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# MODERN APPROACHES TO SPORTS REHABILITATION

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**Abstract:** The article presents a literary review of modern approaches to sports rehabilitation based on the analysis of domestic and foreign sources. The main stages of recovery, multidisciplinary approach, innovative technologies and psychological aspects are considered. It is noted that effective rehabilitation requires individualized strategies, integration of various methods and consideration of the psychophysiological characteristics of the athlete. The literary analysis highlights the trends towards personalization, digitalization, and scientific support of the rehabilitation process.

**Keywords:** sports rehabilitation, injury, recovery, physiotherapy, physical therapy, sports psychology, innovation.

## Introduction

Injuries of the musculoskeletal system occupy a significant place in the morbidity structure of athletes. According to the International Olympic Committee (IOC, 2021), up to 40% of Russian athletes face serious problems in this area. carers. In this regard, sports rehabilitation is becoming the most important component of the athletes' training system, aimed not only at restoring lost functions, but also at preventing repeated injuries, adapting to stress and prolonging athletic longevity.

Modern research focuses on the need for an integrated approach combining medical, physiotherapy, psychological and training techniques (Klavora & Heslegrave 2002,; Waddington et al., 2022). The present work is aimed at analyzing the current scientific literature on the problems of sports rehabilitation.

Methodology of literary analysis

The databases PubMed, Scopus, Google Scholar and Rsci were used to create the review. The selection included peer-reviewed publications from the last 10 years containing empirical data, meta-analyses, and clinical recommendations. Special attention was paid to works that consider multi-stage rehabilitation models, neurophysiological and psychosocial components of recovery, as well as innovative technologies.

The main research directions in sports rehabilitation

1. The stages of the rehabilitation process

Most authors identify 3-4 key stages: acute, subacute, functional, and the stage of returning to sports. According to the recommendations of the American Academy of Orthopedic Surgery (ACC, 2019), each injury requires differentiated tactics, but the structure of the stages remains universal:

Acute stage: aimed at anesthesia, immobilization and prevention of complications;

Subacute: restoring range of motion, maintaining muscle tone;

Functional: emphasis on physical fitness, coordination, proprioception;

Starting over: testing and preparing for full inclusion in the modern process (Rader, 2015).

2. Multidisciplinary approach

The effectiveness of recovery directly depends on the interaction of specialists of various profiles: a sports medicine doctor, a physiotherapist, a physical therapy instructor, a sports psychologist and a nutritionist. According to Frisch et al. (2020), teams with an interdisciplinary structure demonstrate 30% higher recovery efficiency compared to single-profile rehabilitation.

3. Innovative technologies

Recent years have been characterized by the active introduction of digital and hardware tools:

Virtual reality (VR) therapy, which allows the use of cognitive and motor recovery mechanisms, especially in neurorehabilitation (levak et al., 2017).

Shock wave therapy, laser therapy, kinesiotaping and exoskeletons expand the possibilities of recovery from severe damage.

Biological Public Communication (BOS) is used for business management and business stabilization (Kakavas et al., 2021)

The psychological component in sports rehabilitation.

The role of the psyche in recovery is often underestimated. One of the consequences indicates that such conditions as depression are a government problem and, apparently, can affect the situation of 25-40% (Arvinen-Barrow & Walker, 2013). Effective psychological support, motivational support, and cognitive behavioral therapy techniques significantly increase the chances of a successful return to sports.

Of particular importance are visualization, relaxation, and goal-setting methods that improve neuroplasticity and accelerate functional recovery (Khanin, 2000).

Discussion

The conducted literature review allows us to identify several key trends in sports rehabilitation:

A systematic approach with an emphasis on individualization of programs;

Obtaining scientific opinions and objective monitoring (evidence-based practice);

Expanding the use of digital technologies;

Strengthening interdisciplinary collaboration;

Emphasis on psychological support as an integral part of recovery.

The problematic aspects remain the insufficient integration of psychophysiological monitoring into standard programs, the lack of long-term research on the effectiveness of specific techniques and limited access to modern technologies in mass sports.

Conclusion

Modern sports rehabilitation is a complex system encompassing medical, physiotherapy, psychological and pedagogical components. The literary analysis indicates the need for an integrated approach based on scientific evidence and the individual characteristics of the athlete.

The development of personalized digital platforms, the integration of neuropsychological techniques and the formation of rehabilitation multi-teams in sports organizations remain promising areas.

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