

Research Paper :

Effect of aerobic and aerobic cross training on tidal volume

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ABSTRACT

The purpose of the present study was to find the effect of aerobic cross training and aerobic training on tidal volume. For this purpose, thirty subjects studying for Bachelor degree in the age group of 19 – 21 years were selected. They were divided into three equal groups and each group consisted of ten subjects, in which group-I underwent aerobic cross training, group-II underwent aerobic training and group-III acted as control, who did not participate in any special training. The training period for this study was three days in a week for twelve weeks. Prior to and after the training period, the subjects were tested for tidal volume. The analysis of covariance (ANCOVA) was used to find out the significant difference if any, among the experimental groups and control group on tidal volume separately. In all the cases, .05 level of confidence was fixed to test the significance. Since there was three groups were involved in this study, the Scheffe'S test was used as post-hoc test. From the result it was concluded, after the aerobic cross training and aerobic training the level of tidal volume significantly increased.

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The major objective of training is to cause biological adaptation in order to improve performance in a specific task. To enhance the physiological improvement effectively and to bring about a change, specific exercises and overload must be followed. By exercising at a level about normal, a variety of training adaptations take place in the body that make it function more efficiently. Numerous training procedures are in practice to improve each and every physical and motor fitness quality at various levels.

Sports training are a conscious human activity and it is a goal-oriented activity. Therefore, it is obligatory to include sports training subject matter. The study of sports performance and performance capacity without an understanding theories and method of training is ineffective and meaning less are possible. As a consequence, sports training gives high weightage to study the nature and genesis of sports performance and method of training and competition. A large portion of sports training is devoted to the study of performance capacity, which further comprises of physical condition (physical fitness), technique and co-ordinate abilities tactics, physique and psychic factors (Singh, 1991).

Physical training brings about changes in the muscles,

improved neuromuscular co-ordination. in specific it positively manipulate the cardio respiratory mechanism by increasing O₂ diffusion, VO₂ max, vital capacity, lungs volume, forced expiratory volume and tidal volume. An increase in total haemoglobin and blood volume (Anderson, 1971).

Aerobic exercise refers to exercise that involves oxygen consumption by the body. Aerobic means “with oxygen” and refers to the use of oxygen in the body’s metabolic or energy generating process. Many types of exercise are aerobic and are performed at moderate levels of intensity for extended periods of time. To obtain the best results, an aerobic exercise session involves a warming up period, followed by at least 20 minutes moderate to intense exercise involving large muscle groups, and a cooling down period at the end.

The concept of cross training is a relatively recent athletic application, in which a training regime includes the use of one distinct athletic discipline to build skills or fitness in another (Eyestone, 2008).

Cross training is not the same as running. However Eyestone found that if the athletic performs cross training at high levels of intensity for one hour the same aerobic benefits will be obtained as running for 5 miles.