



Find out how to make the most of your cardio time.

Whether you're a lawyer, a soccer mom or a professional fitness competitor, you want to make the best use of your workout time. Although organizations like the American Heart Association, the Centers for Disease Control and Prevention and the American College of Sports Medicine recommend at least 30 minutes of moderate- to high-intensity aerobic exercise each day, many people lack the time or inclination to follow these recommendations. For fitness models and competitors who want to shed fat and become as lean as they can, much more cardiovascular exercise must be squeezed into an already-time-consuming strength training program. So how can you make your cardio workouts more efficient and obtain the greatest benefits in the least amount of time?

Research has shown that the intensity of exercise, rather than its quantity or frequency, is more important for improving – and especially maintaining – fitness. So if you only have time for a few cardio workouts per week, 15 to 20 minutes of steady-state cardio on the elliptical trainer or stationary bike at an intensity easy enough to allow you to read this magazine at the same time isn't going to cut it. The fewer workouts you do, the greater each workout's quality should be. In order of intensity, below are the

Your **ULTIMATE** Fat-Burning **CARDIO PROGRAM**

Do you ever stop to question whether the cardio you're doing is the most efficient way to drop unwanted pounds? Do you ever wonder if there's a better way you could be spending that time? Leading fitness expert **Jason R. Karp** has the perfect fat-burning recipe for you to follow to see faster results in the same – or less – time.

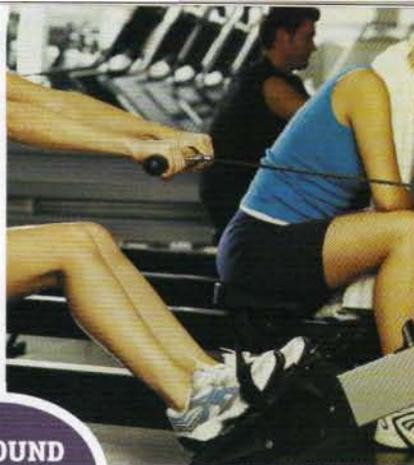
most effective cardio workouts for improving cardiovascular fitness and burning fat. Do all three of these cardio workouts each week (see "Sample Cardio Program", pg 86).

long slow distance (LSD) workouts

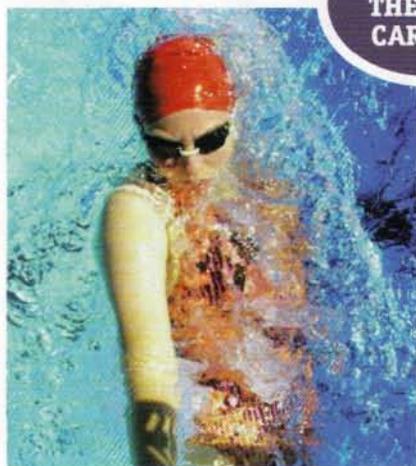
What As the name implies, LSD workouts are long, continuous aerobic workouts at low intensity, during which you cover a great distance.

Why LSD workouts target many factors associated with aerobic fitness, increasing the number of red blood cells, hemoglobin concentration, muscle capillary and mitochondrial volumes, and aerobic enzymes. Since hemoglobin in red blood cells transports oxygen through your blood vessels, the more red blood cells and hemoglobin you have, the greater your vessels' oxygen-carrying capability. Oxygen's last stop on its journey to your muscles is the branched network of capillaries, small blood vessels that perfuse your muscles. Creating a larger network of capillaries provides more oxygen to your muscles. Once inside your muscles, oxygen is used by the mitochondria, microscopic "energy powerhouses" that contain the enzymes involved in aerobic metabolism. Since fat is burned aerobically, these cellular adaptations following LSD workouts enhance your muscles' ability to conserve carbohydrates and rely on fat as fuel, so you become a better fat-burning machine.

How You can use almost any piece of cardio equipment in your gym to do LSD workouts, including a treadmill, stationary bike or rowing machine. You can also run, cycle or swim in the pool. The more muscles used and the more weight-bearing exercise involved, the more calories you'll burn during the workout. Whichever mode of exercise you choose, do these workouts at about 65 to 70 percent of your maximum heart rate for at least one hour,



WE FOUND
THE BEST
CARDIOS



increasing the length of time as your training progresses.

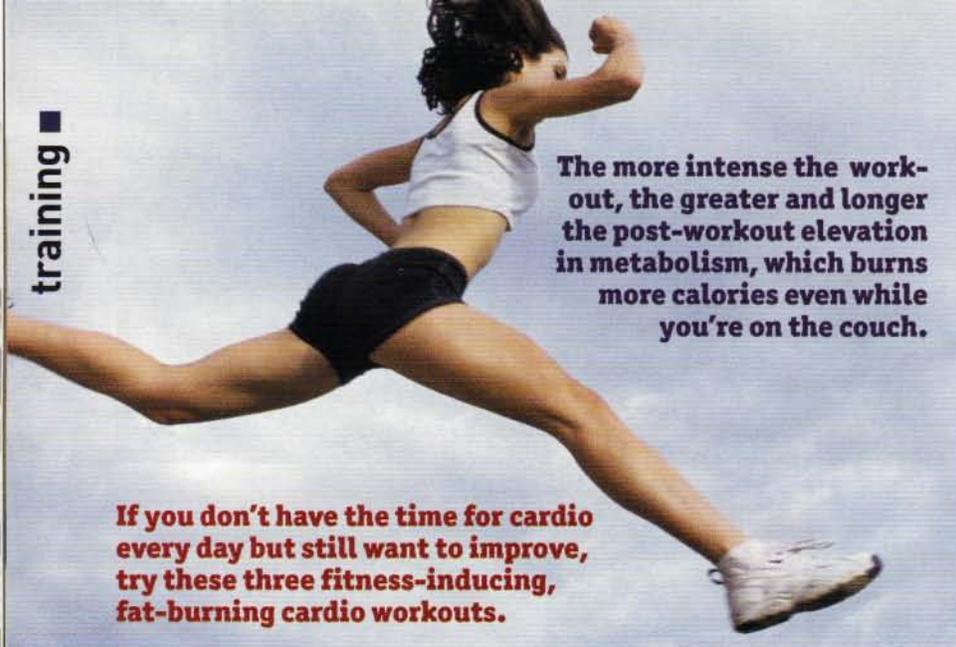
tempo workouts

What Tempo workouts are performed at an intensity corresponding to your lactate (anaerobic) threshold, an important physiological variable that demarcates the transition between exercise that generates energy almost purely aerobically and exercise that includes energy generated from both aerobic and oxygen-independent (anaerobic) metabolism. While you use both fat and carbohydrates for energy during exercise, these two fuels provide that energy on a sliding scale - as you increase your intensity up to your lactate threshold, the contribution from fat decreases while the contribution from carbohydrates increases. When you exercise at an intensity above your lactate threshold, you use only carbohydrates.

Why Tempo workouts raise your lactate threshold to a higher percentage of your maximum

heart rate and maximum oxygen consumption, which delay fatigue during aerobic exercise. Since tempo workouts are performed at the highest intensity you can maintain aerobically, these workouts are great for burning fat. Although the percentage of calories from fat is small when exercising at or slightly lower than your lactate threshold intensity, the total number of calories burned per minute is much higher than at a lower intensity. Research has shown that exercising at or slightly below your lactate threshold intensity elicits the highest rate of fat oxidation. And since you are exercising aerobically, fatigue is minimal, so you can complete other quality cardio and strength workouts during the week. In short, tempo workouts give you the best aerobic bang for your buck.

How As with LSD workouts, you can use any piece of cardio equipment in your gym for tempo workouts. To get the most from tempo workouts, they should be performed at an intensity corresponding to your lactate threshold. For unfit people, this



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If you don't have the time for cardio every day but still want to improve, try these three fitness-inducing, fat-burning cardio workouts.

intensity is approximately 70 to 75 percent of their maximum heart rate. For the more aerobically fit, it's about 80 percent of their maximum heart rate. Subjectively, these workouts should feel "comfortably hard." You can do tempo workouts continuously for about 15 to 20 minutes or as shorter segments (such as for five minutes) with short recovery periods (one minute). To help you hold the rhythm of the workouts, try listening to music that has a moderate tempo.

interval workouts

What In the 1960s, famous Swedish physiologist Per-Olaf Åstrand discovered that by breaking a set amount of work up into smaller segments or intervals, you can perform the whole set of work at a

higher intensity. Interval workouts alternate high-intensity work periods with low-intensity recovery periods. There are four variables that can be manipulated within an interval workout: time (or distance) of each work period, intensity of each work period, time of each recovery period and number of repetitions.

Why Long, aerobic interval workouts target your cardiovascular system and increase the rate at which you consume oxygen by increasing the volume of blood your heart pumps with each beat (stroke volume) and the volume of blood your heart pumps each minute (cardiac output). Short, intense interval workouts increase your anaerobic power and capacity by calling on anaerobic metabolic pathways that don't use oxygen.

Since short, intense intervals recruit fast-twitch muscle fibers, they also complement your strength training workouts by adding to your muscle definition and size. Although all interval workouts keep metabolism elevated for a few hours after the workout compared to LSD workouts, the more intense the workout, the greater and longer the post-workout elevation in metabolism, which burns more calories even while you're sitting on the couch recovering from your workout.

How You can do interval workouts on a treadmill, stationary bike, rowing machine or running track. For long intervals, run, cycle or row for two to five minutes at 90 to 95 percent of your maximum heart rate, with recovery periods equal to or slightly less than the time of the work period. Repeat each hard-easy cycle three to five times. For short interval workouts, run, cycle or row at slightly less than an all-out sprint for 20 seconds to one minute, with recovery periods two or three times as long as the time of the work period. Repeat each hard-easy cycle five to eight times.

Time is a valuable commodity. If you don't have the time for cardio every day but still want to improve your cardiovascular fitness and lose fat, or if you're getting ready for a fitness competition, try these three fitness-inducing, fat-burning cardio workouts. Just think, with all the time you'll save, you'll be able to watch your kids at soccer practice. **B**

Sample Cardio Program

To maximize the efficiency of your cardio workouts, you can do just three quality workouts each week. Include a warm-up and cooldown before and after interval and tempo workouts. Alternate weeks 1 and 2, increasing the volume of the workouts as you progress. LT = lactate threshold (beginner: 70 to 75% max HR; advanced: 80% max HR). HR = heart rate.

	DAY		DAY	
WEEK 1	TUESDAY	5 to 8 repetitions x 30 seconds fast with 1 minute recovery	TUESDAY	3 to 5 repetitions x 3 minutes at 90 to 95% max HR with 2 minutes recovery
	Interval Workout		Interval Workout	
	FRIDAY		FRIDAY	
	Tempo Workout	15 to 20 minutes at LT intensity (80% max HR)	Tempo Workout	5 repetitions x 5 minutes at LT intensity (80% max HR) with 1 minute rest
	SUNDAY	60 minutes at 65 to 70% max HR	SUNDAY	75 minutes at 65 to 70% max HR
	LSD Workout		LSD Workout	