Cancer. It's a word that can make your heart stop when you hear that you or someone you love has a positive diagnosis. While the number of people we know personally with cancer may seem to be on the rise, so is our knowledge of how to defeat this deadly disease.

Thanks to advances in the understanding of the human genome, genetic testing is the latest tool in a technological medicine chest that may one day allow us to outsmart the odds of getting cancer. Like a modern-day crystal ball, today's DNA-based tests are taking the family tree one step further by using our past to predict our future in an effort to improve our disease-fighting ability.

Not unlike a forensic scientist at the scene of a crime, gene testing involves the direct examination of our DNA molecules so that we can see clearly, in a manner of speaking, the proverbial writing on the wall. The tests, which yield results in as little as seven days, are simple and usually require only a small blood sample. Using the sample, scientists can scan your DNA to identify gene mutations that could signal risks for everything from sickle cell disease to embryonic birth defects, adult-onset cancers and more.

What's good about knowing that your genetic makeup could make you more susceptible to alcoholism, Alzheimer's or cancer? "Genetic tests combined with counseling can provide life-saving information on how you can protect your long-term health," explains DeKalb Medical Oncologist Dr. Jayanthi Srinivasiah. Driven by her quest to cure cancer, "Dr. Jay" serves as the Medical Director of DeKalb Medical's Genetic Testing and Clinical Trials programs and is listed in the Consumer's Guide to Top Physicians by Ladies Home Journal and Redbook Magazine.

Decoding DNA to Outsmart Cancer

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Just ask Lisa Massey, B.S.N., R.N., who has already lost four family members to cancer and does not want to lose anymore. Due to genes passed down through her father’s DNA, Massey and her siblings have suffered as multiple members have fought and sometimes lost the battle against breast, pancreatic, kidney and colon cancer. Now a nurse and mother of three, Massey, 47, knows that staying healthy means staying proactive and taking preventive measures such as gene testing.

That’s why she chose to be screened for the breast cancer gene (BRCA1 and BRCA2) at DeKalb Medical, and so did her 25-year-old son and her 18-year-old daughter. “All three of us tested positive for a BRCA2 gene mutation, which means that instead of having two armies of genes that can fight off cancers, my children and I only have one,” shares Massey. While many people might feel angry or depressed after receiving this kind of news, the Masseys feel empowered. “Obtaining genetic testing and counseling has given me and my children a powerful advantage that will positively impact our family for generations to come,” according to Lisa Massey.

As part of their risk assessment, DeKalb Medical provided the Massey’s with a multitude of support services before and after the testing including individual and group counseling as well as nutrition and exercise consultations. “Each of us now knows what we need to do to plan for a long and healthy life and support our immune system,” explains Massey. Depending upon your age, recommended medical options after a positive genetic test result may include increased monitoring via cancer screenings, risk avoidance (i.e., changes in diet, physical activity, weight, etc.), chemoprevention (medicine to reduce risk) or preventive surgery (removal of breast tissue or ovaries) explains Dr. “Jay.”

“While gene testing cannot tell you with absolute certainty whether you will develop cancer in your lifetime, it can accurately identify your level of risk,” explains DeKalb Medical Cancer Center Program Manager Claudia Tinkle. For instance, women with a BRCA1 or BRCA2 (breast cancer gene 1 or 2) mutation have a 50-85 percent chance of developing breast cancer, while women without the mutation have an 87 percent chance of never developing breast cancer.

**WHO SHOULD HAVE CANCER GENETIC TESTING?**

According to the oncology experts at DeKalb Medical, men and women should consider BRCA gene testing when the following family history is present:

- Two or more close relatives (i.e., your mother or sisters) have had breast cancer and/or ovarian cancer
- You or a close family member developed breast cancer before age 50
- Colon, pancreatic or other types of cancer are present in addition to breast and ovarian cancer in your family
- One or more relatives is BRCA gene positive
- Breast and/or ovarian cancer has occurred in more than one generation of your family
- You have a family history of male breast cancer
- You have Ashkenazi Jewish ancestry

**DECATUR’S AWARD-WINNING CANCER CENTER**

A leader in cancer treatment and research, DeKalb Medical at North Decatur offers advances in cancer screening and prevention. For help finding a healthcare professional trained in genetics counseling and evaluation, call 404.501.EASY or visit to hear Lisa’s story and learn more about BRCA gene testing, visit www.dekalbmedical.org. Select “Programs and Services,” then choose “Cancer Center.” Click on “Genetic Risk Assessment” and select “Testimonial.” You can also go directly to www.dekalbmedical.org/ProgramsandServicesCancerCenter/Testimonial.aspx

**ARM YOURSELF WITH INFORMATION THAT CAN HELP YOU STAY HEALTHY.**

Genetic risk assessment services include FREE:

- genetic counseling and education
- lifestyle consultation

Call DeKalb Medical Today at 404.501.EASY.