What Can At-home Genetic Tests Tell Me About My Health?

How Do At-home Genetic Tests Work?
At-home genetic tests use a sample of saliva, blood, or a cheek swab that is collected at home and sent to a private laboratory. Your DNA is extracted from the sample and tested for a limited number of specific genes that may be tied to health risk. Each testing company selects which genes to analyze. Some at-home tests are sold directly to consumers without a physician’s referral or prescription (eg, 23andMe, Ancestry). Other tests can only be ordered through a health care professional.

What Kind of Health Information Can I Learn From an At-home Genetic Test?
Many tests include screening for certain inherited health conditions such as sickle cell anemia and cystic fibrosis. Some tests screen for groups of genes that are linked to increased risk for developing health problems such as heart disease or certain types of breast cancer.

Can At-home Genetic Tests Accurately Predict Health Risk?
Although genes can considerably influence health, they are just one piece of the puzzle. Other factors such as diet, exercise, and family medical history are equally important. Most health conditions are influenced by several genes, each of which may have thousands of variants. At-home tests only look for some of these genes and variants. No test offers a truly comprehensive health risk assessment. Most direct-to-consumer genetic tests are not regulated by the US Food and Drug Administration. The accuracy of these tests is unknown. The way tests are performed varies among laboratories, and results of the same test performed at different laboratories may conflict. Be wary of companies that sell supplements or fitness products based on the results of genetic testing. These are generally not proven to have any health benefit.

Is There Any Harm Associated With At-home Genetic Testing?
Positive results from genetic tests generally cannot tell for certain whether someone will experience health problems. This uncertainty may lead to confusion and worry, and distract from healthy living behaviors. It is possible to receive false-positive results that could lead to inappropriate medical testing and treatment. At-home tests do not screen for every possible risky gene, and results may not always be accurate. Thus, it is possible to have normal testing and still be at increased genetic risk for certain conditions such as breast cancer. Insurance companies generally do not cover the cost of direct-to-consumer genetic testing.

Are There Privacy or Legal Concerns With At-home Genetic Tests?
Each company that offers at-home genetic testing has its own policy on how to handle your personal genetic and health information. Some testing companies share data with pharmaceutical companies or law enforcement, even without explicit consent. It is important to research these policies before deciding to complete genetic testing. There are some legal protections to prevent discrimination based on genetic testing, but life and disability insurers may still use genetic risk as a part of their assessment.

What Are Some Alternatives to At-home Genetic Testing?
Talk with your physician if you are concerned about genetic health risk. Based on family history and existing health conditions, your physician may suggest personalized strategies for screening, treatment, and lifestyle modifications without the need for genetic testing. In some cases, your physician may suggest that you see a genetic counselor. A genetic counselor will ask about your family and personal health history and provide recommendations for specific genetic tests if indicated. A genetic counselor can also help interpret what test results mean for you and your relatives. If you do at-home genetic testing, consider sharing the results with your physician so that they can help with interpretation.

FOR MORE INFORMATION
University of Michigan:
https://www.uofmhealth.org/health-library/abr9110

National Institutes of Health:
https://medlineplus.gov/genetics/understanding/dtcgenetictesting/

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