What is Pharmacogenomics?

Many factors influence how we respond to medicines including our environment, diet and state of health. Pharmacogenomics, a merger of the words pharmacology and genomics, is the study of how our genes affect the way our bodies respond to medicines. In the future, drugs may be tailored to our genetic make-up. Instead of the trial-and-error of trying a drug for a few weeks to see if it works or is tolerated, the drug that works with the body will be identified by using your unique genetic markers. In the future, medical science may have the ability to choose drugs that optimize effectiveness and minimize toxicity based on your genome.

The research goal at the University of Florida’s Center for Pharmacogenomics is to use pharmaceutical sciences and knowledge of the human genome to understand how our genetic profile works with drug metabolism, disease susceptibility, drug action and drug side effects.

Some of the anticipated benefits of pharmacogenomics are:

- Help your doctor to provide appropriate dosing information.
- Help your doctor to select the most effective and safest drug for you.
- Vaccines with reduced risks.
- Decrease in health care costs associated with adverse reactions and drug interactions.

Sources:
American Medical Association, “Pharmacogenomics”

Human Genome Project Information, “Pharmacogenomics”