

Diet alone will not likely lead to significant weight loss

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Newly-published research by scientists at Oregon Health & Science University demonstrates that simply reducing caloric intake is not enough to promote significant weight loss. This appears to be due to a natural compensatory mechanism that reduces a person's physical activity in response to a reduction in calories. The research is published in the April edition of the *American Journal of Physiology - Regulatory, Integrative and Comparative Physiology*.

"In the midst of America's obesity epidemic, physicians frequently advise their patients to reduce the number of calories they are consuming on a daily basis. This research shows that simply dieting will not likely cause substantial [weight loss](#). Instead, diet and exercise must be combined to achieve this goal," explained Judy Cameron Ph.D., a senior scientist at OHSU's Oregon National Primate Research Center, and a professor of behavioral neuroscience and obstetrics & gynecology in the OHSU School of Medicine, as well as a professor of psychiatry at the University of Pittsburgh.

To conduct the research, Cameron and OHSU post-doctoral fellow Elinor Sullivan, Ph.D., studied 18 female rhesus macaque monkeys at the Oregon National Primate Research Center. The monkeys were placed on a high-fat diet for several years. They were then returned to a lower-fat diet (standard monkey food) with a 30 percent reduction in calories. For a one-month period, the monkeys' weight and activity levels were closely tracked. Activity was tracked through the use of an activity monitor worn on a collar.

"Surprisingly, there was no significant weight loss at the end of the month," explained Sullivan. "However, there was a significant change in the activity levels for these monkeys. Naturally occurring levels of [physical activity](#) for the animals began to diminish soon after the reduced-calorie diet began. When caloric intake was further reduced in a second month, physical activity in the monkeys diminished even further."

A comparison group of three monkeys was fed a normal monkey diet and was trained to exercise for one hour daily on a treadmill. This comparison group did lose weight.

"This study demonstrates that there is a natural body mechanism which conserves energy in response to a reduction in calories. Food is not always plentiful for humans and animals and the body seems to have developed a strategy for responding to these fluctuations," added Cameron. "These findings will assist medical professionals in advising their patients. It may also impact the development of community interventions to battle the childhood obesity epidemic and lead to programs that emphasize both [diet](#) and exercise."

Provided by Oregon Health & Science University

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