

BASIC RESTORATION PROCEDURES

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The following article is a summary of Soviet views on basic restoration procedures. It has been culled from a variety of sources and originally appeared in the July 1988 issue of the Australian Journal, Modern Athlete and Coach. Both natural and artificial means are examined. Recommendations are both general and specific. A valuable article.

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It is a well-known fact that training loads have to be gradually increased in order to develop the required performance capacities. This can be achieved effectively by observing the following principles:

- The level reached in physical development of an athlete must be taken into consideration.
- There should be a gradual transition to higher training loads.
- A well-planned complex of contemporary training methods must be employed.
- Training should take place under the guidance of qualified coaches and medical advisers.
- Effective means of restoration must be employed.

The finding and application of effective means of restoration present one of the most important problems in contemporary track and field, as restoration cannot be looked at as simply having adequate rest. On the contrary, it means the employment of proper recovery methods to restore the functional capacities after single loads within a training session, between training sessions and between series of workouts. This can be achieved by using artificial, as well as natural restoration methods.

The artificial methods usually include different forms of massage, sauna, steam baths, various water treatments, auto-suggestive rest and pharmacological means. The natural methods, allowing the body to restore itself, are based on creating the best possible conditions for recovery through well planned coaching that takes into consideration individual needs. This means the designing and application of individual training plans that achieve the optimal relationship between work loads and the athlete's performance capacities.

NATURAL MEANS

Once a Day Training

Looking at athletes who train only once a day shows that a 24-hour interval between training sessions can provide complete restoration. In this case a planned training load can be used for a long time period. A typical example of this is the up-to-six-month-long preparation period of distance runners. No passive rest days are employed in this situation and restoration takes place by reducing training loads at certain intervals.

The reduced loads usually occur on one or two days in each microcycle (7 days), followed by a restoration week after two or three heavy microcycles. A significantly reduced work load is applied in the restoration week to create a high compensation effect. During the competition season these restoration periods can be extended to two weeks prior to important competitions, provided this phase follows maximal physical and psychological training loads.

It is important that the training and competition microcycles produce a positive shift of adaption processes, achieved through an effective alteration of training loads and restoration periods. This should take place in a wave-like pattern of work and recovery in which the changes of work loads and restorations are moving gradually upwards. The crests of the waves vary in length according to the number of training sessions conducted with the same load.

Several Daily Sessions

Restoration procedures become a little more complicated when athletes train two or three times a day. In this case it is important in natural restoration to establish

a correct and efficient sequence of the training sessions.

Usually, the morning workouts, in which light loads are employed, play a preparatory role for the main training session. The evening workouts, on the other hand, are designed for restoration purposes.

For this reason the evening sessions do not include much specialized work in three times a day training, but take more or less the format of active rest, made up from games and exercises that allow for the restoration of the functional capacities of the central nervous system. For example, sprint training is followed by a game of basketball or volleyball.

In a twice a day training program the main workout combines the major tasks with active rest type of restorative activities. The same routine is also applied to macrocycles, in which the recovery cycles are incorporated in the program following a certain number of heavily loaded microcycles. These active rest transition phases must ensure that the nervous system can recover while physical work continues.

It must be kept in mind that restoration during these phases take place regardless of the intensity of training. However, long duration of intense physical activity is to be avoided, as it can otherwise lead to decreased physical performance capacities. The key factor is to avoid fatigued situations and take the load off the central nervous system.

OTHER FACTORS

Running in the country is regarded as a very effective active rest type of restoration method in many situations. These very low intensity runs are excellent for recovery after intense training sessions, as well as after competitions. They can also be recommended at the first signs of overtraining if preventative methods, such as up to three days of active rest at the end of a training cycle, have failed to produce the desired results. In less drastic circumstances restoration can be achieved by employing reduced training loads, short of what was planned for a particular training cycle.

It is known that repetitive specific training intensifies the possibility of overtraining and reduces the restoration effects. This can be avoided by the introduction of variations to the training methods that achieve the same specific results. Selected jumping exercises, for example, can replace jumping over the bar in the high jump.

However, the choice of training exercises for variety must be based on means and methods that have a positive mental influence.

This would not only improve the restoration of the athlete's work capacity but would also allow to introduce more frequent active restoration phases. Preference in this situation must be given to training means that are close to the specific demands of an event to ensure that the

training effect does not suffer.

Relaxation exercises, performed in a training session between training loads, play an important part in restoration. These exercises are often followed by the use of passive rest, although this occurs mainly at the end of a training session. The passive rest can include the use of autosuggestion to improve relaxation. It can also be employed successfully in between very heavy training loads in a workout, provided the load is decreased before the passive rest takes place.

Exercises for relaxation, combined with deep breathing and walking, make up another effective method of active restoration in the last part of a training session and after competitions. Coaches are advised to make more use of this type of restoration in the warm-down periods.

Finally, it should be noted that a well executed warm-up plays a role in restoration. A good warm-up assures that the athlete has reached an optimal mental and physical state to perform the planned work, which in turn guarantees more effective restoration processes between single loads in a training session.

ARTIFICIAL MEANS

The main artificial restoration methods, such as massage, vibromassage, steam baths, sauna, different water treatments, electrostimulation, pressure chambers and others, provide additional valuable assistance in recovery. These methods can be divided into two categories: means that have general physical effect and means relatively more effective locally.

The most common general means include massage, baths in combination with other water treatments, sauna and so on. Local procedures make use of massage, limbs placed in pressure chambers, heating, electrostimulation and so on. Athletes who train two or three times a day are advised to employ local procedures in between each workout and general methods at the end of the day. General methods are also recommended after large volumes of work, while local methods follow small volumes and local loads in training.

A complex use of the various artificial restoration measures takes place during the highest training load periods and during the competition season. This includes general procedures in massage, underwater massage, different types of baths and saunas, as well as several local effect methods, such as the pressure chamber, heating and electrostimulation.

Whatever artificial restoration is employed, it is important to understand that the recovery effect of one or another of these begins to decline with long use, as the body adapts itself to the treatment. It is therefore best to employ the above-mentioned complexes of several methods and to use the same restricted means at the most only one or two days in a microcycle.

Artificial restoration measures include, in addition to those already listed, also pharmacological aids and physiotherapy. Both methods and their dosages are usually worked out with the help of a doctor. Medical advice is needed when it is necessary to consider the possibility of using pharmacological preparations to improve recovery in the restorative system. The same advice is advisable for physiotherapy measures, particularly when an athlete is prone to injuries.

Physiotherapy procedures are generally recommended to take place an hour after the end of a training session or about 1 to 2 hours after dinner. The therapy sessions last about 30 to 40 minutes and must be completed at least 30 minutes before the following training session begins. Physiotherapy is often combined with other general and local restoration procedures.

All artificial restoration measures are normally reduced in the microcycles leading to competitions. In the use of local effect procedures, it is advisable to employ these every second day, placing special emphasis on massage. From the general procedures sauna is used only once a week and not later than four days before a competition.

During the tapering microcycle all other general restoration procedures are employed to the fullest extent.

IN CONCLUSION

An aspect often overlooked in restoration is the fact that the effects of training and recovery can be considerably improved by making use of different facilities and training venues. These changes have not only psychological influence, but also allow an increase in training volume. The change of venues, making use of woods, parks, grass surfaces and so on, helps to reduce the load on the skeletal-muscular system and increases the restorative capabilities of the body. Positive psychological recovery processes are achieved by providing different environments at the changing training venues.

Finally, whatever the measures employed, restoration depends to a great extent on the level of functional capacities of an athlete and the significance of a solid physical preparation. It is a known fact that restorative processes occur faster and more efficiently as the performance capacities of an athlete improve. In other words, the higher the performance level, the quicker the recovery.