

Development of aerobic capacity or cardiorespiratory tolerance in runners

Improving cardio vascular capacity requires considerable time. To develop and improve aerobic or cardio respiratory tolerance we use any sustained effort of duration as the races, in addition to the cycling, the swimming and others.

For the development of resistance there are three methods: continuous methods (at uniform, moderate or fast rhythm) continuous methods with variations in racing rhythms (Fartlek), the methods of intervals and the methods of repetitions.

However, if we intend to develop and improve endurance or aerobic tolerance, we must avoid the use of a just one exclusively system, but of the combination of all them.

The Continuous Method.

It is based on a sustained runs at uniform speed and without pause for a long time period which can reach up to one hour in some cases. In this type of exercises, can be include variations of rhythm and sections at different speeds, which is known as Fartlek.

The pace of the continuous race is naturally faster in the trained runners than in the beginners or amateurs and the maintenance of aerobic tolerance with a minimum duration of 35 to 50 minutes forms the basis of the entire aerobic training program.

With this method metabolic acidosis is not suffered since the residues of the metabolism are kept only in small amount inside the body.

Depending of the physical condition of the runner, the heart works at a uniform rate between 130 beats per minute.

During this training is reached a constant stable state or balance between the oxygen demands and the supply of oxygen, this means that the energy that is produced and contributes cellular metabolism towards active tissues is sufficient to meet the requirements energetics of exercise.

Types of Continuous Methods

Throughout the training phase, the traditional continuous runs which a constant speed avoiding too strong rhythms is maintained, however today had been created new variants of the method continuous in order to meet other types of athletes, expanding and benefiting the energy systems. That is why the duration and intensity of the race had varied.

There are the following types of continuous races:

Long term continuous work, lasting at least one hour, with a heart rate that varies from 120 to 150 depending on the objectives of the subject, the main source of energy are fats and which serves as a basis for other intensities.

The average continuous rhythm that lasts approximately from 40 to an hour and half for marathoners, with a heart rate higher than 150-170 beats per minute. At there is a greater participation of the anaerobic process, since it is constituted by exercises of intensity close to anaerobic threshold levels.

The continuous short or rapid method that goes from 20 to 30 minutes at a heart rate of 170 beats per minute, sometimes reaching the anaerobic threshold limit, benefiting the anaerobic capacity. By this method the most efficient metabolic and volitional demands can be reached.

The most important factor that intervenes in the Continuous Method is the intensity that is usually constant. With this method of training work patterns are sought in which you go increasing the maximum aerobic capacity, increasing the levels of the steady state in two ways: increasing the heart rate during the runs and increasing the pace run pace.

The quantity (high volume) of the training is emphasized.

The Fartlek was created and developed in Sweden by Gösta Holmeg and Gösta Olander. For sports that require high cardiorespiratory tolerance or capacity development. The Fartlek is used in the preparation of the long distance runners, as well as in other branches and sports tests characterized by efforts of variable duration and intensity.

The objectives of fartlek are to develop, improve and maintain aerobic capacity and accustom the athlete to changes in the rhythms of competitions.

It can reach up to 60 minutes in length depending of the runner. During the race, they alternate rhythms, which will go from a pace similar to the continuous rum to races speeds.

The work can be considered as medium intensity, that is, intermediate between the continuous runs and interval with pulsations 140-150 to 170.

There are two alternatives to structure a Fartlek runs:

By constant changes in the speed of the runs or to run over a sloping terrain in which the changes of load is established naturally.

Emphasizes the quantity (greater volume) and quality (greater intensity), it is a way of working mixed

Training Method with Intervals.

It is known by that name since it is a unit of work that is divided into parts, in order to achieve optimal performance through multiple repetitions fragmented

by periods of rest or recovery (pauses). It represents a type of training which generates a systematic change when making an effort, followed by its pause or recovery. In the pause is where the most of the efficiency of work lies. The interval method can be defined as intensive or extensive according to the duration of the work.

Interval training requires considering the following five factors:

Fractioning the race to be developed in many parts.
Ensure the duration of the interval and its recovery pause.

Set the rhythm of those fractions.

Number of repetitions for each one of the race fractions.

Design the recovery guidelines. (Intervals).

According to the intensities there are two fundamental aspects of training application with intervals:

For the development of the speed resistance, the use of maximum intensity efforts with short time and with large time for recovery between those efforts.

For the development of the duration resistance, the use of medium intensity, long lasting with short rest for recovery.