

3500 Calories To Lose A Pound - Is This Formula All Wrong?

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Most fitness conscious people have heard that there are 3,500 calories in a pound of fat, so if you create a deficit of 3500 calories in a week, you lose a pound of weight. If you create a deficit of 7000 calories in a week, you lose two pounds, and so on. Right? Well, not so fast ...

Dr. Kevin Hall, an investigator at the National Institute of Health in Bethesda has done some interesting research about the mechanisms regulating human body weight. He recently published a new paper in the International Journal of Obesity that throws a wrench in works of the 3500 calories to lose a pound idea.

Some of the equations in his paper made my head hurt, but despite the complex math he used to come to his conclusions, his article clearly prompts the question, "3500 calories to lose a pound of WHAT?" His paper also contained a lot of simple and practical tips you can use to properly balance your caloric intake with output, fine tune your calorie deficit and help you retain more muscle when you diet.

Below, I've distilled some of the information into a simple bullet-point summary that any non-scientist can understand. Then I wrap up with my interpretation of how you can apply this data in your own fat loss program:

Calculating the calories required to lose a pound and fine-tuning your caloric deficit

- 3500 calories to lose a pound has always been the rule of thumb. However, this 3500 calories figure goes back to research which assumed that all the weight lost would be adipose tissue (which would be ideal, of course).
- But as we all know (unfortunately), lean body mass is lost along with body fat, which would indicate that the 3500 calorie figure could be an oversimplification.
- The amount of lean body mass lost is based on initial body fat level and size of the calorie deficit
- Lean people tend to lose more lean body mass and retain more fat.
- Fat people tend to lose more body fat and retain more lean tissue (revealing why obese people can tolerate aggressive low calorie diets better than already lean people)
- Very aggressive low calorie diets tend to erode lean body mass to a greater degree than more conservative diets.
- whether the weight loss is lean or fat gives you the real answer of what is the required energy deficit per unit of weight loss
- The metabolizable energy in fat is different than the metabolizable energy in muscle tissue. A pound of muscle is not 3500 calories. A pound of muscle yields about 600 calories.
- If you lose lean body mass, then you lose more weight than if you lose fat.

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- If you create a 3500 calorie deficit in one week and you lose 100% body fat, you will lose one pound.
- But if you create a 3500 calorie weekly deficit and as a result of that deficit, lose 100% muscle, you would lose almost 6 pounds of body weight! (of course, if you manage to lose 100% muscle, you will be forced to wear the Dieter's Dunce cap)
- If you have a high initial body fat percentage, then you are going to lose more fat relative to lean, so you may need a larger deficit to lose the same amount of weight as compared to a lean person
- Creating a calorie deficit once at the beginning of a diet and maintaining that same caloric intake for the duration of the diet and after major weight loss fails to account for how your body decreases energy expenditure with reduced body weight
- Weight loss typically slows down over time for a prescribed constant diet (the 'plateau'). This is either due to the decreased metabolism mentioned above, or a relaxing of the diet compliance, or both (most people just can't hack aggressive calorie reductions for long)
- Progressive resistance training and/or high protein diets can modify the proportion of weight lost from body fat versus lean tissue (which is why weight training and sufficient protein while on calorie restricted diets are absolute musts!)

So, based on this info, should you throw out the old calorie formulas?

Well, not necessarily. You can still use the standard calorie formulas to figure out how much you should eat, and you can use a 500-1000 calorie per day deficit (below maintenance) as a generic guideline to figure where to set your calories to lose one or two pounds per week respectively (at least that works on paper anyway).

Even better however, you could use this info to fine tune your caloric deficit using a percentage method and also base your deficit on your starting body fat level, to get a much more personalized and effective approach:

- 15-20% below maintenance calories = conservative deficit
- 20-25% below maintenance calories = moderate deficit
- 25-30% below maintenance calories = aggressive deficit
- 31-40% below maintenance calories = very aggressive deficit (risky)
- 50%+ below maintenance calories = semi starvation/starvation (potentially dangerous and unhealthy)

(Note: According to exercise physiologists Katch & McArdle, the average female between the ages of 23 and 50 has a maintenance level of about 2000-2100 calories per day and the average male about 2700-2900 calories per day)

Usually, we would suggest starting with a conservative deficit of around 15-20% below maintenance. Based on this research, however, we see that there can be a big difference between

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lean and overweight people in how many calories they can or should cut.

If you have very high body fat to begin with, the typical rule of thumb on calorie deficits may underestimate the deficit required to lose a pound. It may also be too conservative, and you can probably use a more aggressive deficit safely without as much worry about muscle loss or metabolic slowdown.

If you are extremely lean, like a bodybuilder trying to get ready for competition, you would want to be very cautious about using aggressive calorie deficits. You'd be better off keeping the deficit conservative and starting your diet/cutting phase earlier to allow for a slow, but safe rate of fat loss, with maximum retention of muscle tissue.

The bottom line is that it's not quite so simple as 3,500 calories being the deficit to lose a pound. Like lots of other things in nutrition that vary from person to person, the ideal amount of calories to cut depends ...

Note: The Burn the Fat, Feed The Muscle program not only has an entire chapter dedicated to helping you calculate your exact calorie needs, it was designed very specifically to keep a fairly conservative approach to caloric deficits and to maximize the amount of lean tissue you retain and minimize the amount of metabolic adaptation that occurs when you're dieting. The approach may be more conservative, and the fat loss may be slower, but it has a better long term track record ...

You can either lose weight fast, sacrifice muscle and gain the fat back like 95% of people do, or lose fat slow and keep it off forever like the 5% of the people who know the secrets. The choice is yours. For more information, visit: <http://www.burnthefat.com>

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Tom Venuto is a natural bodybuilder, certified strength and conditioning specialist (CSCS) and a certified personal trainer (CPT). Tom is the author of "Burn the Fat, Feed The Muscle," which teaches you how to get lean without drugs or supplements using methods of the world's best bodybuilders and fitness models. Learn how to get rid of stubborn fat and increase your metabolism by visiting: www.burnthefat.com