

## **RESTORING THE COMPLEX FUNCTION IN COMMON SOFT TISSUE INJURIES IN ATHLETES**

*(Preliminary communication)*

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### **Abstract**

*Present Communication aims to present our concept of recovery of function in soft tissue injuries in athletes. The monitoring includes 32 high bit-rate athletes (23 football players, 6 track-field athletes and 3 basketball players) an average age 21.7 for the years of 2011 - 2012. The survey was conducted in PFC Levski AD. To objectify the results of monitoring and evaluation the following tests were used: Study of Pain: 10 levels speed analog scale in Maitland; Comprehensive assessment D'Anbigne end Postel (our modification); Strength and endurance of individual muscle groups according to the location of the injury; Subjective assessment. In tactical aspect the means and methods of kinesitherapy were chosen based on test results and then ranked according to the leading symptoms. The results of the survey showed: Study of Pain - the indicator showed improvement in all 30 athletes, while the remaining 2 underwent surgery; Comprehensive assessment D'Anbigne end Postel (modified) - The index showed improvement in all 30 athletes reported, while the remaining 2 had surgery; Strength and endurance of individual muscle groups according to the location of the injury – improvement was indicated in all 30 athletes, while the remaining 2 underwent surgery; Subjective assessment - all 30 players declared their self-esteem as considerably improved except the operated ones. Summing up the results from the recovery of complex functions significant therapeutic efficacy was found in respect of changes in the clinical - functional parameters of patients, those are the normalization of muscle imbalance, improved strength and endurance of muscles and lack of negative and subjective effects felt.*

**Keywords:** *football players, track-field athletes, basketball players, experts evaluation, physical activity, motor tests, motor strength, motor endurance, methods of Kenisitherapy.*

The aim of this report is to present our concept of function recovery in soft tissue injuries occurring in athletes. The monitoring includes 32 high bit-rate athletes (23 football players, 6 track-field athletes and 3 basketball players) with an average age of 21.7 years for the period 2011 - 2012. The survey was conducted in PFC Levski AD.

The monitoring found that at - common ones soft tissue injuries especially when they are with long barred create any distortion of muscle balance in antagonistic muscles in force throughout the kinetic chain. Muscle imbalance is manifested first with increased muscle tone, reduced length and elasticity, and the other with decreasing tonus and muscles weakness.

Therefore, we believe that the methods which have impact on each of the characteristics related to movement must be developed flexibly and dynamically. Parallel to normalization of the subjective sensations, muscle imbalance and improvement of muscle strength evolves

basic motor qualities - endurance, speed, coordination, without which physical activity is impossible.

With regards to these circumstances, applied in practice, the concept recovers complex function, measured by a specific load on different muscle groups according to their physiological characteristics.

In general, our system for restoring the complex function has the following guidelines:

- Dynamic change of tactical approach and methods of Kinesi-therapeutic influence related to dominating factors and clinical response of the patient.
- Progressively complication of the treatment program and improvement of muscle control, accomplished through compound movements and specific to practice sport activities.
- Maximum restoration of the basic movement parameters - speed, endurance, coordination.
- Effectively inclusion in the specific training racing activities.

To objectify the results of monitoring and evaluation, the following tests were used:

1. Study of Pain: 10 levels speed analog scale in Ma- itland
2. Comprehensive assessment D'Anbigne end Po- stel (our modification)
3. Strength and endurance of individual muscle gro- ups according to the location of the injury.
4. Subjective assessment

In tactical plan means and methods of Kenisitherypy we select only those based on test results and grade them according to the leading symptoms.

Medical practice is shown in a scheme and progres- ses according to the type, nature and intensity of the load as follows:

- Analytical stretching - influences the affected muscles.
- Autogenic stretching, which the patient perfo- rms initially in manual and verbal control, then use the right motor habit turn on and standalone training.
  - Selectively strengthen muscles
  - Restoring the basic parameters of movement and muscle control in the overall kinetic chain we in- clude :
    - Exercises with variable speed and direction, produce crisper perceptions of them
    - Exercises for two mutually engaged muscle groups initially slow pace and gradually acceleration.
    - Exercises diagonally - spiral models of move- ment.
    - Exercises in open and closed kinetic chain.
- Training of complex functions by :
  - Specific patterns of practicing sport - hit with a ball, keeping and withdrawal.
    - Exercises for overcoming the obstacles of everyday life and competitive nature - walking and jogging on an incline, climbing stairs, jumping
      - Different types of load intensity running - lateral, backward, with jumps.
      - Veloergometry - progressive loading 2-3 daily 15 minutes

Methodical rules are determined individually acco- rding to the degree of recovery of every single athlete and are influenced by athlete's commitment to sport activities. The load progresses with the increase of the resistance both in frequent and sudden changes as speed and direction of movement also changes which reduce the visual and verbal control of kinesitherapists.

We use interval training methods such as imp- lementation of the individual series and alternate in regularities dictated by the condition of patients and the ratio of exercise influences individual motion parameters leading to dynamical and flexible change.

Training endurance is created by increasing the exercise duration and the number of repetitions. We found that implementation of passive and active stretc-

hing between series of exercises with speed - power nature provides a good therapeutic effect.

The **results** of the survey showed:

1. Study of Pain - the indicator showed improvement in all 30 athletes, while the remaining 2 underwent sur- gery.
2. Comprehensive assessment D'Anbigne end Postel (modified) - The index showed improvement in all 30 athletes reported, while the remaining 2 had surg- ery.
3. Strength and endurance of individual muscle groups according to the location of the injury – impro- vement was indicated in all 30 athletes, while the re- maining 2 underwent surgery.
4. Subjective assessment - all 30 players declared their self-esteem as considerably improved except the operated ones.

In conclusion, the results from the research con- ducted on recovery of complex functions showed sig- nificant therapeutic efficiency in respect to changes in the clinical - functional parameters of patients, those are the normalization of muscle imbalance, improved stre- ngth and endurance of muscles and lack of negative and subjective effects felt.

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