

# NEW UNIVERSAL TECHNOLOGY DIAGNOSTICS AND CORRECTION FUNCTIONAL STATE OF ORGANISM IN PRACTICE OF SPORTS PHYSICIAN

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The diagnostics functional state of the organism (FSO) plays the leading role in the assessment of physical shape. The results of functional diagnostics are the basis for the application of those or other means and methods for functional rehabilitation of an athlete that is a purely medical prerogative.

Sports physician of the team has a rather poor set of technologies of functional diagnostics. This includes the evaluation of laboratory indices (General blood analysis, lactate, ALT, AST, etc.) and analysis of ECG, heart rate, and respiratory rate under the influence of significant physical activity. Such testing is used in all the leading sports federations of the world, but has a strong drawback because it is based on the analysis of indicators of cardiopulmonary system under the influence of intensive physical exercises. Therefore, this diagnostics is not applied during sports training, on the eve of competition and is contraindicated in the presence of any injury or disease.

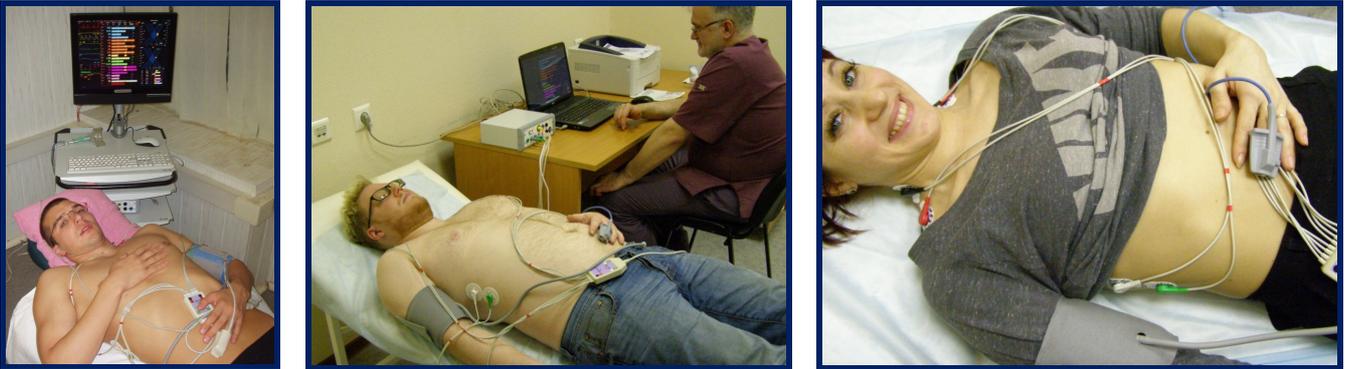
The coach and the athlete himself has still a critical need for better diagnostics the FSO in any day of the year training-competitive cycle and immediately before and after the competition. And this would help the sports doctor in early diagnostics of overtraining and fast optimal correction of unwanted deviations of the most important functional indicators and, thereby, to improve the FSO.

On the eve of competitions the FSO is identified usually by self-perception of athlete's health level. In addition, the coaching staff not rarely organizes competitions between members of the same team a few days before the performance to determine sports shape. These facts indicate that there is a problem to assess the level of the FSO in any sport.

We have solved this problem and created the new universal diagnostic technology of FSO of athletes, which is called «**Diagnostics functional state of the organism of athletes at rest**». It is based on the analysis of physiological changes in the body characterized for the sports activity and is carried out using a multifunctional hardware-software complex «**Integral Monitoring System «Symona 111**». We perform non-invasive measurements of various physiological parameters of Central and peripheral hemodynamics, delivery and consumption of oxygen, respiratory function, body temperature, metabolism, activity of the Central and autonomic nervous system. «Symona 111» is used as in clinical practice (cardiology, pulmonology, functional diagnostics, anesthesiology, intensive care), and in sports medicine.

«Symona 111» measures 120 physiological parameters simultaneously, which are reflected in the examination report automatically in comparison with the normal value of the ordinary man and the previous data of the athlete. This allows the sports physician to determine which indicators have changed or went beyond the boundaries of the normal value in one direction or another.

Survey one athlete is performed in the horizontal supine position in a quiet relaxed state and takes no more than 10 minutes. «Symona 111» manufacturer carries out training of this technology and then continues training by counseling examination protocols over the Internet.



The doctor has a diverse set of correction of physiological functions to improve the physiological parameters. This kit includes medicines, nutrition, physiotherapy, change the training and competitive loads. The efficiency of therapy is evaluated using the same technology.

In sports medicine «Symona 111» is used for the following:

- diagnostics physical shape,
- ranking of athletes during training and before competitions,
- selection in national teams,
- assessment of the level of fitness (FSO) before signing the contract,
- rapid diagnostics overtraining,
- evaluation of the training loads (sufficiency, redundancy),
- optimization of individual plans of training and competition,
- selective correction of disturbances of physiological functions,
- evaluation of the effectiveness of selected correction.

Working in cooperation with sports physicians of Russian national teams, we with all responsibility can declare that usage device «Symona 111» with the universal technology diagnostics the FSO at rest provides a system approach to assessing the level of fitness.

We have more than 8-years experience in athletics, football, basketball, handball, swimming, judo, fencing, cycling, skiing, ice hockey, and in many other kinds of sports.

Our technology raises sports medicine on a new level, helping sports physician not only to examine the FSO, but also to be active in its correction, contributing to the growth of sports results.