

Why Do Medical Professionals Still Say That a 3500 Calorie Deficit Equals a Lost Pound?

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For years we were taught that eating 3500 fewer calories-worth of food carved a pound off your body. Over a day, week or month, as long as the cumulative caloric reduction was 3500 calories, a pound would be gone.

Then reality caught up to science and that conclusion had to be modified. We learned that people lose much more weight than predicted in the first two dieting weeks, because of losing water weight. We learned that the body really doesn't want to starve to death, so it slows metabolism to conserve calories. And we learned that it gets harder to fight hunger over time, as the brain releases appetite stimulating hormones in another effort to prevent starvation. We learned all these things many years ago.

We also know that a smaller body needs fewer calories, which is why it is important to exercise to keep weight off. If the new, reduced body needs just the number of calories that were consumed getting to that size, no new weight will be lost unless there is an additional calorie cut.

Why then, in 2018, when doctors should know better, does the Journal of the American Medical Association (JAMA) publish an opinion article¹ by an author who regurgitates the old meme of a 3500 calorie deficit = 1 pound lost? The author's point is that weight loss requires calorie-cutting. Of course it does – Do we need a viewpoint article to tell us that? One doesn't lose weight while eating excess calories unless one has cancer or some other major inflammatory disease.

Calorie reduction is necessary, but scientists have proven time and again that weight loss is not linear or directly proportional to 3500 calorie increments. The few people, who successfully lose weight and keep it off, lose some weight, plateau, adapt with more dietary change, lose, plateau, adapt and so on. Much more often, dieters lose, plateau, increase, adapt with more dietary change, lose, plateau, give up and regain all the lost weight.

The plateaus often occur while the dieter continues to make an effort and believes that he/she hasn't deviated from the diet. In my experience, these dieters think they haven't changed, but they have. Previously forbidden foods sneak back in 'occasionally'. Birthday parties happen. Going out to eat becomes an excuse to overeat, as a special occasion. Weight loss makes them think a little dietary laxity won't make a difference.

In a letter to the JAMA editor, a group of scientists including an old colleague of mine refute the 'slow, steady' 3500 calories per pound notion with facts². Objective measurements show that, over time, a dieter burns fewer calories and increases food intake, leading to a plateau or weight increase after a year, if not before. Their numbers suggest that it takes a larger initial or increasing calorie deficit over time to successfully lose more than a small percentage of body weight.

To achieve that deficit and sustained weight loss, it takes vigilance, honesty with oneself about what is being consumed, lots of low-cal veggies and exercise. For some it takes a special diet that kills appetite, like the low-carb diet that works well for some but not others. For others it takes swearing off individual foods, like soda, sweets or fast food. Regardless, overweight and yo-yo dieting are not healthy – Finding a way to approach a healthy weight and stay there is.

- 1) Guth E. JAMA 2018;319(3):225-226.
- 2) Hall K, Schoeller DA, Brown A. JAMA 2018;319(22):2336-7.