

Fat Loss 101: Aerobic Training

By JD Doyle of Ultimate-U Fitness, www.ultimate-u.com

Living in Southwest Florida has its benefits. While the rest of the country is bundling up to escape freezing temperatures, hibernating indoors, and accumulating that protective layer of holiday fat, we experience some of the best weather of the year to participate in outdoor activities. For those of you who need to drop a few pounds or are just looking to improve your health, this is a golden opportunity for you to get started on a regular aerobic training program.

So just what is "aerobic training"? The term conjures up images of Olivia Newton-John wannabes in spandex, sweatbands, and leg warmers pounding step machines, or worse yet, Richard Simmons' *Sweatin' To The Oldies* infomercials. Perish the thought. Any physical activity is *aerobic* if it is continuous for more than three minutes. At that point, the body begins rely on oxygen to break down sugar for fuel (up to the three minute mark, we have enough sugar stored in our muscles). After 20 minutes of nonstop activity, more and more fat is liberated from storage and converted to energy.

Aerobic training (or "cardio") is associated with many benefits. With regular cardiovascular exercise, the heart becomes stronger and more efficient, pumping more blood with every beat. Heart rate and resting blood pressure decrease. There is an increase in the number of capillaries in the muscle tissues, which deliver blood, oxygen, and nutrients to the muscle. The oxygen boost is necessary to spark fat burning. The number of oxidative (fat-burning) enzymes also increases, as does the number of mitochondria (where fat is actually burned). So the muscles involved in the activity become more efficient at using fats for fuel, both during exercise and at rest.

Most experts agree that cardio is not only helpful, but necessary to accelerate fat loss. What most people don't realize is the amount and intensity level of aerobic exercise that is necessary to make a difference in their waistlines.

For many years, the medical community generally recommended 30 minutes of moderate activity, 3-4 days per week. Walking, gardening, dancing, and housekeeping were often cited as examples of acceptable activities to meet the minimum requirement. It's unclear whether people ignored that advice, or just ate more to compensate for the extra activity, but Americans continued to pile on the pounds.

New guidelines demand moderate to vigorous activity for five or more days per week in order to affect fat loss. While that may sound daunting, keep in mind the real goal here is to burn a certain amount of calories. There are 3600 calories in a pound of fat. Your aim should be to burn about half of that amount-1500 calories- each week through exercise. Resistance training should fulfill about a third of that requirement. So that leaves us with a realistic goal of burning about 1000 calories per week through aerobic exercise for safe and effective fat loss.

Calorie expenditure is related to how long and how high your heart rate is elevated. Most people should maintain 65% to 85% of their maximum predicted heart rate for the workout to be effective. This is known as the *target heart rate zone*. To determine your zone, first subtract your age from 220. This will estimate your maximum heart rate. Then simply multiply that number by .65 and .85. For example, if you are 50 years old, your maximum heart rate is 170 bpm (beats per minute). The low end of your zone (65%) would be 111 bpm, and the high end (85%) would be 145 bpm. (Visit <http://www.bodybuilding.com/fun/calhr.htm> for a neat heart rate zone calculator.)

You can check your heart rate during exercise by taking your pulse and counting beats per minute, but it is worth the investment to purchase a heart rate monitor. Wearing a monitor keeps you motivated and ensures you're working hard enough.

Certain types of aerobic activity burn more calories than others. Any activity that involves using your entire bodyweight (running, swimming, rollerblading, skiing, jumping rope, rowing, kickboxing) is going to burn more calories than those that only isolate certain limbs (cycling, walking, stepping, boxing). Also remember that by definition, aerobic activity has to be *continuous* for more than three minutes. So any activity that requires constant motion is going to be more productive than recreational sports. However, intensity level is going to be more of a determining factor in which activities produce the greatest energy expenditure. Cycling at 16 mph will burn more calories per hour than running at 5 mph. A game of one-on-one basketball will burn more calories in 30 minutes than leisurely rollerblading on flat terrain. To see a complete list of estimated calorie expenditure for a given body weight, see the chart posted at www.ultimate-u.com/calorieburn.pdf.

There are inverse relationships between intensity, duration, and frequency of exercise. If you have the endurance to swim laps vigorously for 20 minutes, you can meet your aerobics quota in 3 days per week. If you prefer (or are limited to) brisk walking, you will probably need to put in six days a week for 45 minutes. Activities that keep your heart rate constantly pushing the high end of your zone can be performed for less time and fewer days per week.

However, if you currently do not engage in any physical activity, you should start with just 15-20 minutes of moderate exercise, 6 days per week. Add just one or two minutes a day to your routine until you can tolerate 50-60 minutes of continuous activity. Longer duration aerobics at a lower level of intensity (50% to 70% of maximum heart rate) actually helps the body adjust to burning fat rather than sugar as a fuel source. As your fitness level increases and you drop a few pounds, you can adjust your program to a higher intensity, shorter duration, and less frequency.

When is the best time to do your cardio workout? If fat loss is your goal, you want to exercise on an empty stomach. This will diminish the time it takes for your body to switch over from using sugar to fat as a fuel source. In fact, the best time to exercise is first thing in the morning before you've eaten anything. More stored body fat will have to be liberated for energy after a 6-8 hour fast. The next best time to do aerobics would be immediately following your resistance training workout. Again, blood sugar will be low and more fat will be burned. At the very least, wait 3 hours after a meal to get the best aerobic effect. Never do it just after a meal, or just before a weight training workout, unless you are more concerned about performance than fat loss.

The benefits of regular aerobic training are both healthful and cosmetic. To meet the minimum requirements, plan on exercising 20-45 minutes in your target heart rate zone, 4-6 days per week. You can reap many of the cardiovascular and health benefits with less intensity and frequency; but if you want to affect fat loss, you must follow more stringent guidelines.

No spandex required.

JD Doyle holds a M.Ed. in Health Sciences, and certifications from ACE & NSPA. He owns & operates Ultimate-U Fitness of Sarasota and E-COACH Fitness, the Online Personal Training Solution. Visit www.ultimate-u.com or call 941-726-4580 for more information.

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