

Benefits and Limitations of Cardiovascular Training

By Mark Love

Cardiovascular training has long occupied a prominent place in the exercise programs of many people, and is often touted by physicians and in the media as being a vital part of any exercise and wellness program. The reasons for this are many, and cardiovascular training does indeed offer many benefits to the exerciser.

Benefits of Cardiovascular Training

The number one cause of death of men and women in the United States is coronary artery disease (CAD). In the year 2000 alone, CAD claimed the lives of nearly 1 million people in the U.S., killing 500,000 women and more than 400,000 men. Cardiovascular diseases claim more lives each year than the next five leading causes of death – *combined*. Physical inactivity is a significant risk factor with regard to CAD. According to the American Heart Association's most recent heart disease and stroke statistics (published in 2003), more than 38% of all Americans 18 years of age or older reported *no* physical activity. Perhaps not surprisingly, the AHA report stated that more than 47% of adults in the United States are considered overweight.

According to *The Stairmaster Fitness Handbook*, a study conducted of 17,000 Harvard graduates found that men who expended approximately 300 calories a day via exercise (the equivalent of walking briskly for 45 minutes) reduced their death rates from all causes by 28% and lived an average of more than two years longer than their more sedentary former classmates. Other studies have similarly shown that higher fitness levels are consistently linked with lower death rates.

Cardiovascular exercise has long been recommended as the preferred means of burning fat. People looking to lose pounds and inches often spend hours riding bicycles, walking or jogging on treadmills, or training in aerobics classes. The article *Fat Burning: High vs. Low*, by Cedric Bryant, PhD, and James Peterson, PhD, shows that traditional, low-intensity cardiovascular exercise (activity at or about 50% of maximal exercise capacity) burns approximately 200 calories for each 30 minutes of activity, with about 60% of this calorie burn coming from fat stores. High-intensity exercise (at or about 75% of maximal exercise capacity) burns approximately 400 calories in 30 minutes, 35% of which comes from fat stores. Even though the percentage of calories burned in the form of fat is lower with high-intensity exercise is lower, *the total fat calories burned during high intensity activity are greater* (140 fat calories burned during 30 minutes of high-intensity exercise, vs. 120 fat calories burned during 30 minutes of low-intensity activity).

Limitations of Cardiovascular Training

One of the keys of successful strength training is balanced training, i.e., training each muscle group proportionally. This helps to ensure joint stability and prevent injuries that can result from disproportionate strength. Cardiovascular exercises come up short in this regard, as most of these (e.g., exercise bike, running, aerobics classes) work the lower body far more than the upper body, and they often work some muscles to a much greater degree than others (e.g., running and cycling work the quadriceps far more than the hamstrings). Further, the muscle groups that aren't worked as often or as thoroughly often suffer a loss of flexibility (runners commonly experience this in the hamstrings). Thus,

it's important to combine resistance training with cardiovascular training, to make sure that all muscle groups are worked evenly. Stretching may also be necessary to combat flexibility loss.

Another problem that can arise is overuse injuries. Tendonitis in cyclists' knees is a very common example of an overuse injury. This can arise from overtraining (training too long and/or often, with insufficient time for recovery), poor technique, or both. If you participate in any type of cardiovascular exercise, be sure that your program allows time for your body to recover from your workouts, and that any equipment you use fits you properly, so that you always exercise in a biomechanically sound position (e.g., make sure that your running shoes fit correctly, your riding position on your bike is correct, etc.). This is sometimes a problem if you train on equipment not fitted especially for you, such as exercise cycles in a gym. Take special care to learn how your body should fit on such equipment, and conform as closely as possible to correct guidelines.

Cardiovascular exercise is an important component in a well-rounded exercise program. If you focus on the health benefits cardio offers, and avoid using it primarily as a means of weight reduction and/or maintenance, you will likely find that you are healthier and more fit, without being disappointed by the relatively small calorie burn it provides.