

INTEGRATED FUNCTIONAL APPROACH TO THE RESTORATIVE TREATMENT OF ATHLETES AFTER PLASTIC SURGERY OF THE ANTERIOR CRUCIATE LIGAMENTS OF THE KNEE JOINT

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Introduction:Rupture of the anterior cruciate ligament (ACL) is one of the most common injuries of the musculoskeletal system. Reconstruction of the anterior cruciate ligament is currently the gold standard for the treatment of ruptures of the ACL. There are many factors affecting the restoration of normal and professional performance after the reconstruction of the ACL. The key factor, of course, is an individual approach to the treatment of each individual patient. Age, current and future activities, the presence of concomitant injuries are taken into account the patient. ACL is one of the main stabilizers of the knee joint. Any injury to the knee joint leads to effusion, changes in movement, muscle weakness, decreased functionality, and may lead to temporary or permanent inability to exercise.

Athletes who have undergone surgery to reconstruct the ACL may not always be able to return to the original level of physical activity, and are at a higher risk of re-injury of the knee joint. The mechanisms contributing to the formation of osteoarthritis development after an injury to the ACL are not fully understood, but modern hypotheses focus on the effects of altered biochemical processes, biomechanical changes, and neuromuscular function deficiency.

The purpose of the study:Preparation of a comprehensive individual approach to the rehabilitation treatment of patients after reconstruction of the anterior cruciate ligament of the knee joint.

Materials and methods:The study is planned to introduce 20-25 patients, aged 23-35 years, with a professional level of physical activity. Surgical intervention for plastic surgery of the anterior cruciate ligament in all patients will be performed by one surgeon, and according to one technique, namely from the tendons of the semi-tendon and tender muscle.

The rehabilitation plan of the study includes the following methods: stabilometry, ProKin platform, electromyostimulation from the device Compacs, therapeutic gymnastics according to an individual plan.

For each patient, a few days before surgery on the knee joint, a study is carried out on the ProKin stabilometric complex, in order to determine the estimated initial data. The 2nd study on the ProKin stabilometric complex is carried out as soon as the patient can give a full weight load on the operated knee joint, approximately 21 days after surgery. The 3rd study on the ProKin stabilometric complex is carried out, through 1.5-2 months after surgery. The 4th study on the ProKin stabilometric complex is carried out 4 months after surgical intervention.

Electromyostimulation of the quadriceps femoral muscle from the Compacs device will be performed starting from 2 days after surgery, in the first period of rehabilitation in static mode (the patient is in a supine position, myostimulation is carried out passively). And in the second period in the dynamic mode, when myostimulation is performed at the time of practicing the correct stereotype of walking. Electromyostimulation at all stages of rehabilitation treatment is carried out for 30-40 minutes, 2-3 times a day, provided there is no effusion in the knee joint, and other possible complications, in which it is unacceptable to perform electromyostimulation of the quadriceps femoral muscle.

The performance of therapeutic gymnastics is carried out taking into account the anatomical and biomechanical capabilities of a particular patient, and the initial level physical training. Therapeutic

gymnastics is carried out at all stages of restorative treatment after surgical intervention, with a gradually increasing load.

The results of the study. The results of the study will be evaluated by dynamic data of the ProKin stabilometric platform and tensiomyography (TMG) of the quadriceps femoris and biceps femoris.

Conclusions. Based on the results of the study, conclusions will be drawn about the feasibility of a comprehensive individual approach to the rehabilitation treatment of patients after erasers of the anterior cruciate ligament of the knee joint.

Literature:

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