

Cardiovascular (CV) Study Guide

Cardiovascular Fitness-What is it??? The cardiovascular system includes the heart, blood and blood vessels. It is your body's ability to efficiently feed **oxygen and blood** to muscles when doing work. Muscles become fatigued (tired) when there is not an adequate (enough) supply of oxygen or energy. The greater your ability to supply oxygen to muscles, the greater amount of work can be done with less strain.

Cardiovascular Fitness is THE most important component of fitness. Some of the benefits include;

Lowers blood pressure, decreases cholesterol, decreases body fat, increases heart function and its ability to work more efficiently, decreases stress, lowers resting heart rate. Generally speaking having a healthy circulatory system lowers the risk of heart disease.

There are also studies now showing a link between greater cardiovascular conditioning and higher mental capacity! This greater mental capacity is due to the release of exercise induced endorphins, hormones, and enzymes that promote brain function. On the most basic level, you are increasing blood flow to the brain and providing it with the maximum amount of fuel, oxygen and enzymes to work at an optimal level!!

Regular aerobic conditioning (activities that get your heart rate up into the target zone and make you sweat) may prevent or reduce the likelihood of cardiovascular disease. The heart is approximately the size of your fist~

THE LEADING CAUSES OF DEATH IN THE U.S. ARE HEART DISEASE, CANCER AND STROKE! REGULAR EXERCISE THROUGHOUT YOUR ENTIRE LIFE CAN AND WILL HELP REDUCE YOUR RISKS FOR DEVELOPING THESE DISEASES!!

How can you increase your CARDIOVASCULAR FITNESS??

Normal resting heart rate is 70-80 beats per minute. A person who has a high level of cardiovascular fitness will usually have a lower resting heart rate (the amount of beats a heart beats per minute while at rest). This allows the heart to rest longer between beats which leads to a healthier heart. To increase ones cardiovascular fitness you must increase this resting heart rate into the TARGET ZONE for at least 30-60 minutes a minimum of five days per week.

So....What is this target zone??? It's a simple formula.

$220 - \text{age} = \underline{\hspace{2cm}}$ multiply this number by .70 and .80 to give you a range. You will be exercising at 70-80% of your maximum heart rate. To simplify, you can just multiply by .75 too!!

For a 16 year old this would be 143-163 beats per minute.

HOW CAN YOU MEASURE THIS??? Heart rate monitors are great tools for this purpose, they can tell you what your heart rate is constantly. You can also simply take your pulse at the carotid artery (neck) or radial artery (wrist). These two places have strong pulses which are easily accessible and detectable!! Count for one minute or count for 30 seconds and multiply by 2 or count for 15 seconds and multiply by 4!! If it's too low, increase your intensity (how hard you are working), if it's too high you can decrease your intensity a bit!

BLOOD PRESSURE

Normal Blood Pressure is 120/80- what is yours?? What do these numbers mean?? Blood pressure is a measure of the amount of force that the blood places on the walls of the blood vessels, particularly large arteries, as it is pumped through the body. The first number measures your systolic pressure- the maximum pressure as your heart contracts to push blood into your arteries. The second number measures your diastolic pressure- the pressure at its lowest point when your ventricles relax. Blood pressure that is above 140/90 is considered high and places strain on the heart. High blood pressure can be inherited or brought on by a poor diet, lack of exercise and or aging. High blood pressure can affect anyone regardless of age, gender, race.... High blood pressure can cause damage to the brain, eyes, kidneys and blood vessels. It is often referred to as the "SILENT KILLER."

