

WHICH IS BETTER FOR WEIGHT LOSS: Long, Slow Running or High-Intensity Running?

Most proponents of high-intensity exercise come from a personal training or group fitness background. They tout the benefits of short, high-intensity workouts as a way to get fit and lose weight in less time. But the fitness and weight-loss industry often exaggerates things, including the amount that your metabolic rate increases following a workout. Metabolism does indeed increase after a high-intensity workout, so you will burn some calories after the workout is over, but it's the calories burned *during* the workout that matter more.

On the other hand, most proponents of long, slow running come from an endurance coaching background. They recognize that becoming a better runner requires a lot of aerobic running, and that weekly mileage has the single greatest impact on a runner's performance. And when you focus on performance, great things happen to the rest of your body.

Having a background in personal training, endurance coaching, *and* research science has given me a unique perspective. Truth is, you can burn lots of calories by running either long and slow or short and fast. Compared to other forms of exercise, even low-intensity running is relatively high intensity. In other words, even when you run slowly, you will get your heart rate and oxygen consumption up to 70 to 75 percent of their maximum. By contrast, if you were to ride a stationary bike in the gym or exercise to a workout DVD at home, you'd have to work pretty hard to get your heart rate and oxygen consumption that high. Pushing your running pace just a little can easily raise your heart rate and oxygen consumption to 85 to 90 percent of their maximum. I have yet to see a workout DVD you can do in your living room that will sustain your heart rate and oxygen consumption at 90 percent of their maximum.

High-intensity interval training is the most time-efficient way to burn calories and get fit. Fitness is important, because the fitter you become, the faster you can run. The faster you can run, the more distance you'll cover in a given amount of time. The more distance you cover in a given amount of time, the more calories you can burn in that time. Also, the fitter you become, the more physical work you can tolerate. I'd go so far to say that running interval workouts is the most effective type of exercise you can do to improve fitness and strengthen your cardiovascular system. It

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increases your heart rate and places a demand on your cardiovascular system in a way that nothing else does. And, given how busy everyone is, it pays to be time efficient.

On the surface, then, it seems that high-intensity running is better for weight loss, and it *can* be. However, over the long term,

a high-volume, low-intensity approach is actually a more effective way to shed body fat. Even though high-intensity workouts burn more calories than do low-intensity workouts in the same amount of time, because of their high intensity, they are much shorter and you can do fewer of them. For example, if we use the sample person described earlier in this chapter with a $VO_2\text{max}$ of 35 milliliters of oxygen per kilogram of body weight per minute, we can compare the number of calories burned between two different running workouts—a moderate-intensity run and a high-intensity interval workout. For reference, each calculation below is set up like the one on page 7: percent $VO_2\text{max}$

RUN YOUR FAT OFF

times VO_2 max times the number of minutes spent running times
body weight times the caloric cost of O_2 consumed:

Moderate-Intensity Run: 40 minutes at 70% VO_2 max

$$0.70 \times \frac{35 \text{ ml}}{\text{kg/min}} \times 40 \text{ min} \times 82 \text{ kg} \times \frac{5 \text{ cal}}{1,000 \text{ ml } O_2} = \mathbf{402 \text{ calories}}$$

High-Intensity Interval Workout: Five 1-minute reps at 90% VO_2 max with 2-minute jog recovery intervals between reps at 50% VO_2 max (plus warm-up and cool-down)

Running reps portion:

$$0.90 \times \frac{35 \text{ ml}}{\text{kg/min}} \times 5 \text{ min} \times 82 \text{ kg} \times \frac{5 \text{ cal}}{1,000 \text{ ml } O_2} = \mathbf{65 \text{ calories}}$$

Jogging recovery intervals portion:

$$0.50 \times \frac{35 \text{ ml}}{\text{kg/min}} \times 8 \text{ min} \times 82 \text{ kg} \times \frac{5 \text{ cal}}{1,000 \text{ ml } O_2} = \mathbf{57 \text{ calories}}$$

Warm-up and cool-down portions:

$$0.60 \times \frac{35 \text{ ml}}{\text{kg/min}} \times 15 \text{ min} \times 82 \text{ kg} \times \frac{5 \text{ cal}}{1,000 \text{ ml } O_2} = \mathbf{129 \text{ calories}}$$

Total = 251 calories

Thus, in this example, the moderate-intensity run burns 151 more calories than the high-intensity interval workout (402 vs. 251). Even if we adjust the time of the moderate-intensity run to

28 minutes so the two workouts are the same amount of time, the moderate-intensity run still burns more calories (281) than the high-intensity workout. For the high-intensity workout to burn more calories, you would have to spend more time at the high intensity.

Realistically, you physically can't do an interval workout longer than about 15 minutes unless you are very fit, and you probably can't do more than two of these workouts per week, especially when you're a beginner. However, you can run slowly as long as you want and as often as you want—even every day if you have the time. So, over the course of a week, you can burn a lot more calories with long, slow runs than you can with interval workouts.

What if you *were* able to do enough high-intensity running to burn the equivalent number of calories as low-intensity running over the course of the week? Would you be able to lose more body weight and body fat? In this case, the research is mixed. A few studies show that high-intensity exercise is more effective at reducing body weight and body fat, while many more studies show no difference among varying exercise intensities. Taking all of the research together, it appears that for weight loss, it's the total number of calories burned, not the intensity of exercise, that matters.

Also, it is much easier for people to run long and slow than it is for them to run short and fast. High-intensity running is physically uncomfortable and, while that can be a good thing, people tend to shy away from what is physically uncomfortable. Every time I go to the track to do an interval workout, I'm the only one there. But when I go for easy runs around my neighborhood, I see many people doing the same thing. And if you walk into a gym and watch how people run on treadmills, nearly all of them are running at a slow pace while they either listen to music through

their iPods or watch television on the TV monitors; hardly anyone is doing a high-intensity interval workout, focusing their attention on the hard effort. The explosion in popularity of the marathon and half marathon races in the United States and around the world attests to the same thing: People like running long, perhaps because humans have an innate interest in endurance. Humans like to push the limits of endurance, perhaps because when you push the limits of your own endurance, you find out how much you can endure. And that is a metaphor for life. Your ability to endure tough situations, your ability to endure poor health, your ability to endure stress—that is what makes you human.

So, the answer to the question “Which is better: long, slow running or high-intensity running?” is a bit complicated. It depends on what you’re willing to do to get results and what you find more enjoyable so that you keep running for the rest of your life. The best strategy is to do both, or rather, to do all—to vary your workouts and run with the whole continuum of speeds, from very slow to very fast.

Variation is an important concept in exercise and fitness. Plenty of research has demonstrated that exercise programs with variation produce better results than those with no variation. When you vary the duration, volume, and intensity of your running, your body never has a chance to become efficient; it is always being challenged, always being forced to adapt. The trick to variation is knowing how and when to use it, because variation must be balanced with mastery of the skill. On one hand, you must repeat the same workout a number of times to master the volume and intensity so you can move forward with your running program, while on the other hand, you must vary your workouts often enough to avoid becoming too economical, improve your fitness, and lose weight.

One thing that holds beginner runners back is the intimidation