

## Chapter 7

### Cardiovascular Fitness

Cardiovascular Fitness is said to be the most important of all physical Fitness Components. No matter how strong you are, if you're circulatory and respiratory systems cannot meet your muscles' demand for oxygen, you cannot continue activity for long period of time.

Cardiovascular Fitness is the body's ability to provide oxygen continuously to muscles as work is performed over an extended period of time.

- Exercising to improve your cardiovascular Fitness will:
  - o - Increase your energy level
  - o - Make you feel good
  - o - lose weight
  - o - improve your appearance

#### Circulatory and Respiratory systems

- The more oxygen that muscles receive, the more energy they can produce and the better you feel.
- The air is breathed in, the blood picks up oxygen from the lungs and carries it to the heart.
- Arteries carry blood away from the heart.
- Veins carry blood towards the heart.

#### Monitoring the Heart

How fast must your heart beat to pump blood?

- When resting your heart needs to beat slower than when in an activity.
  - o Average heart beat for adults is 70, while children may be 100

#### Pulse

- Your pulse is caused by pressure of the blood on the artery wall, and corresponds with the heart.
- The best location for measuring your pulse is at your wrist or neck.

#### Measuring your Pulse

To measure your pulse rate at the carotid artery of the neck, place two fingers on the midway point between your ear lobe and your Adam's apple. On the wrist place two fingers. Once your hand is in the correct position, count the number of beats for six seconds and multiply by ten.

### Resting Heart Rate

To measure your resting heart rate, take your pulse just after waking in the morning. A range of 50 – 100 beats per minute has been established as normal by the American Heart Association.

### Recovery Heart Rate

The guiding principle is that your heart rate should drop to about 120 beats per minute (bpm) within 5 minutes after a workout.

### Blood Pressure

Is the measure of blood forced against the walls of the arteries? Blood pressure is recorded by two numbers. The higher number recorded is the **systolic pressure** and represents your blood pressure at the moment blood is pumped from your heart. The lower number is the **diastolic pressure** and represents the blood pressure when the heart is relaxed and filling with blood

- Normal blood pressure 120/80

### Causes of Cardiovascular Disease

- The primary cause of Cardiovascular Disease is a buildup of fatty deposits on the inner walls of the arteries. These deposits cause arteries passageways to become smaller (**Atherosclerosis**), restricting blood flow, much like placing your thumb over a garden hose to restrict the flow of water. This causes higher blood pressure and makes your heart work harder.

### Cardiovascular Benefits of Exercise

- Participating in activities that produce cardiovascular fitness strengthens the heart and reduces atherosclerosis. Active people are better able to clear fats from their blood stream as a result of exercise.
- As you engage in cardiovascular exercise, your heart muscles get stronger and they work more efficiently because it is able to pump out more blood with each beat, sending more oxygen to your muscles.

### Training Principles

- The main purpose of any cardiovascular fitness program is to increase the body's ability to utilize oxygen. To increase cardiovascular fitness you must engage in exercise that involve movement of large muscles of their body. You must be able to maintain these exercises continuously for at least 15 – 30 minutes at least 3 days a week.
- **Frequency** – The exercise must be performed regularly to reach an adequate level of cardiovascular fitness.
- **Intensity** – The intensity of a cardiovascular activity is determined by the pulse rate. If you do not increase it enough, little or no improvement will occur.
- **Time** – To achieve all the values of cardiovascular training, you must maintain the target heart rate for a minimum of 20 minutes.

**Terms to Know:**

- **Maximum Heart Rate** – To determine your maximum heart rate, subtract your age from 220.
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- **Target Heart Rate** – to obtain cardiovascular benefits you must exercise at 60 -9- percent of your maximum heart rate. Multiply 60 -90 percent times your maximum heart rate to come up with a target heart rate for your workout.
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- **Aerobic Exercise** – means with oxygen and involves activities that can be performed for at least 15 minutes without gasping for air.
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- **Anaerobic Exercise** – means an activity is performed at a pace which uses oxygen faster than the body can replenish it.