



• CLINICAL CARE

CONQUERING CHRONIC ILLNESS

COMPLEX, CHRONIC MEDICAL conditions are the No. 1 cause of death and disability in the U.S. and account for 75 percent of all healthcare spending. Seeking better ways to address these conditions, Cleveland Clinic has established the Center for Functional Medicine.

Led by Mark Hyman, MD, a best-selling author and internationally recognized expert in the field, the center focuses on discovering the underlying causes of illness. “Think of it as connecting the dots of disease,” Dr. Hyman says. “It’s looking at the root causes, not just the symptoms. And it’s really looking at the body as a whole organism rather than looking at specific organs.”

Functional medicine builds on conventional diagnostic tools, taking into account a patient’s medical history and genetic, environmental and lifestyle factors. It seeks connections among seemingly disparate problems, including mental and emotional.

“The right nutrients, light, air, water, sleep, movement, connection, love, meaning, purpose — all are ingredients for creating healthy humans. We need to improve the health of patients, not solely manage their symptoms,” Dr. Hyman says.

Research is intrinsic to the center’s work. Current clinical trials are comparing standard treatments for asthma, inflammatory bowel disease, type 2 diabetes and migraines with those used in functional medicine.

“By witnessing the extraordinary clinical results from applying this new operating system to chronic disease, I am clear this must be the model for medicine going forward,” says Dr. Hyman, who is committed to educating other physicians. “We cannot otherwise get to the solutions for our healthcare crisis or solve the problem of chronic disease.” — *Elaine DeRosa Lea*

• RESEARCH

THE HEART OF PREECLAMPSIA

PREECLAMPSIA CAN BE a serious, and frightening, pregnancy complication. Now, a surprise discovery may lead to a test that predicts preeclampsia and to better treatments.

High blood pressure that comes with preeclampsia often restricts blood flow to the fetus, resulting in low birth weight. The condition is estimated to occur in 5 to 10 percent of all pregnancies in the world. The causes are unknown, but severe preeclampsia can produce serious risks to both the mother’s and the baby’s life. The only cure is to deliver the baby, which means a preterm birth and the risk of numerous complications.

In 2012, Cleveland Clinic researchers discovered that an enzyme, CORIN, may play a role in preeclampsia. Led by Qingyu Wu, MD, PhD, a professor of molecular medicine at the Lerner Research Institute, the team unexpectedly found that CORIN, normally present in the heart, also appears in the uterus of a pregnant woman. The discovery was named a Top Research Finding in 2012 by the National Heart, Lung, and Blood Institute.

Follow-up research by Dr. Wu’s team and collaborators has shown that CORIN levels are low in pregnant women with preeclampsia. They also discovered two separate mutations that impaired CORIN levels in two families affected by preeclampsia.

Now, Dr. Wu’s team is trying to figure out how the mutations impair CORIN function, as well as why CORIN levels are low in pregnant women who have preeclampsia but do not have the mutations.

“Ultimately, we want to see how we can benefit patients,” Dr. Wu says. “But before we can do that, we have to understand how the process works. If we can predict which group of women will have the disease later on, [they] can be monitored more closely, or we can give them drugs to control their blood pressure.”

— *Melanie Padgett Powers*

