical record for your doctor and health care team to use in your care. Let your UF Health provider know if you’d like to discuss your test results. Always speak to a health care provider before starting or stopping any medication.

HOW IS MY GENETIC INFORMATION PROTECTED?

UF Health protects all of your health information, including genetic information, with strict security policies and safeguards. Protecting the privacy of our patients is of utmost importance to UF Health.

HOW CAN I LEARN MORE?

Visit our patient resources page on the UF Health Personalized Medicine Program’s website:
<http://personalizedmedicine.ufhealth.org/>.

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