

Cardiovascular Training: The Nuts and Bolts

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Cardiovascular conditioning is essential for long term health and energy. It's also essential to maximize fat burning. Let's review the essential info you need to know about cardio training for now and after you've reached your initial fitness goals.

Optimize Fat Burning By Finding your Target Heart Rate

Although using an ideal Target Heart Rate (THR) is not an exact science, it's one of the best ways to control the effectiveness of your cardiovascular training program.

Let's find what yours is now by following these steps:

1. Find your maximum heart rate by subtracting your age from 220.

$$220 - \text{AGE} = \text{_____} \quad (\text{maximum heart rate (MHR)})$$

2. Multiply MHR by 70%-85%.

Example: For a twenty year old, the calculations would look as follows:

$$220 - 20 = 200 \text{ MHR}$$

$$200 \times 70\% = 140$$

$$200 \times 85\% = 170$$

The twenty year old's target heart rate would be between 140-170.

We'll get more into what to do with that number in a minute, but for now let me answer some common questions that I get asked all the time on cardio training... I'm sure you've got some of these same questions yourself.

Q: How many days per week should I do cardiovascular activity?

A: For my program, you'll be performing cardiovascular activity 3-6 days per week depending on which phase of the program you are in. As a general rule, for good health and weight management, everyone should aim for at least three non-consecutive days of cardiovascular activity each week. For maximum fat loss, six days of cardiovascular exercise each week is ideal.

Q: How long should I perform each cardiovascular session?

A: Most cardiovascular sessions should last between 20-60 minutes for health and fitness. People on interval training programs may find that they can do less and still receive considerable benefit. Likewise, people training for specific cardiovascular competitions including marathons will have to do more. However, there is a good chance that more than sixty minutes of cardio at any specific time will promote muscle atrophy. Since muscle atrophy will lead to a lower metabolism, I recommend that you do no more than sixty minutes of cardio at a time while following this program.

Q: How hard should I work during cardiovascular activity?

A: It seems like several times per week I talk with clients about how hard they should work during cardio training. It's not a black and white answer and there is much debate about what's the ideal cardio program. And in fact, there is no ideal. It depends on a multitude of factors.

Following the next couple concepts will ensure that you are benefiting from your cardio training. First, remember that there is always an inverse relationship between volume and intensity. This means that, by necessity, the longer you perform your cardio session, the lower the intensity will be. And vice versa, the more intense your session, the shorter it will be. This means, if you are scheduled to perform a longer cardio session, don't burn yourself out by going to hard, to quick. Alternatively, if you have a short cardio session scheduled, it's time to really push yourself to the max for the short period of time.

Exercise scientists use a system called Rating of Perceived Exertion (RPE) to allow self-regulation of intensity. And it's turned out to be an effective measure.

I suggest you'll benefit best by regulating your level of intensity during your cardio workouts using RPE on a 1-10 scale, with 1 being "no exertion" and 10 being the most exertion you can handle. On this scale, I suggest that you spend most of your time in the 6-8 RPE range. More specifically, for cardio lasting 45-60 minutes, aim for a 5 or 6 RPE, for cardio lasting 30-45 minutes, aim for a 6-8 RPE, and for cardio lasting 15-30 minutes aim for 7-9 RPE.

Although I've included a review of this information as background information, simply follow the cardio and RPE guidelines in the week-to-week program outline for best results.

Q: When is the best time to perform cardiovascular activity?

A: The best time to do cardio is whenever you are most likely to do it, day-in and day-out on a consistent basis. However, from a scientific perspective, for fat loss, cardio is most effective when glycogen, blood sugar, and insulin levels are low. This means that two times are optimal for cardio. First, cardio in the morning on an empty stomach is

effective for fat loss. You also get a metabolic spike when you perform cardio first thing in the morning. Second, cardio after strength training when glycogen has been depleted is also effective.

Q: What different types of cardiovascular activities do you recommend?

A: Traditional cardio includes running outdoors or on a treadmill, elliptical machines, rowers, regular or stationary bikes, aerobic classes, stairsteppers, etc. Anything that you can do consistently that keeps your heart rate up for a continued time is cardio. Find what you enjoy and stick with it. Try other types of cardio exercise from time to time to “change it up” and keep from becoming bored.

Swimming, rollerblading outside, mountain biking, cycling are all great outdoor cardio activities.

Q: What is interval training and why has it grown in popularity?

A: Interval training simply means alternating between higher and lower levels of intensity during your cardio training. Traditionally these intervals have been done for pre-specified periods, however you can also alternate based on how you feel. Interval training is popular because it allows for maximum calories to be burned during the session and also may lead to higher post-exercise metabolic increases than traditional cardio methods.

Here are some sample cardiovascular programs:

Cross Training:

Warm-up: Five minutes of walking

Treadmill= 10 minutes at 70% of MHR

Bike= 10 minutes at 70% of MHR

Elliptical= 10 minutes at 70% of MHR

Benefit of cross training: Cross training minimizes the risk of physical overuse injuries as well as the risk of psychological burnout.

Steady State:

Utilizing any cardio method to reach your THR and then staying at the target heart rate until cardio is finished.

Example: Running for 30 minutes maintaining heart rate at 70% of maximum.

(Sample Interval Treadmill Program on Next Page)

(Sample treadmill interval program lasting 20 minutes with 30 seconds high/ 60 seconds low)

Warmup

Minutes 0:00-3:00: Warmup at 3mph
Minutes 3:00-5:00: Jog at 5mph
Minutes 5:00-5:30: Speed up to 5.5mph
Minutes 5:30-6:00: Decrease to baseline of 5.0mph
Minutes 6:00-6:30: Speed up to 6.0mph

Minutes 6:30-7:00: Decrease to baseline of 5.0mph
Minutes 7:00-7:30: Speed up to 6.5mph
Minutes 7:30-8:00: Decrease to baseline of 5.0mph
Minutes 8:00-8:30: Speed up to 7.0mph
Minutes 8:30-9:00: Decrease to baseline of 5.0mph

Main Body of Workout

Minutes 9:00-9:30: Speed up to 8.0mph
Minutes 9:30-10:00: Decrease to baseline of 5.0mph
Minutes 10:00-10:30: Speed back to 8.0mph
Minutes 10:30-11:00: Decrease to baseline of 5.0mph
Minutes 11:00-11:30: Speed back to 8.0mph
Minutes 11:30-12:00: Decrease to baseline of 5.0mph
Minutes 12:00-12:30: Speed back to 8.0mph
Minutes 12:30-13:00: Decrease to baseline of 5.0mph
Minutes 13:00-13:30: Speed back to 8.0mph
Minutes 13:30-14:00: Decrease to baseline of 5.0mph
Minutes 14:00-14:30: Speed back to 8.0mph
Minutes 14:30-15:00: Decrease to baseline of 5.0mph

Cooldown

Minutes 15:00-16:00: Maintain baseline of 5.0mph
Minutes 16:00-17:00: Decrease to 4.0mph
Minutes 17:00-18:00: Decrease to 3.0mph
Minutes 18:00-20:00: Walking at 2.5mph

Alternating Interval Training Workouts Throughout the Week

Interval training is one of the best forms of cardio for most people. However, instead of sticking with the same old program day after day, it's a good idea to alternate programs. On the next page are the three programs recommended by my colleague Dr. John Berardi in his book *The Metabolism Advantage*.

Interval workout #1

5 minute warmup

30 seconds at high intensity, 90 seconds at low intensity

Weeks 1 and 2: Perform 7 total intervals

Weeks 3 and 4: Perform 8 total intervals

5 minute cooldown

Interval workout #2:

5 minute warmup

Intervals: 60 seconds high intensity, 60 seconds low intensity

Weeks 1 and 2: 7 total intervals

Weeks 3 and 4: 8 total intervals

5 minute cooldown

Interval workout #3:

5 minute warmup

Intervals: 90 seconds high intensity, 180 seconds low intensity

Weeks 1 and 2: 4 total intervals

Weeks 3 and 4: 5 total intervals

5 minute cooldown

**Rotate these three interval workouts. Pick whatever modality you want to use (ie. Treadmill, elliptical, stepmill)*

****A note on the intensity of your intervals.** According to Dr. John Berardi in The Metabolism Advantage, “On a scale of 0 to 10 – with 0 being comatose and 10 being the hardest you could ever work – you should hit an intensity of 9 during your 30 second intervals, 8 during your 60-second intervals, and 7 during 90 second intervals. During your recovery period, aim for an intensity of 3.”