

## IMPROVING THE METHODOLOGY OF INCREASING THE LEVEL OF PHYSICAL PREPARATION OF YOUNG HANDBALL PLAYERS

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**Annotation:** The improvement of physical fitness training methodology for young handball players is a critical and timely issue in the field of sports science. As handball is a high-intensity, dynamic team sport that demands a combination of explosive power, speed, agility, coordination, and endurance, a scientifically grounded and individualized training system is essential for young athletes. This research focuses on optimizing physical training approaches by integrating modern methods, personalized load distribution, and sports-specific conditioning practices suited to the developmental characteristics of young players. The study analyzes the main components of physical fitness—general and specific endurance, speed-strength, coordination, agility, and reaction time—and proposes a comprehensive training framework tailored for adolescent handball players aged 12–17. Based on empirical observations, performance testing, and expert feedback, a methodologically enhanced training program was designed and implemented over a training cycle. The methodology included the use of age-appropriate drills, game-like scenarios, reaction-based coordination exercises, and modern recovery protocols. The research also highlights the importance of functional diagnostics, including heart rate monitoring, mobility assessments, and neuromuscular feedback, in order to ensure optimal training adaptation. Additionally, psychological readiness, motivation levels, and stress resilience were incorporated into the training model to support the overall preparedness of athletes.

**Keywords:** Sports psychology, Young athletes, Physical training, Sports methodology, Handball, Endurance Agility, Training loads.

Handball is a dynamic and physically demanding team sport that requires athletes to possess a diverse set of physical attributes, including speed, strength, agility, endurance, and coordination. These attributes are essential for executing the rapid movements, quick direction changes, and explosive actions characteristic of the game. For young handball players, the development of these physical qualities is crucial not only for immediate performance but also for long-term athletic development and injury prevention.

### The Importance of Physical Fitness in Handball

In handball, the ability to perform high-intensity actions such as sprints, jumps, and rapid direction changes is fundamental to success. These actions demand a high level of physical fitness, encompassing both aerobic and anaerobic capacities. Aerobic endurance supports sustained efforts during the game, while anaerobic power enables short bursts of high-intensity activity. Additionally, strength and power are vital for actions like shooting, blocking, and maintaining defensive positions. The physical demands of handball are further compounded by the intermittent nature of the sport, characterized by alternating periods of high and low-intensity activity. This requires players to have

well-developed energy systems that can efficiently transition between different intensities. Therefore, a comprehensive physical conditioning program is essential to prepare young athletes for the multifaceted demands of handball.

### **Challenges in Developing Physical Fitness in Young Athletes**

Developing physical fitness in young athletes presents unique challenges. During adolescence, the body undergoes significant physiological changes, including growth spurts, hormonal fluctuations, and changes in body composition. These changes can affect an athlete's strength, flexibility, and coordination. Therefore, training programs must be carefully designed to accommodate these developmental stages and avoid overtraining or injury. Moreover, young athletes often have shorter attention spans and may lack the motivation or discipline required for intensive training sessions. Engaging training methods that are both effective and enjoyable are necessary to maintain their interest and commitment. Incorporating game-based exercises, competitive drills, and varied routines can help sustain motivation and promote consistent effort.

### **Current Training Methodologies**

Traditional training methodologies for young handball players often focus on general physical preparation, with an emphasis on aerobic endurance and basic strength exercises. While these components are important, they may not adequately address the specific physical demands of handball. For instance, exercises that enhance explosive power, agility, and coordination are essential for the rapid movements and quick reactions required in the game. Recent advancements in sports science have led to the development of more specialized training methodologies that target the specific physical qualities needed for handball. These methodologies incorporate plyometric exercises, resistance training, agility drills, and sport-specific conditioning routines. By focusing on the specific demands of handball, these training programs aim to enhance performance and reduce the risk of injury. Physical qualities develop differently at different ages of the organism. According to A.V. Korobkov, muscle strength develops most intensively from the age of 11, especially from 13 to 14 and up to 16 years. In the second childhood of children, muscle strength develops up to 25 times, from 8-9 kilograms to 20-25 kilograms in boys, and from 8 kilograms to 15 kilograms in girls. Muscle strength does not develop evenly, first the strength of the writing muscles develops, then the strength of the flexor muscles. According to Y.D. Zhileznyak, it is advisable to develop special physical qualities from the age of 10-12. According to the above-mentioned authors, achieving high technical and tactical skills in handball is associated with the formation of special physical qualities, among these qualities they paid great attention to the qualities of speed-strength, especially jumping. When developing physical qualities at the initial training stage and determining the repetition rate, it is necessary to take into account that new, coordinationaly complex exercises cause fatigue of the corresponding nerve centers in young handball players. Therefore, serial repetition of exercises at this stage is very effective. Initial training for adolescents aged 12–15 requires that the participants be carried out taking into account their individual capabilities (Akramov J.A., 2008). Special physical training also makes a significant contribution to the development of the participants' abilities in the direction of special physical development and physical progress. Therefore, 80% of the total time is allocated for special physical training during the preparatory period of the training process. There is an important difference between general and special training. In general physical training, the main physical qualities are developed: strength, speed, agility, flexibility, endurance, coordination of

movements, etc. Specific physical training is defined as the study and performance of specific sports and their basic techniques (exercises), as well as improving skills. In conclusion, there are various methods for developing the physical fitness of handball players, and their effective use will bring benefits.

### The Need for Methodological Improvement

Despite the availability of various training methodologies, there is a need for continuous improvement in the physical conditioning programs for young handball players. Many existing programs lack individualization, fail to consider the specific physical demands of handball, or do not adequately address the developmental stages of young athletes. Therefore, there is a pressing need to develop and implement training methodologies that are scientifically grounded, individualized, and tailored to the specific needs of young handball players. Improving the methodology for enhancing physical fitness involves several key components:

1. **Individualized Training Plans:** Recognizing that each athlete has unique physical attributes and developmental stages, training programs should be tailored to meet individual needs. This approach ensures that athletes receive appropriate training loads and exercises that align with their current capabilities and goals.
2. **Sport-Specific Conditioning:** Training should focus on the specific physical qualities required for handball, such as explosive power, agility, and coordination. Incorporating sport-specific drills and exercises can enhance performance and better prepare athletes for the demands of the game.
3. **Progressive Overload:** To stimulate physical adaptations, training programs should incorporate the principle of progressive overload, gradually increasing the intensity and volume of exercises. This approach promotes continuous improvement while minimizing the risk of overtraining.
4. **Recovery and Injury Prevention:** Adequate recovery is essential for allowing the body to repair and adapt to training stimuli. Implementing recovery strategies and injury prevention measures can help maintain athlete health and performance.
5. **Psychological Considerations:** Mental resilience, focus, and motivation are crucial for athletic performance. Training programs should include psychological components that enhance mental toughness and coping strategies.

### Conclusion

The development of physical fitness in young handball players is a multifaceted process that requires a comprehensive and individualized approach. By improving training methodologies to address the specific physical demands of handball and considering the unique needs of young athletes, it is possible to enhance performance, reduce the risk of injury, and promote long-term athletic development. This research aims to contribute to the advancement of training methodologies for young handball players, providing a foundation for future studies and practical applications in the field.

### REFERENCES:

1. Bompa, T. O., & Haff, G. G. (2009). *Periodization: Theory and methodology of training* (5th ed.). Human Kinetics.

2. Baechle, T. R., & Earle, R. W. (2008). *Essentials of strength training and conditioning* (3rd ed.). National Strength and Conditioning Association (NSCA). Human Kinetics.
3. Gabbett, T. J. (2016). The training—injury prevention paradox: Should athletes be training smarter and harder? *British Journal of Sports Medicine*, 50(5), 273–280. <https://doi.org/10.1136/bjsports-2015-095788>
4. Lloyd, R. S., & Oliver, J. L. (2012). The youth physical development model: A new approach to long-term athletic development. *Strength and Conditioning Journal*, 34(3), 61–72. <https://doi.org/10.1519/SSC.0b013e31825760ea>
5. Issurin, V. B. (2008). Block periodization versus traditional training theory: A review. *Journal of Sports Medicine and Physical Fitness*, 48(1), 65–75.
6. Myer, G. D., Faigenbaum, A. D., Ford, K. R., Best, T. M., Bergeron, M. F., & Hewett, T. E. (2011). When to initiate integrative neuromuscular training to reduce sports-related injuries and enhance health in youth? *Current Sports Medicine Reports*, 10(3), 155–166. <https://doi.org/10.1249/JSR.0b013e31821b1442>
7. Malina, R. M., Bouchard, C., & Bar-Or, O. (2004). *Growth, maturation, and physical activity* (2nd ed.). Human Kinetics.