Main methodological directions of strength education

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Abstract: In this article, we consider in what way the development of strength abilities is carried out with the help of dynamic exercises.

Keywords: extensive impact, intensive development, muscle tension, isometric method and maximum effort method

The development of strength abilities using dynamic exercises can be carried out in two special ways. One of them is characterized by the fact that stimulation of muscle stresses is ensured by the possible large serial repetition of exercises with fixed weights that do not reach the limit values. For the second path, it is characteristic to increase weights with an approach to maximum values.

Let's take a closer look at these methods.

Methods of extensive exposure.

If the exercise, performed with an unsaturated, but at the same time significant burden (for example, 60-70% of the maximum), is repeated without pauses as many times as possible ("to failure"), then as fatigue increases, the degree of muscle stress approaches the limit. This is due to the fact that the fatigue covering the muscles is compensated by an increase in the intensity, frequency and sum of nerve impulses, and the involvement of additional motor units. Based on this phenomenon, methods of "extensive" impact are based.

When normalizing the number of repetitions in strength exercises, it is important to take into account that it is in a certain ratio with the value of the weight overcome. The maximum number of possible repetitions during serial reproduction of the exercise "to failure" with a given weight is usually called a repeated maximum.

There is a natural relationship between the magnitude of the burden and the repeated maximum. When the weighting is increased by a certain amount, the re-maximum decreases by a proportionate amount, and vice versa, the re-maximum increases are associated with a proportionate reduction in the weighting.

Thus, extensive methods are characterized by the use of a burden of no more than 75-80% and no less than 50-60% of the individual maximum, which makes it possible to withstand a repeated maximum within 6-8 and 15-20 repetitions in one approach.

Other hallmarks of "extensive" methods include:

- relatively low pace of repetition of exercises;

- relatively small rest intervals between series of repetitions during the session. As a rule. They are observed so that the implementation of the subsequent series occurs without reducing the repeated maximum;

- significant total load volume in classes.

The main drawback of “extensive” methods is that on their basis it is impossible to fully create the way of functioning of the muscular and other systems of the body, in which these abilities are maximally manifested. In addition, the developing fatigue makes fine coordination of movements difficult, which can entail distortion of the structure of the motor skill.

Intensive development methods.

The application of these methods is based on the systematic overcoming of weights close to the maximum or equal to them. The high efficiency of the development of strength abilities themselves using methods based on the use of limit and near-limit weights. Due to the so-called law of force. According to it, the intensity of the body’s responses to the influence of the stimulus is proportional within certain limits to the strength of this effect.

Other distinguishing features of “intensive” methods are:

- relatively small amount of load in classes;

- relatively long rest intervals between approaches are relatively large, providing an opportunity to restore operational performance to a level that allows in the next approach to overcome a greater burden or at least cope with the previous weight;

- straight-up or stepped dynamics of weights in a series of approaches.

As a negative side of these methods, their trauma should be distinguished. In addition, their frequent use is monotonous and quickly exhausting. At the same time, the increase in maximum strength is associated not only with improved coordination, but also with significant morphofunctional changes. (V.V.Kulbanov, 1993)

The use of static exercises in strength training has its own specifics.

The features of isometric exercises are due to the fact that the static functioning of muscles allows for a particularly high degree of their tension and for longer continuous maintenance of it than under dynamic efforts, where the moments of maximum stress often last a fraction of a second.

Isometric exercises are of particular value in cases where the ability to perform movement with a large amplitude is limited. In addition, most isometric exercises do not require special equipment and accessories.

The rational use of isometric exercises requires preliminary training (based on dynamic exercises, as well as short-term and long-term, but moderate in intensity static loads). As the body adapts to static efforts, it is possible to use isothermal exercises with a gradual extension of maximum tension and an increase in the number of repetitions.

One-time duration of static force with voltage increasing to maximum shall be brought to 5-10 seconds. This force is reproduced 2-3 times in one series with an interval of several seconds. Up to 5-6 isometric exercises from different starting positions are performed in the lesson; the intervals between repetition series are within 2-5 minutes. The total time in one training session, allotted for isothermal exercises, is 15-30 minutes. To speed adaptation to static loads, isometric exercises are included in classes up to three or more times a week.

Combined training methods.

Start by using the repeated effort method, then add an isometric method and a maximum effort method. The use of static-dynamic exercises and repeated maximum depends on the level of fitness of the athlete and the stage of training.

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