HEART HEALTH PYRAMID

Heart rate monitors provide instant information about the intensity level at which a person is working. The heart health pyramid is used along with heart rate monitors to help check levels of intensity so the maximum health benefits are received from a workout. Too often, people begin an exercise program and start working at a pace which is too difficult. The workout becomes so uncomfortable they are forced to stop. The next day they feel discouraged and stop exercising altogether. Slowly these people become overweight, weak and even more discouraged. This inactivity leads to health problems such as heart disease, strokes, type II diabetes, high blood pressure, obesity and osteoporosis. Physical performance also declines with inactivity as muscles become weaker and tasks which were once simple become difficult. Self-confidence and appearance begin to suffer as those people become more inactive and begin to put on unwanted weight. People are born healthy and are designed to enjoy a life complete with activity. Everyone benefits from cardiorespiratory endurance training, and good health should not be reserved just for athletic individuals. To achieve the best results from cardiorespiratory endurance training, it is important to know the correct intensity level for each individual.

Using heart rate monitors and the heart health pyramid takes the guess work out of training. The heart does not lie; it responds directly to the amount of stress that is placed on the body. Every person needs to work at his/her own pace when working on cardiorespiratory endurance. It is possible for one person to have a higher heart rate when walking a mile at a 14-minute pace than another person who is running at an 8-minute pace. This indicates that the person walking is actually working harder than the person who is running. The person running might be a natural runner and is not trying very hard, while the walker is doing his/her very best to finish in 14 minutes. Wearing heart rate monitors permits a person to accurately adjust a workout to meet individual needs.

The heart responds quickly to cardiorespiratory endurance training; likewise, it responds quickly to inactivity. It takes only a few days of training to see improvements and only a few days of inactivity to lose those improvements. That is why it has been said "seven days without activity will make one weak." Research has shown that to apply the FITT principle to cardiorespiratory endurance training, the frequency should be 5 times per week. The intensity level of the activity should increase the heart rate to 66-85% of the maximum heart rate. The time spent in that zone should be at least 10 minutes and beyond for a total of 60 minutes a day. Following these recommendations will lead to improvements in cardiorespiratory endurance.

Key vocabulary words that will be introduced during this unit are:

- **Base Level** – 51-65% of the maximum heart rate
- **Cardiorespiratory Endurance Training** – Activities which increase the heart rate to 66-85% of the maximum heart rate and remain there for periods exceeding 10 minutes for a total of 60 minutes a day
- **Heart Health Level** – 66-85% of the maximum heart rate
- **Heart Health Pyramid** – A system to manage a workout using heart rate information
- **Heart Rate Monitor** – A small computer that gathers information about heart rate
- **Maximum Heart Rate** – Highest number of times the heart can beat in one minute
- **Max Level** – 86-100% of the maximum heart rate

The **Heart Health Pyramid** is based on **Maximum Heart Rate**. The maximum heart rate is the highest number of times the heart can beat in one minute. A common way to figure out an average maximum heart rate without doing a complicated test is the age-adjusted formula of 220 - age = Maximum Heart Rate (MHR).

HEART HEALTH PYRAMID

The **Heart Health Pyramid** has three levels to show how the heart reacts to movement. The bottom of the pyramid, or the **Base Level** (51-65% of the maximum heart rate), is the heart's response to light activity. This is also where the heart rate should be as a person warms up or cools down, lasting at least two minutes and no longer than five. When a person is walking slowly or shopping, the heart will also tend to remain at this level.

The next level on the pyramid is the **Heart Health Level** (66-85% of the maximum heart rate). It is at this level that the heart and lungs will receive the most benefit from exercise and cardiorespiratory endurance will improve. Most of the workout time should be spent at this level, lasting anywhere from 10-45 minutes. Riding a bike, hiking, circuit training or playing soccer continuously will keep the heart rate at the **Heart Health Level**.

At the top of the Heart Health Pyramid is the **Max Level** (86-100% of the maximum heart rate). This level can be used for short periods of time to develop increased speed and power. Sprinting will push the heart rate to the **Max Level**. Because the heart and lungs cannot supply enough oxygen to the body, it is difficult to maintain this level of effort for longer than 2-5 minutes. Use common sense when working out at this level; maintaining the **Max Level** will not help a person receive extra heart health benefits.

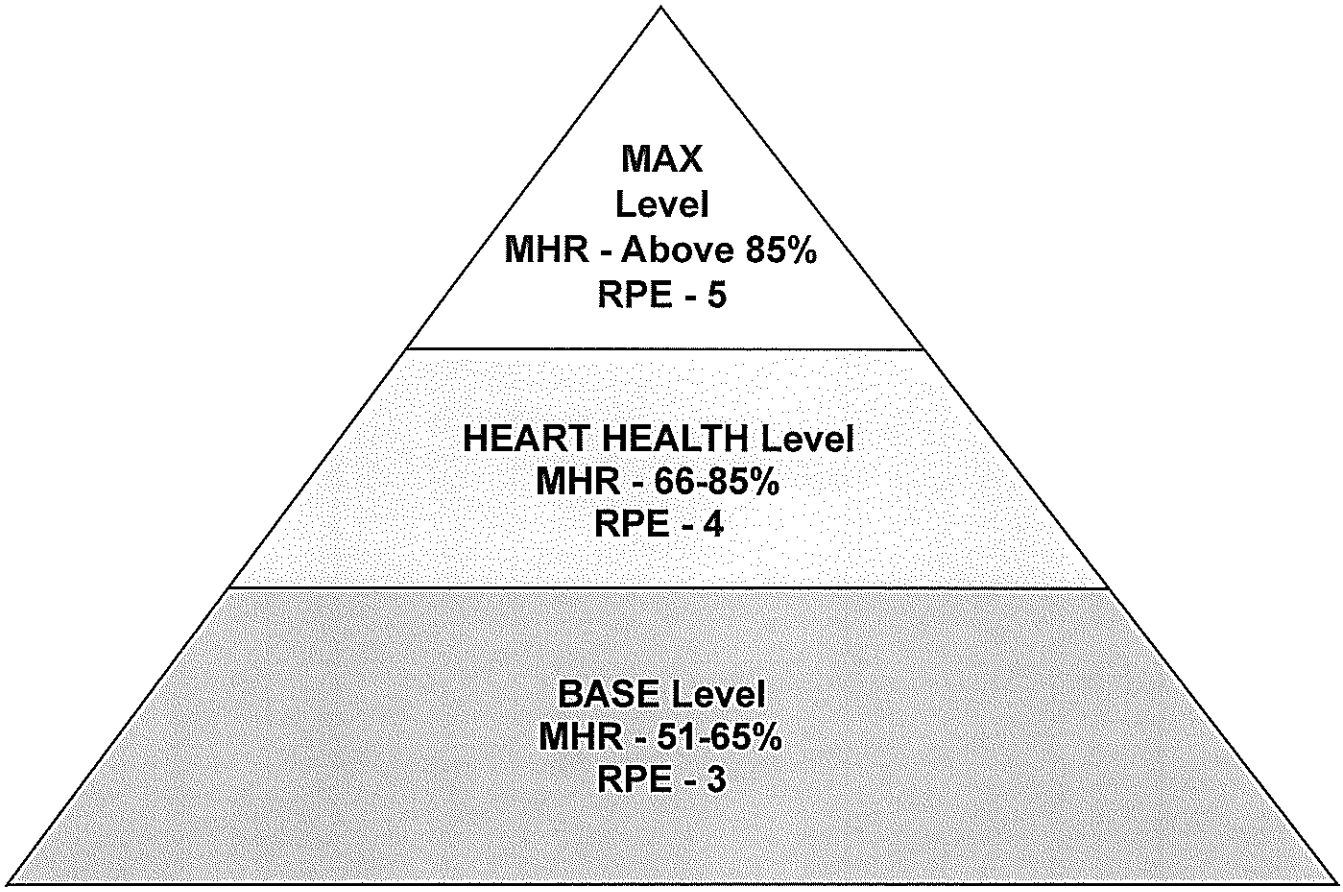
Use the age-adjusted formula to determine the maximum heart rate.
220 - Age = **Maximum Heart Rate (MHR)**
MHR x .51 and MHR x .65 = **Base Level**
MHR x .66 and MHR x .85 = **Heart Health Level**
MHR x .86 and MHR x 1 = **Max Level**

A **Heart Rate Monitor** has three parts: monitor, transmitter and band. The monitor is a small computer that looks like a watch, and gathers information about the heart rate. The transmitter is worn around the chest at the heart level and sends information from the heart to the monitor. The third piece is the elastic band, which is adjustable to a person's body size and connects to the transmitter.

This small computer is one of the most important training tools used by Olympic athletes. Athletes use the heart rate monitors to receive immediate information about their workout, in order to get maximum benefit from their training. Heart rate monitors allow the athletes to apply training principles to their daily workouts. It is important to understand how to use a heart rate monitor during workouts for the same reason.

The science of cardiorespiratory endurance training is something that everyone can use to stay fit for a lifetime. Using a heart rate monitor to determine the **Heart Health Level** is important to long-term health.

Heart Health Pyramid



HEART HEALTH PYRAMID

VOCABULARY

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