The Nature of our Genes passed through our Fathers

ALL IN THE FAMILY///

FIGHTING MY FATHER'S FAT

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SOME LEGACIES LIVE ON. **EVEN THE ONES YOU'D LIKE TO FORGET.** I'M NOT TALKING ABOUT DARK FAMILY SECRETS OR PERSONALITY CONFLICTS. THE DETRIMENTAL HAND-ME-DOWN THAT POSES THE GREATEST THREAT COULD ACTUALLY BE HIDING IN YOUR DNA.

HOW TO BEAT YOUR GENETIC ODDS ♂

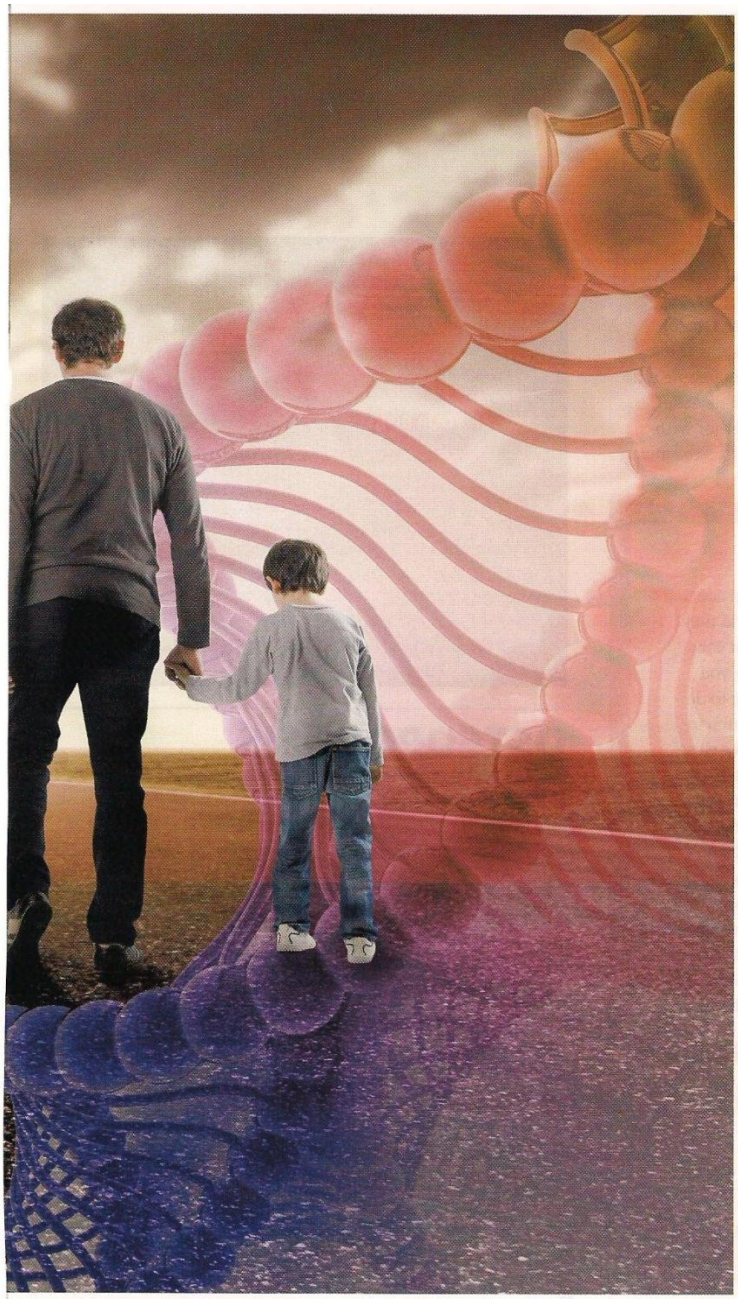
A peek into the past can reveal a lot about your future. When it comes to your family's medical history, it's easy to ask the unnerving question, "Will I be next?" Whether it's Alzheimer's, heart disease, diabetes or other life-threatening diseases, these illnesses can cast a shadow over your life. But they don't have to.

IF THE GENES FIT

Our genes determine our physical appearance, how our body functions, and influence our personality and other characteristics that make each person unique. Each of us inherits from our parents as many as 35,000 different genes. If you thought you only inherited your mother's eyes and your father's personality, scientists tell us there is even more to the equation.

As genes are passed down from generation to generation, medical conditions and diseases, or the increased risk for disease, tend to run in families due to gene abnormalities. Health care professionals now better understand how irregular genes are passed from one generation to the next and have an increased ability to test for hundreds of inherited illnesses.

Through DNA samples of small quantities of blood, skin, hair or other tissues or fluids, scientists can identify



defective genes that may indicate future health problems. A genetic defect in one specific gene, for example, can cause an inherited disorder such as cystic fibrosis, sickle cell anemia or Tay-Sachs disease.

It is now known that abnormal inherited genes are also responsible for an increased risk for certain types of cancer, diabetes, Alzheimer's disease, Parkinson's and other common diseases that were not always linked to genetic factors, according to helpstartshere.org.

Many mental illnesses may be the result of simultaneous changes in several different genes. An estimated 50 to 75 percent of depression is inherited, according to the Nemours Foundation, but the specific genes linked to depression have not yet been found.

Along with culture, values, environment, and behaviors, family health history influences the way you live your life.

DID YOU KNOW?

Commercialized gene tests for adult-onset disorders such as Alzheimer's disease and some cancers are the subject of most of the debate over gene testing.

Gathering a complete and accurate family medical history is becoming more important as genetic medicine explains more diseases. As a patient realizes the connection within their family, he or she undoubtedly seeks to gather, more personal information regarding risk to develop particular diseases, according to the American Medical Association.

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According to an ongoing government study called the Human Genome Genetic Project, lifestyle behaviors, such as diet and physical activity, have been linked to the development of a number of diseases, including cancer, diabetes, and heart disease. Adopting a healthy diet and other preventative health practices are effective ways to reduce associated diseases. However, cancer, diabetes, and heart disease have multiple risk factors (e.g., genetic, environmental, lifestyle) that tend to cluster in families. Thus, families are an important social context for intervention and lifestyle-focused disease prevention. Previous research indicates that intergenerational encouragement can motivate behavior change and parents and women tend to be natural encouragers of health behaviors.

GENE TESTING DEBATE

The Human Genome Genetic Project describes gene tests (also called DNA-based tests) as the newest and most sophisticated of the techniques used to test for genetic disorders, involving direct examination of the DNA molecule itself. In gene tests, scientists scan a patient's DNA sample for mutated sequences.

THE PROS AND CONS

With the Human Genome Genetic Project, gene testing already has dramatically improved lives. Some tests are used to clarify a diagnosis and direct a physician toward appropriate treatments, while others allow families to avoid having children with devastating diseases or identify people at high risk for conditions that may be preventable. Aggressive monitoring for and removal of colon growths in those inheriting a gene for familial adenomatous polyposis, for example, has saved many lives. On the horizon is a gene test that will provide doctors with a simple diagnostic test for a common iron-storage disease, transforming it from a usually fatal condition to a treatable one.

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FIGHTING MY FATHER'S FATE CONT.

Commercialized gene tests are targeted to healthy (presymptomatic) people who are identified as being at high risk because of a strong family medical history for the disorder. The tests give only a probability for developing the disorder. One of the most serious limitations of these susceptibility tests is the difficulty in interpreting a positive result because some people who carry a disease-associated mutation never develop the disease. Scientists believe that these mutations may work together with other, unknown mutations or with environmental factors to cause disease, according to *ornl.org*.

FIGHT YOUR GENETIC FATE

According to the U.S. Department of Health and Human Services, although most people realize that knowing their family history of disease is important, only about one-third of Americans have gathered and recorded their family's health history.

You don't have to hire a genealogist to research your entire family history. Studies show that information from your family medical tree could be life saving.

It is important to remember that having a family history of illnesses such as heart disease, cancer, or diabetes does not mean you will have that disease. It does, however, increase your risk. If you're prone to certain diseases and they seem to dot your family tree, you might want to do some research to find out how close you really are to following in your relative's footsteps. With help from *redbookmag.com*, we've gathered a few ways to fight your genetic fate for some of the most common threats.

Heart Disease ●●●

If one or more first-degree relatives develop heart disease at a young age or has high cholesterol or high blood pressure, you are at risk. Doctors recommend getting your cholesterol tested every five years beginning at age 20 and having your blood pressure tested annually starting at age 18.

LOWER YOUR RISK:

In a German study, a diet with only 20 percent of calories coming from fat combined with exercise, reversed heart disease in nearly 40 percent of patients.

While American Heart Association recommends at least 30 to 60 minutes of moderately intense physical activity most days, studies show that simply walking 20 to 30 minutes a day can lower your risk of dying from heart disease by up to 40 percent.

Control your emotions. Feeling depressed, angry, hostile, and tense can constrict your arteries, make your blood clot faster, cause irregular heartbeats, and encourage buildup of artery-clogging plaque.

OSTEOPOROSIS

Having a parent or sibling with osteoporosis puts you at greater risk, especially if you also have a family history of fractures. If osteoporosis runs in your family, you should get a bone-density scan by age 60. If you're not at risk, doctors still recommend a test by age 65.

LOWER YOUR RISK:

Building more muscle helps strengthen bones and can help lower your risk for osteoporosis. Also, make sure you take in vitamin C and 1,200 to 1,500 mg of calcium daily. Magnesium and vitamin D are also beneficial to warding off weak bones. Medications, dietary supplements and weight-bearing exercise can also help strengthen your bones.

DIABETES

IF SOMEONE IN YOUR FAMILY HAS IT, GET TESTED BY AGE 30.

While diabetes can strike anyone, healthy or not, the risks can be lowered drastically with a few simple guidelines.

LOWER YOUR RISK:

Exercise. Just one sweat session can lower blood sugar for 72 hours, and regular moderate workouts can improve blood sugar levels by 10 to 20 percent, according to Dean Ornish, MD, a clinical professor of medicine at the University of California at San Francisco.

Eat cleaner. A Harvard Health Professionals study of more than 40,000 men showed that those who ate a clean diet that included fruits, vegetables, whole grains, fish and chicken had a lower risk of diabetes than those who ate a more traditional Western meat-and-potatoes diet.

COLON CANCER

INFLAMMATORY BOWEL DISEASE IN THE FAMILY IS A RED FLAG.

If your family tree is dotted with colorectal cancer or inflammatory bowel disease it is recommended that you get screened 10 years before your youngest relative developed the disease. For others, get a colorectal cancer screening by age 50.

LOWER YOUR RISK:

Make vitamin D your best friend. A new study in the Annals of Epidemiology suggests that raising vitamin D levels could cut colon cancer deaths in half.

Stay fit. A 2008 study found that people who were highly active lowered their risk of developing colon cancer by 30 to 40 percent.

Your doctor is the best person to determine your risk, based on your familial patterns. Because men's health is a family issue your family tree might be worth looking into.

When it comes to your family's medical history, it's easy to ask the unnerving question, "Will I be next?" Whether it's Alzheimer's, heart disease, diabetes or other life-threatening diseases, these illnesses can cast a shadow over your life.

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Through DNA samples of small quantities of blood, skin, and hair or other tissues or fluids, scientists can identify defective genes that may indicate future health problems.

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When reading the magazine Healthy Utah June 2012. It came to mind something very important that we learned in class about Nature and Nurture. It's very important for us to know about our family's history of disease. Sometimes we cannot understand why so many family members develop mental illness in one single family or an addiction to substances and personalities.

I believe that if you do some research we will find out that family genetics plays a big part in our lives. Gaining the scientific and physiological knowledge is something that will benefit us in so many ways. It will make it easier understands why we go through so much with our health and there is no explanations.

As we read, depression is something that many families find difficult to handle because they don't understand what it is that is making our loved ones feel this way. It's interesting that this article shows that 50 to 75 percent of diagnosed depression is inherited, according to the Nemours Foundation.

This study improves our knowledge and helps us understand that it is possible we acquire diseases from our antecedents.

Euclides Cruz