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Pancreatic Cancer

Pancreatic cancer is the 12th most commonly occurring cancer in men and the 11th most commonly occurring cancer in women around the world.* Each year, more than 55,000 Americans are diagnosed with pancreatic cancer. No one knows if or when the disease will develop, but understanding the risk factors for pancreatic cancer may help you take measures to reduce the likelihood of getting the disease.** HudsonAlpha Institute for Biotechnology's Genetic Counselor, Veronica Greve, is here to answer some questions.

Q What are the main causes of pancreatic cancer?

A Pancreatic cancer develops when mutated cells grow out of control and form a tumor in the pancreas, an organ that sits behind the stomach. Certain risk factors are strongly linked to the disease, including age, tobacco smoking, obesity, and familial or chronic pancreatitis. Also, people with hereditary cancer syndrome or specific genetic mutations have a higher risk of developing the disease. Pancreatic cancer seems to run in some families and the high risk is due to an inherited syndrome. In other families, the gene causing the increased risk is unknown. Although family history is a risk factor, most people who are diagnosed with pancreatic cancer do not have a family history of it.

What are the inherited genetic syndromes?

Inherited gene changes (mutations) can be passed from parent to child. These gene changes may cause as many as 10% of pancreatic cancers. Sometimes these changes result in syndromes that include increased risks of other cancers (or other health problems). Examples include:

- Hereditary breast and ovarian cancer syndrome, caused by mutations in the BRCA1 or BRCA2 genes
- Hereditary breast cancer, caused by mutations in the PALB2 gene
- Familial atypical multiple mole melanoma (FAMMM) syndrome, caused by mutations in the p16/CDKN2A gene and associated with skin and eye melanomas
- Lynch syndrome, also known as hereditary non-polyposis colorectal cancer (HNPCC), most often caused by a defect in the MLH1 or MSH2 genes
- Peutz-Jeghers syndrome, caused by defects in the STK11 gene this syndrome is also linked with polyps in the digestive tract and several other cancers.*

Can I learn my risk through HudsonAlpha's Information is Power test ?

Changes in the genes that cause some of these syndromes can be found by taking the test. The test

screens for these inherited conditions, not pancreatic cancer itself. Your risk may be increased if you have one of these conditions, but it doesn't mean that you have (or definitely will get) pancreatic cancer.

How will this test help my physician?

A positive result from this genetic screening indicates that a change is present in a gene that increases your risk for certain types of cancer. It does not mean that you have cancer. The specific cancer types and risk levels depending on which gene has a change present. If you have a positive test result, you will receive a phone call from a genetic counselor to further explain your result and your recommended next steps, which include seeking an appointment with a clinical genetic counselor that specializes in cancer genetics.

Has HudsonAlpha made any research advances in pancreatic cancer?

Using cutting-edge sequencing tools, HudsonAlpha investigators have identified a biomarker that distinguishes between two very different types of pancreatic cancer. One type is very aggressive and the other progresses more slowly. We are working on a clinical trial that will confirm the biomarker can be used to help physicians predict which pancreatic cancer patients should be treated with the most intensive treatments available and which patients could try less intrusive therapies first. This distinction is crucial for pancreatic cancer patients because those intense treatments can be incredibly difficult to endure and are sometimes even toxic themselves.

How do I get a kit?

Testing can be initiated by visiting the website at information-is-power.org. After entering some basic information, you will receive a test kit through the mail. It is a simple to take at home test that you mail back in the provided envelope. You will receive your results in the mail.