

Managing the competitiveness of hockey players of the sports reserve

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PhD **R.B. Rotenberg**¹
¹Hockey Club SKA, Moscow

Corresponding author: eucx@mail.ru

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Abstract

This study examines the issues of effective organization of long-term training of hockey players of the sports reserve. The practical aspect of the study is related to the solution of the problem of maintaining the competitiveness of athletes in the conditions of their transition to professional hockey teams, close in requirements to the sport of the highest achievements. The methodological basis of the study is modern ideas about the laws of the process of formation of sports mastery of Yu.V. Verkhoshansky, as well as the «concept of the system-forming factor» of the theory of functional systems of P.K. Anokhin.

Keywords: *hockey, sports reserve, sports skills, competitiveness, long-term preparation.*

Introduction. The process of training hockey players of the sports reserve takes up to eight sports seasons, requires a complex technological infrastructure, but, most importantly, the presence of external and internal organizational and methodological conditions that provide the necessary balance of cooperation and competition.

In specialized literature, there is a concept of "Coopetition" (literally: cooperation + competition, competitive cooperation), introduced to describe cooperative competition [13, 7]. In professional sports, a certain balance of competition and cooperation is achieved through the presence of informal agreements and established rules. At the same time, it is not always possible to fully ensure the proper level of competition due to the fact that the process of developing sports skills is a structurally holistic phenomenon with its own characteristics.

An appeal to the causes of this problem made it possible to identify a number of the most significant trends that significantly affect the training of the sports reserve in modern conditions: (1) a decrease in the qualitative and quantitative characteristics of the recruitment of hockey players; (2) increased processes

of sports migration at the level of children's and youth hockey; (3) complication of the sports training system in hockey; (4) shortage of qualified coaching personnel [14].

In terms of the listed trends, effective training of hockey players of the sports reserve is associated with solving four categories of dynamic programming problems: (1) creation of favorable conditions for specific functional restructuring, mainly determining the level of development of the leading motor abilities of hockey players; (2) selection of optimal modes of influences for improving the leading motor abilities, mainly determining the success of sports activities in accordance with the individual characteristics of the hockey player; (3) maintaining an optimal level of physical fitness during the sports season; (4) changing external conditions and switching modes of training influences, ensuring the solution of the three previously listed problems [1, 2].

Yu.V. Verkhoshansky notes that «programming is a more advanced form of planning, a way of solving complex problems by breaking them down into simpler subtasks» [3]. In relation to sports training in hockey, the dynamic aspect of programming the train-



ing process is manifested in the application of control actions aimed at achieving the optimal state of individual components of athletes' and team's readiness in response to changes in external factors and conditions. The main condition for the successful solution of dynamic programming problems in managing the competitiveness of hockey players of the sports reserve is the choice by the coach of the most effective actions at different levels: metabolic, homeostatic, behavioral and social [10, 11, 12]. The issue of the priority of the results of behavioral and social activity in sports is explained by P.K. Anokhin from the standpoint of the functional system dominant in a specific type of activity [11]. For example, a sports result can also be stage-by-stage, ensuring the receipt of other final, socially significant needs [8]. It is at the metabolic and homeostatic levels that active adaptation of the organism occurs as a result of the emergence of contradictions in the system of external and internal relations of the athlete's organism.

Methods and structure of the study. The theoretical substantiation of the problem of managing the competitiveness of hockey players of the sports reserve was carried out from the standpoint of the methodology of functional systems. The use of structural and system analysis made it possible to compare the results of the behavioral level of training of hockey players with the general patterns of the formation of sports skills [6]. Since management involves the implementation of the decision-making function, the study used the method of quantitative analysis of the properties and relationships of various components of hockey players' training with the functional state [9]. The study assessed the relationship between the results of control tests reflecting the special physical training of hockey players and the indicators characterizing the processes of aerobic support of muscle activity (maximum oxygen consumption, anaerobic metabolism threshold). The results obtained were compared with the indicators characterizing game activity. The comparative analysis showed that most hockey players experience a decrease in game performance from the 5th to the 7th month from the beginning of the preparatory period. This phenomenon is especially pronounced among newcomers to youth teams. It is obvious that the transition to professional hockey for most young hockey players is associated with the fulfillment of significant requirements for physical fitness.

In specialized literature, the deterioration of per-

formance indicators is associated with a decrease in the aerobic capabilities of hockey players due to the specific nature of competitive activity and the difficulties of maintaining the level of aerobic performance achieved during the preparatory period [4]. We believe that the factors that determine the differences in the duration, start and end time of the decrease in aerobic performance require additional study and analysis. In sports practice, such analysis usually involves solving problems of forecasting, developing model characteristics, programming and complex control [13].

In addition, the information obtained during the analytical work was used to describe the results of various levels of sports activity: metabolic, homeostatic, behavioral and social. The quantitative and qualitative characteristics of these levels reflect the specific process of transition of the system of internal and external relations of the hockey player's body from one state to another, during which conditions are provided for the development of the hockey players' athletic skills. For this study, the issues of functional specialization of the hockey players' body, physical, technical and tactical training were of interest [8]. In this regard, the study was carried out on indicators characterizing changes in special motor abilities, functional adaptation, technical and tactical preparedness in the 2022–2023 and 2023–2024 seasons based on materials and documents disclosing the main parameters of the educational and training process and the results of competitive activities of hockey players of the sports reserve of the SKA hockey club system .

Results of the study and discussion. The theoretical and methodological result of the conducted research (analytical reviews of scientific literature) was the clarification of the concepts of «competitiveness», «management», «programming» from the point of view of adaptation of the conceptual apparatus for the implementation of interdisciplinary research.

In a broad sense, the concept of «competitiveness» can be formulated as the ability of a certain object or subject to surpass competitors in given conditions [5]. Managing a hockey team as a complex dynamic system involves the possibility of considering the competitiveness of an individual hockey player or group as a readiness to withstand the requirements of professional activity, the ability to perform successful actions both in relation to opponents and teammates in the conditions of changing external factors.

Possessing a systemic vision, the coach acts as an operator of a complex of biophysical, psychologi-



cal and social characteristics inherent in hockey players. The decision on the nature of the impacts and the choice of the dominant functional system involves the use of an algorithm of actions aimed at obtaining intermediate and target results based on direct or compensatory adaptation mechanisms.

Conclusions. Thus, the management of competitiveness of hockey players of the sports reserve should take into account the following conditions: (1) functional and motor specialization is provided by the systems of metabolic and homeostatic levels, which requires taking into account individual and age characteristics, sensitive and critical periods of development; (2) physical training programs for each age group and a certain period of long-term training should ensure the formation of an additional motor reserve to maintain compensatory mechanisms when mastering complex technical methods and actions; (3) in the process of mastering technical methods, it is necessary to take into account the individual capabilities of hockey players; (4) the tactical component of training becomes the most capacious and effective resource of the coach from the point of view of competitiveness management, while requiring longer formation.

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