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Colorectal Diseases Biobank links genetics and colorectal cancer

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What if your family's DNA could become the blueprint for your very own precise and personalized treatment for colorectal cancer? Or, better yet, what if it could be used to help doctors screen you earlier for the disease, before it has a chance to strike?

This isn't a science-fictional, futuristic ideal. Cutting-edge research at Penn State College of Medicine and the Penn State Colorectal Diseases Biobank is revealing how genetics play a role in treating this disease.

The team at the biobank takes things one step further, too: They empower patients. Combating illness is as much a psychological battle as it is a physical one, says Dr. Walter Koltun, chief of the Division of Colon and Rectal Surgery and director of the biobank. By filling patients with knowledge about genetic causes of disease and the subsequent care for their life-threatening conditions, they can take an active role in their own treatment.

"For patients, the stress is the unknown and the lack of control. If you incorporate their concerns and their responses, they become more compliant with treatments. They understand the rationale for what we're doing," Koltun says. "I call that, 'patient-centered care.' It really means the patient is the director of the symphony. What they need and how their disease affects them, comes back to genetics—what disease they have and how it is interacting with their body's physiology—is different for each patient and is in large part related to their genetics."

Colorectal cancer is the third most-common life threatening cancer in the United States, according to the American Cancer Society. During 2017, it is expected to cause 50,260 deaths in the nation. If everyone age 50 and older were screened, six out of 10 deaths could be prevented, says the U.S. Department of Health and Human Services.

But genetics research at the Colorectal Diseases Biobank is advancing the battle for prevention and treatment.

Provided by Pennsylvania State University

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