Aerobic Training

The mechanics of aerobic exercise require that oxygen be brought in by the lungs and transferred to the blood vessels. Oxygen rich blood is then pumped by the heart to the muscles. The muscles utilize oxygen for muscle contraction. Through routine aerobic activity, the body becomes more efficient at processing oxygen. Examples of aerobic activity include running, jogging, biking, rowing, walking. In fact any exercise that incorporates large muscle groups, raises the heart rate, breathing rate and body temperature is aerobic in nature.

Benefits

- Increases cardiorespiratory and cardiovascular system outputs
- Strengthens heart
- Decreases resting heart rate
- Improves circulation by clearing out cholesterol buildup
- Body adapts to burn fat as primary fuel source
- Improves psychological disposition and reduces stress levels
- Raises basal metabolic rate
- Decreases blood pressure
- Reduces LDL blood cholesterol level
- Tones muscles
- Improved balance and posture
- Increases Blood Oxygen level
- Increases flexibility, reducing capability for injury

Weekly Requirements and Limitations

Fitness Level gains are determined by Frequency, Intensity and Duration of the Aerobic exercise. Each session (duration) should last from 20 to 60 minutes and be performed 3 to 5 days per week (frequency) at an intensity level measured by heart rate (60% - 90%) according to the American College of Sports Medicine (ACSM).

During the first 15 minutes of aerobic activity, glycogen or sugar within the muscles is used for energy. Fat metabolism for energy doesn't occur until about 15 to 20 minutes after beginning aerobic activity. This is why it's important that aerobic duration be at least 30 minutes. Aerobic sessions greater than 1 hour continue to burn fat but at not the same rate as during the first hour.

Additionally, sessions greater than 1 hour increase the risk of injury due to fatigue. Increasing aerobic frequency (greater than 5 times per week) does not give the body

a chance to fully recover and can even reduce the body's capability to defend itself against illness. It is important to listen to what your body is trying to tell you. Rest, adequate sleep, proper diet all become more critical when demands are placed on our bodies above the normal everyday physical stress.

Diet Requirements

The type of fuel you put in a vehicle depends on the performance you expect out of it. The same is true of our body. Unlike weight training, aerobic training has two main goals. The first is to improve cardiovascular performance, the second to burn fat. Both of these goals can be realized during the same aerobic session.

If the goal is to simply improve cardiovascular strength then we need to target performance. Like weight training, we want to consume a complex carbohydrate snack before aerobics. A sugar snack will not provide the sustained energy and in fact may decrease performance. Excessive sugar intake before aerobic activity can work against the participant. When large amounts of sugar are ingested, the pancreas must secrete insulin to metabolize the sugar. Insulin levels in the blood inhibit the liver from metabolizing fat. Therefore little or no fat burning takes place during exercise. This includes sugary drinks, i.e., sport drinks which, stay in the stomach much longer than ordinary cold water thereby inhibiting quick hydration. Therefore, if the goal is to burn fat, then water only should be consumed before aerobics.