

## The Myth of The Fat Burning Zone



There are countless myths in the fitness industry, some more dubious than others. One of the most widespread and damaging is the mythical “Fat Burning Zone” that is hyped in all forms of media and emblazoned on all the supposed cardiovascular training apparatuses clogging up floor space commercial health clubs. (Before you continue on reading you may want to get a paper bag in case of hyperventilation or take a sedative for the truth is quite shocking!)

The fat burning zone as touted by equipment manufacturers and the uninformed masses is a fictional zone of exercise intensity that allows for a steady state of movement at low to moderate intensity. This is often between 50 – 70% of an individual’s maximum heart rate. Examples are: walking, jogging cycling and any piece of gym equipment that allows these types of movements or a similar derivative at a low intensity for a long duration of time. The lower intensity causes the body to use a higher percentage of calories from stored body fat as a fuel source i.e. the so-called mythical “Fat Burning Zone”.

Here is where it gets a little tricky; fast-talking salespeople & fitness industry skills start disguising and hiding the truth. Yes, a lower intensity, longer duration exercise session will burn a greater percentage of fat calories DURING the workout for fuel (1). What the equipment designers and sales staff does NOT tell you is that the amount calories expended DURING the exercise session is MEANINGLESS! What really effects body fat levels is the TOTAL CALORIE EXPENDITURE in a 24-hour period! You need to elevate your metabolism and sustain that elevation to burn an increased number of calories for 24 hours or more, not 1 hour to see a measurable (visible) loss of body fat.

The best real world example I can give you to demonstrate proper exercise intensity for fat loss is for you to compare sprinters vs. marathoners. Both male & female sprinters have very low body fat and a high degree of muscle mass when compared to marathoners and distance athletes in general (sprinting is a muscle building activity as well as being cardiovascular). More importantly their training being of short duration and high intensity leads to a greater 24-hour elevation of their metabolisms. The short duration of sprint type activities also prevents the chronic, overuse orthopedic conditions that plague every distance athlete.

**The heightened metabolism of sprinters and those that do high intensity exercise such as interval weight training is primarily due to an event within the body known as E.P.O.C. (2), an acronym for Excess Post-exercise Oxygen Consumption. After high intensity exercise the body's metabolism remains elevated converting stored calories primarily from free fatty acids to energy to return the body to homeostasis (3,4) and can be measured by the amount of oxygen a person is taking in during their recovery. Post exercise you must return heart rate, breathing, circulation and other primary systems to their resting state, replenish the energy stores (ATP, glycogen), and remove waste products such as lactic acid. The body also uses this time for cellular repair and to initiate adaptations to exercise including anabolism (muscle building). There is a direct linear relationship between the intensity of the exercise and the length of the E.P.O.C. (5), which helps account for why higher intensity exercise induces low levels of body fat.**

**. The E.P.O.C. from higher intensity exercise results in an elevated metabolism for 12 – 38 hours with greater calorie expenditure during that time (6). In addition, muscle is a metabolically active tissue and requires calories to be maintained, this is why more muscular individuals can consume higher amounts of calories without adding body fat. Remember it is NOT the calories that are used in the workout that result in low body fat, but the total calories expended in a 24 hour period. So when planning an exercise regimen for fat loss it is better to train like a sprinter and not a marathoner for the high intensity exercise burns more calories over 24 hours and it also increases lean muscle tissue, which further elevates metabolism.**

**Lower intensity, long duration exercise often results in a much lower E.P.O.C. and promotes gluconeogenesis during the exercise. This is the body's mechanism where muscle is broken down to form new glucose to sustain long duration activities; In essence the body converts its own muscle to sugar to provide sustained energy. Unlike sprinting and interval training, long duration exercise is catabolic, it reduces lean muscle tissue and results in a LOWER resting metabolism and higher body fat percentages due to muscle loss. Another phenomenon associated with longer duration, low intensity exercise is that it makes the body very efficient at energy production resulting in a conservation of energy and lower utilization of body fat for fuel. These aerobic energy production mechanisms combined with poor nutrition (too many carbohydrates and low protein) often lead to the “Skinny Fat” syndrome; low bodyweight but a high body fat percentage.**

**So when we compare short, high intensity anaerobic exercise like sprinting and interval training to long, lower intensity aerobic activities like jogging and various aerobic gym equipment it is clear that the higher intensity training produces a greater E.P.O.C and an anabolic state leading to much lower body fat levels than those of who train with steady-state, long duration exercise. This is the “Myth of The Fat Burning Zone”! The short duration, high intensity work is considered to be above or “out of” the fat burning zone while the lower intensity, long duration exercise is considered to be within the mythical fat burning zone yet the short, high intensity work results in much lower body fat (7).**

**So why do equipment manufacturers promote low intensity, long duration workouts? Increased profits! Slow, long duration exercise wears out the equipment faster and it needs to be repaired or replaced. Many so-called health experts and fitness trainers promote it because clients like that type of training for it is easier and not as exhausting. It also fills up an hour session quite easily, requiring the instructor to possess no real knowledge of program design & exercise physiology. Now there are some situations where you need steady state, lower intensity exercise: such as certain diseases, cardiac rehabilitation, and high blood pressure. Before engaging in short, high intensity exercise you need to have a physicians clearance for high intensity training and be free of orthopedic injuries. “Never try to put fitness on top of orthopedic dysfunction” you will only create new injuries and exacerbate old ones, guaranteed! I hope you all see that for normal, healthy individuals that the fat burning zone is really the “Fat A\$\$ Zone!”**

**As always please feel free to contact me with any questions you have. For additional information on proper aerobic training and avoiding the “skinny-fat” syndrome please read my previous Town Medical Associates articles:**

**[The Myth of Aerobic Exercise – Part I “Why Aerobic does NOT always mean Cardiovascular”](#)**

**[The Myth of Aerobic Exercise – Part II “Why need MORE sprinting & weight lifting and LESS jogging!”](#)**

**[Increasing Bone Density – Part I “what is Mechanical Stress or Why Runners, Swimmers, and Cyclists have Soft Bones!”](#)**

**[The “Skinny Fat” Syndrome or why bodyweight has little to do with health!](#)**

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## References:

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