

STUDY FOR OPTIMIZING THE FUNCTIONAL TRAINING OF POWER IN WATER ON LEG SEGMENTS IN JUNIOR SPEED SWIMMING TEST

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Abstract

The importance of presenting the training is classified mainly by the degree of theoretical and practical topicality of the problem of junior speed training swimmers training. From a theoretical point of the work is designed to regulate specific means of training a special force in young junior swimmers performance and combine them to apply in the preparation of this factor to the restoration of 13-15 years.

Key words: swimming training, functional reserves, large muscle groups, power-to-water, Arm -leg segments

1. Introduction

By improving the quality of the muscles and especially the functional side that speeds up speed, it increases the speed of force in the form of detention (Explosive power). resistance capacity is low, especially in the form of cardiovascular resistance, which requires systematic action for its development. Preference will be given to resistance in force or speed, to engage large muscle groups (back, upper limbs, lower limbs) involved in the specific swimming test, and allow the uninhibited activity of the cardio respiratory system without requesting it to its maximum possibilities [4]. Outward power is determined by the energy flow in time, (the exerted energy results from muscle contraction), the muscle being the human engine, an energy transformer, that is, transforming the chemical energy into mechanical energy [6].

2. Means and methods

Theoretical analysis of the anatomical and biomechanical system in the free style swimming test.

During exercise, physical exercise favors the development of motor skills and consequently increases the degree of adaptation of body organs and systems to water demands [5]. Thus, some organs and systems reach the highest level of their functional capacity, while others are still far behind. That is why the specificity of the effort must be very well trained [1].

The energy potential (effort capacity) that encompasses these driving qualities is necessary to achieve sporting performance, but not enough [3]. The average moving speed depends on the energy exerted by the swimmers and thus on the energy consumed: speed is the effect of power, force has an effect when it is converted into power. Outward power is determined by the energy flow in time, (the exerted energy results from the muscular contraction). The muscle is the human engine, an energy transformer, that transforms the chemical energy into mechanical energy [2]. To make a scientific research it is necessary to specify the muscle chains and joints to explain the biomechanics underlying the technique of swimming free style in order to ensure the coordination and efficiency of the water performance without unnecessary demands [7]. In the free style, the hand, wrist and elbow allow the stretched out arm to initiate the propulsion position and the swiveling in the shoulder joint allows the swimmer to stretch out. The major pectoral located in the clavicle area and the large dorsal muscle generates the majority of the force to push in water [8].

It is found that in the last phase of propulsion the triceps stretch the elbow causing the movement to the back and up to the surface of the water and the total extent depends on the mechanical rhythm and the moment of the recovery. Important is the Deltoid muscle, which together with the wrist is most active in removing the arm and hand from the water and bringing it to the hip and returning by positioning above the head at entry into the water. In the free style the movements are coordinated as one arm is engaged in propulsion, the other is in recovery [9].

Several muscle groups during the two phases function as stabilizers, such as: pectoral minor, rhomboid, lower and middle trapezium and anterior serrate, anchoring and stabilizing the shoulder and their correct operation is very important in generating arm and hand propulsion power. The shoulder stabilizers help to reposition the arm during the recovery phase while the central stabilizers provide the efficiency of the striking mechanics as they link the upper and lower extremities and ensure the swimming in the free swimming style [10].

Arm movements coordinated with leg movements help to propel by hitting up or down, We specify that

the propulsion phase (hitting down) starts from the hip by stretching the knee immediately after flexing the hip and is supported by quadriceps and femur for a strong knee extension, The plant of the foot is held in a secondary flexion by activating the calf muscles and the solex by overtaking the water pressure during the downward stroke. The action of the large dorsal muscles and the major pectoral activates the abdominal muscles. Coordinating these muscles generates more force in their arms. When doing this, the head must follow the movements of the hands, and the movement of the arms will correlate with the movement of the trunk targeting the abdominal muscles [11].

Physical training on land of muscle powers required in free-style swimming.

For strength development of the main muscle groups, use is made of specific exercises on land, flotations, dragons on the bar that are beneficial to the swimmer at the water-drawing phase, and at the same time is a good lifting exercise over the bar because it is a good exercise recommended for the right head position in the water. To reach the target traction number, you can use the help of a person who supports the legs and the execution will be rare and controlled to avoid excessive leg swing.

The introduction of medical balls is a systematic exercise to strengthen the muscles in the shoulder strain and the central stabilizing muscles. Lifting weightlifting is an exercise for the middle deltoid, which is the key muscle in the free-fall recovery phase, which helps the body rotate in arm recovery in the challenge of arm restoration in which a deltoid muscle group has a role. Lifting the weightlifting to the lateral deltoid muscle. Exercises are performed on the large ball of fitness in the position of support on the abdomen on the ball and the hands on the ground with rare and controlled shearing of the lower limbs, with the knee tightly positioned with the foot of the foot with a slight hold of the body in a straight position where the arching of the lower back part leads to a spindle overload.

3. Proposed program

Proposed program of training the force-power quality in water on the legs - legs connected to the stress specific to the speed tests in resistance mode, namely - Strength - Power for the arms, Strength - Power for the legs,

Strength - power for the upper train, the pelvic belt

We propose a training program suitable for young junior age as follows:

Monday - strength - power for the arms

1. swimming with small palms (floaters between the legs and ankle circle) 3x200m pause 60 sec.
2. swimming with parasuta inhamat of various sizes, paddle with palm 4x80m pause 30 sec.

Strength - power for legs.

3. Swimming with short paws 3x200m break 60sec.
4. Swim with sand bracelets at the level of ankles (80-150gr). 8x50m pause 30 sec.

Force - power for upper train, pelvic belt.

5. Swimming in long sleeve shirt 3x200m break 60 sec.

Wednesday - strength - power for the arms.

1. swimming with large palms (float between legs and ankle ring) 2x200m break 60 sec.
2. swimming with parasuta inhamat of various sizes, paddled with palm 6x80m pause 30 sec.

Strength - power for legs.

3. Swimming with long paws 3x200m break 60sec.
4. Swim with sand bracelets at the level of ankles (80-150gr). 4x100m pause 60 sec.

Strength - power for the upper train, the pelvic belt.

5. Swimming with trekking blouse 3x200m break 60 sec.
6. Impact in the wall of the basin of the leg flexing with floating in water 20x10m pause 20 sec.

The Evaluation consists in the fact that during the training time is timed over the distances above to see progress.

The Assessment of the development of anatomical and functional parameters is in the fact that they are looking at their evolution during the preparation from the initial registration, the application of a training program to the final recording in order to follow the functional progress.

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