

CARDIOVASCULAR FITNESS

CARDIOVASCULAR fitness is the fitness of the heart, blood and blood vessels. “Cardio” is another word for heart, and “vascular” refers to blood vessels. Of all the parts of fitness, this part is one of the best for helping you feel good and enjoy life more. Cardiovascular fitness helps you look good because the exercises you do to maintain your fitness help you control your weight and develop a good physique (figure). Having good cardiovascular fitness increases your energy level and you can be active for longer periods without tiring or becoming out of breath.

A person needs to strengthen the heart muscle and improve the other parts of the cardiovascular system in order to have good health. Someone who exercises will have a stronger heart muscle than a person who does very little exercise. Scientific studies show that active people have less heart disease and are less likely to have heart attacks than inactive people. Some symptoms of heart disease can start to develop when people are in their teens. For this reason, it is important to develop and maintain cardiovascular fitness early in life.

The cardiovascular system (heart, blood, and blood vessels) works together with the RESPIRATORY system (air passages, lungs). As air is breathed in, the blood picks up oxygen from the lungs. The blood carries the oxygen to the heart. The heart pumps the blood into the arteries and on to the muscles and other body cells. Muscle cells need oxygen to keep working. Waste products are given off by the working muscle cells and are then removed by the blood. The veins return the blood containing wastes back to the heart. The heart pumps this returning blood to the lungs where wastes are exchanged for more oxygen, and the process begins all over again.

The heart is a muscle and like other muscles, the heart gets stronger through the right kind of exercise. The heart acts as a pump to supply blood to the working muscles. A resting heart rate is taken when a person is still. Someone who exercises regularly may have a resting heart rate of 55 or 60 beats per minute. A person who does no regular exercise may have a resting rate of 70 or more beats a minute. The heart of a fit person with a resting rate of 50, beats nine million times LESS each year than an average person’s heart with a resting heart rate of 70. The heart of the active person pumps more blood with fewer beats, which means it is working more efficiently.

When you exercise hard, the muscles need more oxygen. More oxygen is supplied to the muscles when the heart pumps more blood. If the muscles don’t get enough oxygen and the waste product in the muscles is not removed, the muscles cannot work. Then the ability of the muscles to move will be reduced and your muscles will be tired. (Especially exercise that lasts for a very long time.)

You can see why it is beneficial to have healthy lungs as well. If lungs are not healthy, your blood cannot pick up oxygen efficiently. Without enough oxygen, you will not be able to do extremely active exercises for long periods.

The arteries are the blood vessels that carry the blood from the heart to other parts of the body. Blood is forced through the arteries by the beating of the heart. Where you can feel

this heart rate, we call your *pulse*. You can find the pulse where the arteries are close to the surface of the skin at the neck, upper arm, and wrist among others. People who exercise regularly have clearer arteries and less chance of disease. The veins carry the blood filled with wastes products from the muscles back to the heart. The muscles squeeze the veins to pump the blood back to the heart. To make the muscles squeeze the veins, you must exercise or more around. You should exercise regularly to keep the veins working properly.

Before and after exercise, you can help the cardiovascular system work more efficiently by warming up and cooling down. *Warm-up* is a brief amount of mild exercise to prepare you for more vigorous exercise. The warm-up should last at least two minutes and can consist of walking or slow jogging or steps on a step bench. The warm-up gets the blood flowing so the vigorous exercise won't be a shock to your cardiovascular system. After exercise, it is important to exercise slower or *cool down*. Cool down means to continue moving around for a few minutes after hard activity. If exercise is ended suddenly, the heart still pumps extra blood to the muscles, but the muscles do not squeeze the veins and return the blood. The flow of blood may be reduced to other parts of the body and may cause dizziness, or you could feel faint. The cool down should last about five minutes, like preparing to leave class and walking back to the locker room.

You took part in a three-minute step test to check your cardiovascular fitness. After finishing the three-minute step test, your pulse was checked at intervals to see how your heart rate recovered after working hard.

Aerobic exercise means "with oxygen". If exercise is not too fast, and it is steady, the heart can supply all the oxygen the muscles need. This kind of exercise is aerobic. If you have good cardiovascular fitness, you can continue activities for a long time. (like swimming, jogging, walking)

Anaerobic exercise means "without oxygen." If exercise is done in short, fast bursts, the heart cannot supply blood and oxygen to the muscles as fast as the cells use them. Without oxygen you cannot exercise very long. You need frequent rests to catch your breath. (such as the 50 yard dash, basketball, handball)