What You Need to Know About Pharmacogenomics

We are all different from one another, so it makes sense that our prescription medicine be unique to us. That's one of the goals of pharmacogenomics, "To give the right dose of the right medicine to the right person." Four things you need to know are "What it is." "What it does." "What it doesn't do," and "How it helps you." Knowing these four things can assist you in making informed decisions about your medication.

1

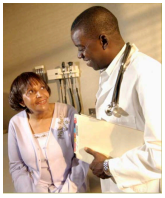
What it is

2

What it does

3

What it doesn't do



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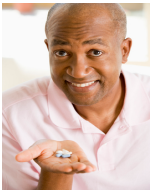
How it helps you



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- **What it is:** Pharmacogenomics, (phar·ma·co·ge·no·mics) is the study of how our genes affect our response to drugs. It combines pharmacology (the science of drugs) and genomics (the study of genes and their functions) to develop effective, safe medications and doses that will be tailored to your genetic makeup.
- **What it does:** Pharmacogenomics is one of the tools that can help your doctor determine the best medication for you. Your doctor also considers other factors such as your age, your lifestyle, other medications you are taking, and your overall health when deciding the best treatment for you. Pharmacogenomics is expected to soon lead to better ways of using prescription medicine to manage a wide range of health issues including heart disease, Alzheimer's, cancer, HIV/AIDS, and asthma.
- **What it doesn't do:** Pharmacogenomics does not measure disease risk. However, it helps doctors identify treatments that are more likely to work by examining how your genes affect your response to medications.

Pharmacogenomics doesn't support research for a variety of drugs, it is limited to testing drugs for certain conditions like heart disease, pain management, and depression and/or mental illness.

Pharmacogenomics doesn't tell you the perfect medicine for your condition or give you information on drug to drug interactions or drug supplement interactions. Pharmacogenomics can only narrow your options for treatment and help your doctor prescribe the right medicine faster.

How it helps you: Depending on your genetic makeup, some medications may work more or less effectively for you than they do for other people. Also, some may produce more or less side effects in you than in someone else. Doctors will soon be able to use information about our genetic makeup to select medication and doses that offer the best way to help you.

Pharmacogenomics may also help to save time and money. When doctors use the information about your genetic makeup, they may soon be able to avoid the trial-and-error method of giving you different medications that may or may not work until they find the right one. When your doctor uses the pharmacogenomics approach, (the "best-fit" drug) to help you, he/she can make the best selection for you from the beginning.

Reference Sources:

- Pharmacogenomics (www.genome.gov/glossary)
  From the NHGRI's Talking Glossary of Genetic Terms
- Pharmacogenomics Fact Sheet [nigms.nih.gov]
  From the National Institute of General Medical Sciences
- What is pharmacogenomics? [ghr.nlm.nih.gov]
  From Genetics Home Reference

Graphics: 1, (NIH) 2, 3, 5 (Crestock) 4, (CDC)

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