

New study investigates why some people succeed in maintaining weight loss

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For many people trying to lose weight, shedding pounds is the easy part. Keeping the pounds off over time is usually the hard part, and most people regain weight.

What makes some succeed in maintaining [weight loss](#) for the long haul?

A new study led by researchers at Columbia University is now hoping to answer that question by extensively studying more than 100 people with obesity who successfully lose weight through diet and exercise. These individuals will then be followed over time in order to develop a comprehensive understanding of the determinants of keeping weight off or regaining it. Ultimately, the researchers hope to use these results to optimize individualized planning for long-term weight reduction.

"We already know the answer is not will power," says Columbia's Rudolph Leibel, MD, whose research was the first to reveal that metabolism and [neural circuits](#) drive hunger change in the weight-reduced state.

Leibel is the Christopher J. Murphy Memorial Professor of Diabetes Research at Columbia University's Vagelos College of Physicians and Surgeons and co-director emeritus of the Naomi Berrie Diabetes Center at Columbia University Irving Medical Center. He is the study's co-principal investigator at Columbia along with Dympna Gallagher, EdD, professor of nutritional medicine; Michael Rosenbaum, MD, professor emeritus of medicine and pediatrics; and Laurel Mayer, MD, professor of psychiatry.

"The weight-reduced body is physiologically distinct: It thinks it's starving so it slows metabolism to preserve weight, reduces activity, and increases appetite. These biological adaptations are almost impossible to resist," says Leibel. "A different therapeutic approach is needed to help people who've lost weight keep the weight off."

By studying the metabolism and behavior of people who succeed and those who fail to maintain their weight loss, the POWERS study seeks to understand what causes the biological adaptations that promote weight

regain and why some people succeed in maintaining their reduced weight.

Everything from the [fat cell](#) to the highest cortical centers of the brain will be examined and in a much more meticulous way than previous studies. Using the most advanced measurement techniques, measures will include body composition, [energy expenditure](#), [physical activity](#), sleep quality, and food choice assessments. MRI scans will record [neural activity](#), and blood, muscle, and fat samples will be obtained to assess cellular changes.

"Insights from this unique study will inform the development of means to support long-term success in maintaining reduced body weight," says Leibel. "Even modest reductions, sustained over time, can have large beneficial effects on health."

More about the POWERS study

The Physiology of the Weight Reduced State (POWERS) study was initiated by the National Institutes of Health and is being conducted by researchers at Columbia University, Drexel University, Tufts University, and the University of Pennsylvania. Participants who lose 7% or more of their body [weight](#) over five months with a supervised diet and exercise program will be followed for an additional 12 months. Find more information about the POWERS study and how to enroll on the study's [website](#).

Provided by Columbia University Irving Medical Center

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