

Breast and Ovarian Cancer



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In fall 2014, Dr. Mary-Claire King, the scientist who discovered the BRCA1 gene associated with inherited breast cancer risk, made an impassioned plea that testing be more widely available. HudsonAlpha answered that challenge for the Huntsville area and developed a community wide screening program, *Information is Power*, to allow individuals in North Alabama increased access to information about their hereditary cancer risk. This genetic screening test can identify changes in BRCA1, BRCA2, and a panel of other genes that carry with them an increased risk for breast, ovarian, colon, and several other types of cancer.

Q Does everyone have the BRCA1 and BRCA2 genes?

A Yes. The typical function of the BRCA genes is to help repair DNA damage within cells and keep breast, ovarian, and other cells growing normally. When these genes contain changes that make them not function properly, the likelihood of cancer increases. Inherited changes in BRCA1 and BRCA2 genes are thought to account for up to 10% of all breast cancers, or 1 out of every 10 cases.

Q Does having an abnormal BRCA1 and BRCA2 gene mean you will be diagnosed with breast cancer?

A No. Having a change in BRCA1, BRCA2, or another gene associated with cancer risk does not mean that an individual will definitively develop cancer during his or her lifetime. These genetic changes are only a piece of the puzzle, and there are other genetic and environmental factors that also play a role in cancer risk. In fact, most people who develop breast cancer do not have an identifiable genetic change that caused an increased risk. Scientists are actively working to identify other factors and determine how all the puzzle pieces fit together.

Q What genes can I learn about and why?

A The *Information is Power* genetic screening initiative provides access to information about a set of genes, including BRCA1 and BRCA2, associated with an increased breast and/or ovarian cancer risk. Some genes on the testing panel may increase risk for other types of cancers as well. Although changes in these genes are rare, it is important to identify them because healthcare providers can use this information to alter a patient's care or identify cancer at an earlier stage.

Q Who is a candidate?

A Any consenting adult (person 19 years old or older) is able to learn about their hereditary cancer risk through the Information is Power initiative using the test developed by Kailos Genetics. Women and men residing in Madison County, AL who are 28, 29 and 30 years old can have access to this test at no cost until Nov 7, 2020. All adults in Madison and bordering Alabama counties can have access to this test for a discounted price.

Q What will the genetic screening NOT tell me?

A This genetic screening does not diagnose cancer nor does it replace other types of screening such as mammograms. It also does not tell whether an individual definitely will or will not develop cancer in the future, as the presence of a risk factor does not increase cancer risk to 100%. Likewise, the absence of risk factors identified through this screening does not reduce cancer risk.

Q What happens if I receive a positive result?

A 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 level depend on which gene has a change present. If you have a positive test result, you will receive a phone call from a HudsonAlpha 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.

Q What does it mean if I receive a negative result?

A A negative result from this genetic screening indicates that no risk-increasing changes were identified in the genes tested. This does not guarantee that you will never develop cancer. It is important to consider that even in the absence of obvious genetic risk factors, each person in the general population is at a baseline risk of developing cancer.

Q How do I get a kit?

A Testing can be initiated by visiting the website at information-is-power.org Choose **ORDER TEST**. 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.



The average woman in the United States has about a 1 in 8, or 12%, chance of developing breast cancer during her lifetime. Genetic changes, or variants, can impact that risk. Changes in the BRCA1 or BRCA2 genes confer a significantly higher risk of being diagnosed with breast cancer, while changes in other genes may have a more moderate impact on risk.

