

# Cardiovascular Exercise Fitness Article

## Cardiovascular Exercise Principles and Guidelines Part Two - Monitor exercise intensity and heart zone training

by Chad Tackett, [Fast Track to Fat Loss](#)

The [last article, part one](#) of this two part series, explained the proper methods of warming-up, stretching, and cooling-down and discussed the frequency and duration of a sound cardiovascular routine.

You learned that cardiovascular exercise should be done a minimum of three times a week, a minimum of 20 minutes per session and should be done after a 5-10 minute warm-up (at a low intensity of 50-60% of max HR) and a 5-10 minute cool-down (at a low intensity of 50-60% of max HR) should follow. Once your muscles are warm (after warm up) and after the cardiovascular exercise, you should stretch those muscles used in the exercise.

This article, part two, discusses how to monitor exercise intensity and heart zone training.

There are several ways to monitor the exercise intensity. The best way to test the intensity is to take your heart rate during the exercise, within the first 5 minutes of your cardiovascular exercise session and again just before the cool-down.

There are two ways in which you can check your heart rate during exercise. The most accurate one is to purchase a heart-rate monitor that you strap around your chest. It will give you feedback on a digital watch that tells you exactly what your heart rate is at a specific time in the exercise session. The other way to obtain your heart rate is by palpating (feeling) either the carotid artery, the temporal artery, or the radial artery. The easiest site is either the carotid or the radial artery. The carotid artery may be felt by gently placing your index finger on your neck, between the middle of your collar bone and jaw line. Palpating the radial artery is done by placing your index and middle finger on the underside and thumb-side of your wrist.

When you're taking your heart rate you measure it in beats per minute (counting the number of beats for 60 seconds). For convenience, many people take their pulse for 6 seconds and multiply that number by 10, or simply add a 0 behind the number just obtained. So, if in 6 seconds you counted 12 beats, that would mean your heart rate was 120 beats per minute (bpm). Although counting for 6 seconds is most convenient, keep in mind that the longer the time interval used, the more accurate the results will be. For example, counting your heart rate for 30 seconds and then multiplying that number by 2 will give a slightly more accurate reading than counting your heart rate for 15 seconds and multiplying by 4, or 10 seconds and multiplying by 6. What ever time interval you use, be consistent.

### Heart Zone Training

How do you know if you are training too intensely or not intensely enough for what you want to achieve? This is where Heart Zone Training comes in. Refer to the chart below. The top of the chart reads "Maximum Heart Rate," which is 100% of your heart rate (the fastest your heart will beat). This is different for everyone. To use Heart Zone Training you must first determine your maximum heart rate (max HR).

You can determine your max HR one of two ways. One way is to use the age predicted max HR formula, whereby you subtract your age from 220. So, if you are 40 years old, your predicted max HR would be 180 bpm. The other method, which is much more accurate and more individualized, is actually having a medical or fitness professional administer a max HR test for you, which is usually done on a stationary bicycle or treadmill for several minutes and requires very hard work. Thus, only those cleared by a

physician should do this test. We do not explain how to administer this test because only trained professionals should do so. Please refer to the Global Health and Fitness Personal Training Directory for professionals in your area (may or may not be trained in administering a max HR test).

Once you have determined your max HR, you will need to decide what zone you want to train at. There are five different training zones separated by 10% increments, each having different characteristics and benefits.

### Healthy Heart Zone

The first zone is called the Healthy Heart Zone. This is 50-60% of your max HR. This is the easiest and most comfortable zone within which to train and is the one that is best for people who are just starting an exercise program or have low functional capacity. Those of you who are walkers most likely train at this zone. Although this zone has been criticized for not burning enough total calories, and for not being intense enough to get great cardiorespiratory benefits, it has been shown to help decrease body fat, blood pressure and cholesterol. It also decreases the risk of degenerative diseases and has a low risk of injury. In this zone, 10% of carbohydrates are "burned" (used as energy), 5% of protein is burned and a whopping 85% of fat is burned.

### Fitness Zone

The next zone is the Fitness Zone, which is 60-70% of your max HR. Once again, 85% of your calories burned in this zone are fats, 5% are proteins and 10% are carbohydrates. Studies have shown that in this zone you can condition your fat mobilization (getting fat out of your cells) while conditioning your fat transportation (getting fat to muscles). Thus, in this zone, you are training your fat cells to increase the rate of fat release and training your muscles to burn fat. Therefore, the benefits of this zone are not only the same as the healthy heart zone training at 50-60% but you are now slightly increasing the total number of calories burned and provide a little more cardiorespiratory benefits. You burn more total calories at this zone simply because it is more intense.

### Aerobic Zone

The third zone, the Aerobic Zone, requires that you train at 70-80% of your max HR. This is the preferred zone if you are training for an endurance event. In this zone, your functional capacity will greatly improve and you can expect to increase the number and size of blood vessels, increase vital capacity and respiratory rate and achieve increases in pulmonary ventilation, as well as increases in arterial venous oxygen. Moreover, stroke volume (amount of blood pumped per heart beat) will increase, and your resting heart rate will decrease. What does all this mean? It means that your cardiovascular and respiratory system will improve and you will increase the size and strength of your heart. In this zone, 50% of calories burned are from carbohydrates, 50% are from fat and less than 1% is from protein. And, because there is an increase in intensity, there is also an increase in the total number of calories burned.

### Anaerobic Zone

The next training zone is called the Threshold or Anaerobic zone, which is 80-90% of your max HR. Benefits include an improved VO<sub>2</sub> maximum (the highest amount of oxygen one can consume during exercise) and thus an improved cardiorespiratory system, and a higher lactate tolerance ability which means your endurance will improve and you'll be able to fight fatigue better. Since the intensity is high, more calories will be burned than within the other three zones. Although more calories are burned in this zone, 85% of the calories burned are from carbohydrates, 15% from fat and less than 1% are from protein.

### Redline Zone

The last training zone is called the Redline Zone, which is 90-100% of your max HR. Remember, training at 100% is your maximum heart rate (maximum HR), your heart rate will not get any higher. This zone burns the highest total number of calories and the lowest percentage of fat calories. Ninety percent of the calories burned here are carbohydrates, only 10% are fats and again less than one percent is protein. This zone is so intense that very few people can actually stay in this zone for the minimum 20 minutes, or even five minutes (you should only train in this zone if you are in very good shape and have been cleared by a physician to do so). Usually, people use this zone for interval training. For example, one might do three minutes in the Aerobic Zone and then one minute in this Redline Zone and then back to the Aerobic Zone (this is called interval training and will be discussed further in a future article).

I hope you have found the information in this article helpful. You now have the knowledge to achieve the results you desire and the benefits your body deserves.

Your greatest challenge, however, is not learning new cardiovascular exercises or the proper technique; it's not learning the heart rate zone to train at for your goals and interests or how to monitor the intensity. Nor is it deciding when to try new cardiovascular exercises. The greatest challenge facing you at this moment is deciding whether you are willing to take action and make time for yourself and make cardiovascular exercise a priority.

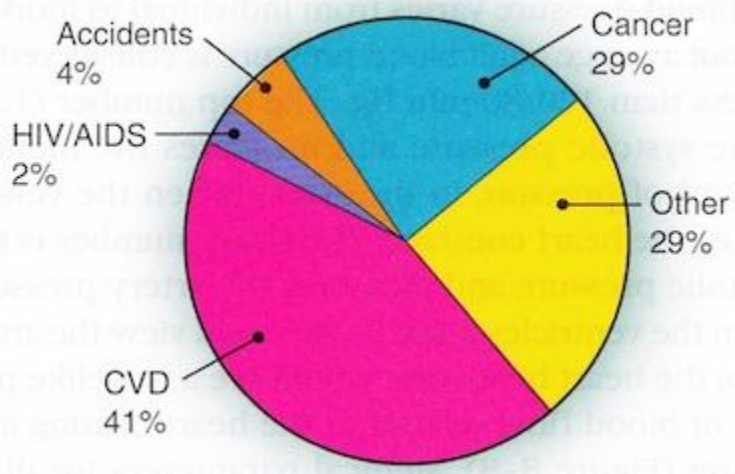
When you begin achieving great results, the excitement and fun you experience will make the change well worth the effort. Action creates motivation! Good luck: I hope you enjoy all the wonderful benefits of an effective cardiovascular exercise program

<http://www.laflemm.com/snippets/heartdisease.html>

## **Snippet 2: Cardiovascular Disease is a Killer**

Studies have shown that many people worry about the things that are less likely to harm them while ignoring real risk factors. Some heavy smokers, for instance, worry more about flying in a plane than they do about the cigarettes they put in their mouths. A similar situation exists where heart disease is concerned. Heart disease is a major killer. But it's not the disease most people worry about. That disease would be cancer. Yet the figures don't lie. We are more likely to die of cardiovascular disease (CVD) than we are of cancer.

(Continued on next page)



1. What is the leading cause of deaths in the U.S.?
  - A. CVD
  - B. Cancer
  - C. HIV
  - D. Accidents
2. What per cent of deaths are caused by accidents and cancer?
  - a. 4%
  - b. 29%
  - c. 33%
  - d. 25%
3. Which disease do people not take seriously?
  - a. HIV/AIDS
  - b. Throat infections
  - c. CVD
  - d. Accidents