



CERTIFIED PERSONAL TRAINERWEIGHT LOSS SPECIALIST

MYTHS OF WEIGHT MANAGEMENT: YOU HAVE TO EXERCISE AT A LOW INTENSITY TO BURN FAT.



NATIONAL ACADEMY OF SPORTS MEDICINE

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Low or high intensity?

Despite an enormous amount of research on the topic, there is still some confusion over the relationship of cardiorespiratory training intensity to fat expenditure. This fairly complex physiology has given way to one of the most common weight loss misconceptions: *You have to exercise at a low intensity, or you will not burn fat.* As with some of the other myths, there is a distorted grain of truth inside this one.

Physiology labs have sophisticated equipment to differentiate the fuels being used during exercise of different intensities. Fat contribution to total energy expenditure is related to intensity. However, it is not that simple. During exercise of low intensity, there is a higher percent contribution from fat as a fuel source (see example table below). However, this is offset by the higher energy expenditure during higher exercise intensities. Assigning some values to the concept will make this concept more understandable.

Type of exercise	Total calories expended*	Percent contribution from fat*	Total fat expended*
Low intensity	100	60%	60 fat kcal
High intensity	500	40%	200 fat kcal

Calorie and fat expenditure (example numbers)

Although the percent contribution from fat is higher with the low-intensity exercise (60%) than in the high-intensity exercise (40%), the total caloric expenditure (as well as the contribution from fat calories) is greater in high-intensity exercise. Partly to blame is the cardio equipment in fitness facilities that has been labeled with the infamous “fat-burning zone” on the readout panels. High-intensity exercise of the same duration as low-intensity exercise results in more total calories and fat calories burned, making weight loss more likely.

WHAT ABOUT HIGH INTENSITY EXERCISE AND THE CALORIE AFTERBURN?

On the other side of the scale, higher intensity exercise, especially high-intensity interval training (HIIT), has also experienced some myth busting as well. Excess post-exercise oxygen consumption (EPOC) contributes to the overall calorie deficit of exercise, but not to the levels that have been promoted and hyped. Early researchers examining EPOC thought that it could contribute significantly to weight loss, but more recent research has cast doubt on this likelihood for deconditioned and overweight individuals (1). The research that elicited substantial EPOCs (i.e., numbers over 100 kcal) generally consisted of exercise bouts that were of a high intensity, long duration, or both: all of which are unlikely to be performed by a deconditioned or overweight client. A study by Kazunori and colleagues determined that EPOC amounted to only 35 kcal on days that involved slow or brisk walking (2). More recently, Knab and colleagues examined the effects of 45 minutes of cycling in male subjects riding at 73% VO₂max (3). This intensity is considered to be vigorous because it approximates intensities close to one’s lactate threshold. Although the exercise bout expended about 519 kcal, the EPOCs elevated metabolism for 14 hr post exercise, for a total of 197 kcal, or 14 kcal/hr. This certainly has important implications for weight loss and management, but the likelihood of an average

exerciser witnessing similar results is slim. For most moderate-intensity exercisers, EPOC generates about 7-10% of the total energy expenditure of an exercise session. Although limited, it is important not to dismiss this because ^[1]_[5]every calorie counts in weight loss, especially when added up over a period of a month or a year (1).

Want to learn more? With the NASM [Weight Loss Specialization](#) (WLS), you can help obese and overweight clients gain the knowledge they need to lose their weight – and reclaim their health. Master the secrets of diet, exercise and psychology to help them take it off and keep it off.

References

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