

Why current strategies for fighting obesity are not working

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(Medical Xpress) -- As the United States wages war on the growing epidemic of obesity among children and adults, a team of University of Colorado School of Medicine obesity researchers conclude that what the nation needs is a new battle plan – one that replaces the emphasis on widespread food restriction and weight loss with an emphasis on helping people achieve “energy balance” at a healthy body weight.

In a paper published in the July 3 issue of the journal *Circulation*, James O. Hill, PhD. and colleagues at the Anschutz Health and Wellness Center take on the debate over whether excessive food intake or insufficient [physical activity](#) cause obesity, using the lens of energy balance – which combines food intake, energy expended through physical activity and energy (fat) storage – to advance the concept of a “regulated zone,”

where the mechanisms by which the body establishes energy balance are managed to overcome the body's natural defenses towards preserving existing body weight.

This is accomplished by strategies that match food and beverage intake to a higher level of energy expenditure than is typical in America today, enabling the biological system that regulates body weight to work more effectively. Additional support for this concept comes from many studies showing that higher levels of physical activity are associated with low weight gain whereas comparatively low levels of activity are linked to high weight gain over time.

“A healthy body weight is best maintained with a higher level of physical activity than is typical today and with an energy intake that matches,” explained Hill, professor of pediatrics and medicine and executive director of the Anschutz Health and Wellness Center at the University of Colorado Anschutz Medical Campus and the lead author of the paper. “We are not going to reduce obesity by focusing only on reducing food intake. Without increasing physical activity in the population we are simply promoting unsustainable levels of food restriction. This strategy hasn't worked so far and it is not likely to work in the future.

As Dr. Hill explains, “What we are really talking about is changing the message from ‘Eat Less, Move More’ to ‘Move More, Eat Smarter.’ ”

The authors argue that preventing excessive weight gain is a more achievable goal than treating obesity once it is present. Here, the researchers stress that reducing calorie intake by 100 calories a day would prevent weight gain in 90 percent of the adult population and is achievable through small increases in physical activity and small changes in food intake.

People who have a low level of physical activity have trouble achieving

energy balance because they must constantly use food restriction to match energy intake to a low level of energy expenditure. Constant food restriction is difficult to maintain long-term and when it cannot be maintained, the result is positive energy balance (when the calories consumed are greater than the calories expended) and an increase in body mass, of which 60 percent to 80 percent is usually body fat. The increasing body mass elevates energy expenditure and helps reestablish energy balance. In fact, the researchers speculate that becoming obese may be the only way to achieve energy balance when living a sedentary lifestyle in a food-abundant environment.

Using an exhaustive review of the energy balance literature as the basis, the researchers also refuted the popular theory that escalating obesity rates can be attributed exclusively to two factors -- the change in the American diet and the rise in overall energy intake without a compensatory increase in energy expenditure. Using rough estimates of increases in food intake and decreases in physical activity from 1971 to 2000, the researchers calculated that were it not for the physiological processes that produce energy balance, American [adults](#) would have experienced a 30 to 80 fold increase in weight gain during that period, which demonstrates why it is not realistic to attribute obesity solely to caloric intake or physical activity levels. In fact, energy expenditure has dropped dramatically over the past century as our lives now require much less physical activity just to get through the day. The authors argue that this drop in energy expenditure was a necessary prerequisite for the current obesity problem, which necessitates adding a greater level of physical activity back into our modern lives.

“Addressing obesity requires attention to both food intake and physical activity, said co-author John Peters, PhD., assistant director of the Anschutz Health and Wellness Center. “Strategies that focus on either alone will not likely work.”

In addition, the researchers conclude that food restriction alone is not effective in reducing obesity, explaining that although caloric restriction produces [weight loss](#), this process triggers hunger and the body's natural defense to preserve existing body weight, which leads to a lower resting metabolic rate and notable changes in how the body burns calories. As a result, energy requirements after weight loss can be reduced from 170 to 250 calories for a 10 percent weight loss and from 325 to 480 calories for a 20 percent weight loss. These findings provide insight concerning weight loss plateau and the common occurrence of regaining weight after completing a [weight](#) loss regimen.

Recognizing that energy balance is a new concept for to the public, the researchers call for educational efforts and new information tools that will teach Americans about energy balance and how food and physical activity choices affect energy balance.

Anschutz Health and Wellness Center researchers Holly R. Wyatt, MD, and John C. Peters, PhD., were coauthors on the new paper, [Energy Balance](#) and Obesity.

More information: View Dr. Hill's study ([pdf](#)).

Provided by University of Colorado Denver

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