

Methods and Means of Developing Strength Skills

A. Bekmurzaev¹, R. Ibragimov²

Resume: The article discusses important aspects that determine muscle strength in young athletes and the way muscles work. technologies for developing muscle strength and strength skills in the process of performing motor actions are described.

Key words: Sports, movement, muscle strength, technology. ability, dynamic strength, static strength, maximum strength.

Currently, modern sport places high demands and goals on the physical fitness of athletes. These requirements can be formulated as follows.

- 1) To improve sporting achievements, an athlete always needs to improve his physical abilities.
- 2) To have a high level of physical fitness, it is necessary to increase physical activity during training.

According to the effect and focus, physical training is divided into types and means of general physical training and special training.

General physical training is the basis for a young athlete to achieve a high level. They consist of the following tasks.

- 1) increase the functional capabilities of the young athlete's body;
- 2) development of physical qualities of strength, speed, endurance, agility and flexibility;

Physical training is aimed at developing special physical abilities in young athletes. It has a special focus and helps solve the following problems.

- 1) athletes need to develop their functional capabilities in order to increase the efficiency of movements depending on their chosen sport;
- 2) development of the athlete's body's endurance to high-level special loads.

Strength abilities and their manifestation arise as a result of the influence of the body; it arises on the basis of the qualities of mental, muscular, motor, autonomic, hormonal functions and other physiological systems of the body. Muscle strength is a developing component of every motor act in athletes. May have a qualitative description depending on speed, external resistance and duration of operation.

Muscle strength as an indicator characterizing a person's physical capabilities is the ability to overcome or resist external resistance due to muscle tension.

In cases where strength skills are developed in the direction of active sports, it must be taken into account that the effectiveness of training depends on the maximum applied force and the time of its manifestation. The technology of using training stress in the development of strength skills of young athletes can be based on the manifestation of the following various possibilities: during one-time, repeated, periodic or non-periodic work; against small or large external resistance; fast or slow speed of training exercises; It consists of different initial states of muscles - relaxed or tense.

¹ Senior teacher of the Department of Sports Sciences of Pedagogical Institute named after Ajiniyaz

² Assistant teacher of the Department of Sports Sciences of Pedagogical Institute named after Ajiniyaz



One of the important factors determining muscle strength in a young athlete is the way the muscles work. In the process of performing motor actions, muscle strength can manifest itself:

- when its length decreases (overcoming, i.e., the myometric order, for example, lifting a barbell while lying down);
- in stretching it (lying down, i.e. using the plyometric method, for example, sitting with a barbell on your shoulders or chest);
- without changing the length (hold, i.e. in an isometric order, for example, holding dumbbells with outstretched arms in a bent position for 4-6 seconds);
- change in muscle length and tension (mixing, i.e. auxotonic order, for example, climbing rings, stretching arms when stretching ("cross" and holding "cross").

The first two orders relate to dynamic muscle work, the third – to static and the fourth - statodynamic. These methods of muscle action are defined by the terms "dynamic strength" and "static strength".

The greatest amount of strength is manifested when performing exercises; in some cases it is twice as high as isometric indicators.

In any order of muscle use, strength can be developed slowly or quickly. This is a description of their work. Generally, the force exerted in various movements depends on the speed of the movement, and the greater the speed, the greater the force. During slow movements, i.e., when the speed of movement is close to zero, the magnitude of the force in isometric conditions does not differ from the strength indicators.

Sometimes cases of forced lengthening of muscle length are observed during movements that allow an isometric order of work. This can be seen, for example, during the shock absorption phases of jumping from a great height to the ground, as well as in other jumps where the kinetic energy of a falling object needs to be released.

In cases of forced lengthening of muscles in a compliant order, a significantly greater (1.5-2 times) force can be exerted than the force manifested in the isometric order of work.

The possibilities for demonstrating muscle strength in the overcoming order are less than in the isometric and acclimatic orders. It should be borne in mind that the greater the speed of muscle contraction, the less it manifests itself and, conversely, there is an inversely proportional relationship between the strength exerted and the force of muscle contraction.

In the technology for developing strength in a young athlete, it is necessary to take into account the peculiarities of the relationship between the maximum strength demonstrated in isometric conditions and the strength and speed in exercises performed with weights. There is the following rule - an unloaded muscle contracts at maximum speed. If the weight or resistance is gradually increased, muscle strength will increase in accordance with the increase (regardless of the weight of the load or the size of the resistance), but only for a certain time. This condition occurs when the weight or resistance is increased without increasing the strength of the working muscles.

According to these modes and the nature of muscle activity, the athlete's strength abilities are divided into two types;

1. Personal strength abilities, manifested in conditions of static and slow motion.
2. Speed-strength abilities, manifested in the performance of fast movements with overcoming and inferior properties or in the rapid transition from the task of conquest to the task of conquest.

The personal strength skills of a young athlete are manifested in holding a standard weight for a certain period of time with maximum muscle strength (static nature of work) or in moving heavy objects.

High resistance exercises are used to develop the strength skills of a young athlete. Based on the nature of resistance, they are divided into three groups:



1. Exercises involving external resistance.
2. Exercises related to overcoming your own body weight.
3. Isometric exercises.

Exercises that involve external resistance include:

- exercises with weights (barbells, dumbbells, gymnastic balls, stones) for young athletes, including on exercise machines. These exercises are convenient for their versatility and choice;
- exercises performed with the help of connected objects (rubber shock absorbers, ropes, expanders, block devices, etc.)
- exercises to overcome the resistance of the external environment (running uphill, running on sand, snow, water, running against the wind, etc.)

External resistance training is one of the most effective means of developing strength in young athletes. If you select them and correctly determine the load, then you can develop all muscle groups and muscles.

Isometric exercises have the ability to simultaneously strengthen the maximum number of working muscles. They are divided into:

- exercises with slow muscle movement (holding weight in the arms, shoulders, lower back);
- exercises to actively strengthen muscles over a certain period of time and in a certain position (correction of bent legs.)

Such exercises, performed while holding the breath, teach the athlete's body to work in very difficult conditions without oxygen. Isometric exercises take less time and the equipment needed to perform them is very simple. With their help, you can influence different muscle groups and create significant tension in a short time using special equipment.

So, we can check the physical qualities of young athletes during training, as well as some characteristics of their motor capabilities in relation to one or another form of manifestation of physical abilities, that is, think about them on the basis of their realized abilities.

A young athlete may have various abilities that differ from each other in quality. It is the qualitative uniqueness of these various physical abilities that testifies to his physical qualities. The necessary principles and methods of training young athletes, causes of injuries during training, methods of developing physical qualities, developing muscles of young athletes, muscle tone, physical skills, developing physical abilities of young athletes, solutions and conclusions of training athletes should be highly appreciated.

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