

THE NEW ORLEANS ADVOCATE

Genetics make up just small portion of cancer causes

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From pollution to processed foods, we worry that much of modern life causes cancer.

For many, the scariest cause of cancer is the one we cannot change — the genes that make up who we are.

But cancers caused by a gene inherited from your family make up only 5 to 10 percent of cancers, says Dr. Duane Superneau, who specializes in studying cancer-related genetics.

And with current technology, it's easy to test for a genetic predisposition to cancer.

"You either get a blood sample or a swab or a collection of spit or something that will allow you (to obtain) DNA," Superneau says.

The testing process takes a few weeks in most cases. But not everyone needs the testing, which could cost from about \$800 to more than \$4,000 and is often covered by insurance.

To decide whether you need genetic testing, you first need to understand what cancer is, Superneau says.

"Simply put, cancers are cells gone bad," Superneau says.

When the cells go bad, they divide without stopping. Instead of dying, the cells continue to reproduce and eventually form tumors, or masses of tissue.

In most cases — 90 to 95 percent — a cell goes bad for no clear reason. Often, the cells exist in a "less than optimal environment," Superneau says. The person, he says, "is unhealthy, smokes, hasn't taken good care of themselves, isn't eating well, is exposed to viruses, is exposed to chemicals or radiation, or whatever. All this contributes a little bit or all of which combine together to allow the cell to go bad."

But in 5 to 10 percent of cases, the cells go bad because of an inherited genetic mutation.

"It's due to a gene that is promoting the cells to go bad or allowing the cells to go bad," Superneau says. "That would be a gene you inherit that is going to go bad no matter what kind of environment you're in."

Taking care of yourself — eating well and staying fit — will make you less susceptible to cells "going bad," Superneau emphasizes.

Doctors look for these criteria before testing genetics:

Have people in your family been diagnosed with cancer early in life? For example, have they had breast, colon or ovarian cancers before the age of 50? Hereditary cancers often appear earlier in life. "The longer you live, the more chance there is for cells to go bad," says Superneau of why many cancers develop later in life.

Have relatives dealt with the same cancer or similar types of cancer? Cancers are a collection of related diseases, and mutations of certain genes can cause specific cancers. It is well known that harmful mutations in the BRCA1 and BRCA2 predispose women to a high risk for breast and ovarian cancers. While mutations in other genes predispose people to a high risk for colon, uterus, ovarian and gastrointestinal tract cancers and other related cancers. Seemingly unconnected diseases like mesothelioma, eye cancer and diffused stomach cancer can also occur because of certain genes.

Have you or a person in your family had several types of cancer? Tests may be helpful for an "individual who has had more than one type of cancer to determine whether there could be a gene predisposing to that pattern inside the family," Superneau says.

If tests show your genes are positive for a mutation, that doesn't mean you're going to get cancer, the physician said. But it does mean you should begin regular cancer screenings and get checked consistently.

"If you know you're more at risk for colon cancer, you can start your colonoscopy at a younger age, obtain them more frequently, including yearly if necessary, in an effort to make sure that if cancer is going to occur, you might catch it in the stage of polyps before it gets to the stage of cancer," Superneau says. "Then you're going to remove the polyps before they go bad."

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Women with a genetic predisposition to breast cancer may choose a mastectomy — having their breast tissue removed.

For most cancers, doctors would recommend vigilant surveillance.

“If something goes wrong, hopefully it will not be too long between screenings,” Superneau says, “and you can pick it up early with a greater chance of easier treatment and cure.”

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