

Did you know that a drop of your blood can predict diseases you may develop in the future? This is possible through genetic testing—testing that analyzes the genetic information found in the cells of your body. Each cell contains a sample of DNA. The information in DNA can help determine a person's risk of developing certain diseases years from now. The most common type of genetic testing is called "newborn screening." The goal of newborn screening is to identify treatable genetic disorders in newborn babies. In many countries, infants are screened in the hospital shortly after they are born. Although it is rare to find that a baby has a genetic disorder, those that do have a disorder start receiving treatment right away. This early diagnosis and treatment prevents physical and mental problems, and sometimes even death. Another type of genetic testing is called "predictive gene testing." This is used to predict an adult's risk of developing certain diseases later in life. People who undergo this type of genetic testing are usually from a family in which many members have had a particular inherited disease, like certain cancers or Alzheimer's disease. There are many obvious benefits to this kind of testing. A negative test (a test that says a person is not likely to develop a disorder) can bring a tremendous sense of relief. Jen Thomson, who recently underwent predictive gene testing for colon cancer, explains, "So many people in my family died of colon cancer, I worried constantly. When the test came back negative, I felt as if someone had lifted an enormous weight off my shoulders." A positive test has benefits as well. It warns of the need for preventative care, like frequent checkups, dietary changes, medicines, or even the option of surgically removing the part likely to develop the disease. For example, if Thomson's test had been positive, she might have chosen to have her colon removed. There are also some controversial downsides to genetic testing. The value of genetic testing is particularly questionable when testing for a disease that is untreatable. For example, Alzheimer's disease runs in An Lee's family. An has decided to get genetic testing to see if she is likely to develop it. Her husband Bao is not happy about her choice. Bao explains, "If the result is positive, how will it help to know that she will probably develop the disease? If I had the Alzheimer's gene, I wouldn't want to know." Another issue is that even if someone tests positive for a disease, it doesn't mean that they will definitely develop the disease. So a person could spend years worrying about something that never ends up happening. Genetic testing has the potential to impact millions of lives in the future. Many are excited about the future of genetics, while others have deep concerns about it. But for better or for worse, soon we may all have the ability to peek into our medical future.