

MEDICAL SUPERVISION IN SPORTS AND HYGIENE OF SPORTS FACILITIES: TASKS, STANDARDS, AND REQUIREMENTS

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Abstract. The health and performance of athletes depend not only on their training and nutrition but also on systematic medical supervision and the hygienic conditions of the facilities in which they train and compete. This article explores three interconnected areas of sports medicine and hygiene: the main tasks of medical supervision, the hygiene of sports facilities, and the hygienic requirements for their maintenance. Medical supervision is presented as a preventive and organizational system that ensures the safety of athletes, prevents injuries, and optimizes training loads [1]. The hygiene of sports facilities is analyzed in terms of architectural design, microclimate, lighting, sanitary conditions, and safety standards [2]. Hygienic requirements for maintenance are discussed with reference to cleaning regimes, ventilation, water supply, and accessibility [3]. The article draws upon Russian and international textbooks, methodological guidelines, and peer-reviewed research indexed in Scopus, highlighting the importance of integrating medical and hygienic control for the safety and effectiveness of physical culture and sports activities. The discussion emphasizes that medical supervision and hygiene are not isolated practices but complementary elements of a unified preventive system that protects health and enhances performance.

Keywords: medical supervision, sports medicine, hygiene, sports facilities, sanitary requirements, athlete health.

Introduction

The rapid development of modern sport has brought with it not only new achievements but also new challenges for the health of athletes. High training loads, frequent competitions, and psychological stress create conditions in which the risk of injury, overtraining, and chronic illness increases significantly. In this context, medical supervision has become a cornerstone of sports medicine, ensuring that athletes are able to train and compete safely [1]. At the same time, the hygiene of sports facilities has emerged as a critical factor in maintaining health and performance. Poorly designed or inadequately maintained facilities can undermine even the most carefully planned training programs, leading to decreased performance and increased health risks [2].

Medical supervision is not limited to clinical examinations. It encompasses a wide range of preventive, diagnostic, and organizational measures aimed at preserving health, preventing disease, and optimizing adaptation to physical loads [3]. Its tasks include regular medical examinations, monitoring of physical development, prevention of injuries, and medical support during training and competitions. In parallel, the hygiene of sports facilities ensures that the environment in which athletes train and compete is safe, sanitary, and conducive to performance [4].

The aim of this article is to provide a comprehensive overview of the main tasks of medical supervision, the hygiene of sports facilities, and the hygienic requirements for their maintenance. By synthesizing insights from Russian and international literature, the article



demonstrates that medical and hygienic control are inseparable components of a unified preventive system in sports.

Main tasks of medical supervision

Medical supervision in sports is a complex system of preventive and diagnostic measures designed to protect the health of athletes. Its primary function is to ensure that individuals are physically capable of engaging in training and competition without undue risk [5]. This involves initial examinations before participation, periodic examinations to monitor health dynamics, pre-competition examinations to assess readiness, and emergency examinations following injuries or illnesses [6].

Beyond examinations, medical supervision includes the monitoring of physical development and functional readiness. Physicians assess anthropometric parameters, cardiovascular and respiratory function, and adaptation to training loads [7]. Preventive measures are also central, including the identification of early signs of overtraining, the prevention of injuries, and the promotion of recovery strategies [8].

Medical supervision further extends to the provision of medical support during training sessions, competitions, and mass sporting events, ensuring immediate response to injuries or emergencies. Another important aspect is the collaboration between physicians, coaches, and sports scientists. This interdisciplinary approach ensures that training loads are appropriate, recovery is sufficient, and health risks are minimized [9].

Hygiene of Sports Facilities

The hygiene of sports facilities is a fundamental determinant of athlete health and performance. Facilities must be designed and maintained in accordance with hygienic principles that ensure safety, comfort, and effectiveness [10]. The microclimate of sports halls and gyms must be carefully regulated, with optimal temperature, humidity, and air circulation. For example, gymnasiums are typically maintained at 15–18°C, while swimming pools require higher temperatures of 26–28°C. Humidity levels should remain within 30–60 percent to prevent respiratory discomfort and the spread of infections [11].

Lighting is another critical factor. Adequate natural and artificial lighting reduces visual fatigue and prevents accidents [12]. Noise levels must also be controlled, as excessive noise can contribute to psychological stress and reduced concentration. Sanitary conditions are equally important, requiring regular cleaning, disinfection, and waste management [13]. Facilities must also comply with safety standards, including fire safety, emergency exits, and the safe installation of equipment [14].

International organizations such as the World Health Organization and the International Olympic Committee emphasize that hygienic conditions directly influence athlete performance and health outcomes [9]. Poor hygiene not only increases the risk of infectious diseases but also undermines the psychological well-being of athletes, reducing motivation and concentration.

Hygienic requirements for maintenance of sports facilities

The maintenance of sports facilities is governed by strict hygienic requirements that ensure safety and health protection [15]. Daily cleaning of gyms, locker rooms, and showers is essential, along with regular disinfection of surfaces and equipment. Ventilation systems must provide adequate oxygen levels and remove carbon dioxide, while air quality must be monitored to prevent respiratory problems [13].

Water supply and sanitation are critical, particularly in swimming pools, where water quality must be regularly tested and treated to prevent infections [15]. Safe drinking water must



be available, and sewage systems must function properly. Sports equipment requires regular inspection and maintenance to prevent injuries, while facilities must be accessible to individuals with disabilities, ensuring inclusivity in physical culture and sport [9].

These requirements are not only preventive but also regulatory, forming part of national sanitary codes and international guidelines. Compliance is essential for both professional and amateur sports, ensuring that facilities support health rather than compromise it [10].

Conclusion

Medical supervision and the hygiene of sports facilities represent two complementary foundations of preventive medicine in sport. Medical supervision is directed primarily at the athlete as an individual, ensuring that health status, functional readiness, and adaptation to training loads are continuously monitored. Through regular examinations, functional testing, and preventive interventions, physicians are able to identify early signs of overtraining, detect latent illnesses, and prevent injuries that could otherwise compromise both health and performance [1], [2]. This system of supervision is not static but dynamic, adapting to the changing demands of training cycles, competition schedules, and the long-term development of athletes.

The hygiene of sports facilities, in turn, provides the environmental framework within which athletes train and compete. Even the most carefully designed training program cannot be effective if the conditions of the sports hall, swimming pool, or stadium are inadequate. Proper microclimate, ventilation, lighting, and sanitation are not simply matters of comfort but essential determinants of physiological efficiency, psychological well-being, and safety [3], [4]. International standards emphasize that hygienic conditions directly influence the incidence of respiratory diseases, musculoskeletal injuries, and even psychological stress among athletes.

Hygienic requirements for the maintenance of sports facilities extend this principle into everyday practice. Regular cleaning, disinfection, and monitoring of air and water quality are preventive measures that protect athletes from infectious diseases and allergic reactions [5]. The inspection and maintenance of equipment reduce the risk of traumatic injuries, while accessibility standards ensure that facilities serve not only elite athletes but also children, adolescents, and individuals with disabilities. In this way, hygienic maintenance becomes a matter of public health as well as sports performance.

Taken together, medical supervision and hygienic control form an integrated system that protects health, enhances performance, and promotes the sustainable development of sport. Their significance extends beyond elite athletes to the broader population engaged in physical culture, where safe environments and preventive medical oversight encourage lifelong participation in physical activity. In the context of modern sport, where the pursuit of records and achievements is often accompanied by increased risks, the integration of medical and hygienic measures provides a balanced approach that safeguards human health while supporting athletic excellence [6], [7].

Thus, the conclusion is clear: without systematic medical supervision and strict adherence to hygienic standards, neither the safety of athletes nor the effectiveness of training can be guaranteed. These two domains must be viewed not as separate responsibilities but as interdependent elements of a unified preventive system, one that ensures both the preservation of health and the realization of human potential in sport.

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