

# DEPENDENCE OF TIME-RANGE DIFFERENTIATION AND BALANCING MOTION ACCURACY IN HANDBALL PLAYERS WITH STABILITY

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## ABSTRACT

The article establishes that insufficient development of vestibular kinetic capabilities has a negative impact on the stability of maintaining dynamic balance, the accuracy of differentiation of spatio-temporal relationships and the accuracy of target motor actions.

**Keywords:** Competitive activity, the technique - tactical preparation, individual tactical preparation. maintaining balance, experienced handball players.

## RELEVANCE

In modern handball practice, the accuracy of a goal-directed movement (passing the ball to a partner or throwing it into a goal) depends primarily on the observation of the object (partner, opponent, ball, goal), time difference, and balance stability. There is no doubt that the ability to balance in these processes is crucial. The fact is that in today's handball, the game activity is characterized by elements such as fast-running, jumping or jumping, turning-turning, bending-writing, which are repeated many times in very sharp changing directions and emergencies. Such movement loads create a state of "sway" in the players to one degree or another, which not only disrupts the coordination of balance, but also has a negative impact on the timing and accuracy of movement. Some aspects of these problems have been studied on the basis of a number of studies, and opportunities for their formation and evaluation have been revealed [1;2;3;4;5].

In addition, it was found that, for example, in handball players, time interval differentiation and movement accuracy depend on balance stability, including the formation of them using special exercises and evaluation on the basis of objective tests.

**The aim of the study** was to differentiate the time interval before and after the rotational movement load, which affects balance stability in skilled handball players, and to study the accuracy of aiming the ball.

## Research methods and its analysis

1. Test to determine the storage stability (time) of rotation of the body to the right and left (separately) with the body bent forward 90° in a circle with a diameter of 70 cm.
2. The accuracy of time-interval differentiation was assessed based on the results of a simulated test performed using an electrosecondometer (ES).

The accuracy of time-interval differentiation was evaluated based on the results of a simulated test performed using an electrosecondometer (ES).

This simulated test was performed in the following order: on one side of the ES mounted on the table, the controller that activates it is placed, and on the other side, the controller that stops the ES arrow at a set point is placed with its own remote control: The task of the examiner When the examiner starts the ES with his remote control, the examinee is required to stop the ES needle with zero (0) per turn with his remote control (one turn of the ES needle is 1000 miles per second): if the arrow is stopped before zero, the reaction is "urgent" premature reaction) - is called: if the arrow stops after zero, this reaction is called a "delayed" reaction; if the arrow stops at zero, such a reaction is considered a definite reaction: each subject performs the test in 5 attempts; the results are written to a special return: minus (-); plus (+); exact reaction number (0); the test is initially performed in a relaxed position (without load), then the test is performed under the influence of a 15-second, left and right rotation (separate) load with the body bent forward 90°.

Note: When performing test 1, the test is stopped if the circle under test touches or deviates from the line; During the 2nd test, the subjects are given 3-4 learning-adaptation opportunities.

1. Throwing the ball to the target: The subject throws the body 6 times at a distance of 9 m to a 40x40 cm 2 square target drawn at a height of 2.5 meters on the wall, turning the body to the left and right for 10 seconds in a 90° bent position. The body is rotated for 10 sec before each ball is fired.

The study was conducted before the start of the 2018-2019 training season, before the competition and at the end of the annual training, in which members of the handball team of UZSUPCS were involved as examiners.

The results obtained and their analysis

A study of skilled handball players found that an insufficiently formed vestibular analyzer and its receptors could cause the body to sway under the influence of rotation in one direction or another, and that balance stability would decrease. In particular, in the skilled handball players who participated in the study, the dynamic balance stability during the rotation of the body to the left (which is considered to be the most comfortable side for the calves) with the body tilted forward by 90% was 10.47 2.03 seconds before the start of training. the figure dropped to 9.05 to 1.33 seconds.

**Table 1: The dynamics of change in the annual training phases of dynamic balance maintenance stability during the rotation of the body to the left and right in qualified handball players**

Tests	At the beginning of the annual preparation	Before the final or competition period of the preparation period	At the end of the annual preparation
Maintaining balance while turning the body 90 ° to the left	10,47±2,03	9,05±1,33	7,16±0,79
Maintaining balance while turning the body to the left with the body tilted 90° forward	6,02±1,05	5,11±0,57	4,18±0,48

By the end of the annual preparation, the dynamic equilibrium time was further reduced to 7.16 by 0.79 seconds. The dynamics of such changes indicate that the training and competition loads with handball players during the annual training period not only exacerbate the symptoms of fatigue, leading to a gradual decline in this ability, but also confirms that these loads adversely affect the functionality of the vestibular analyzer. possible.

This view was confirmed by the results of a test used to assess the stability of the balance in handball players who took part in the study when the body was turned to the right in a bent position of 90 ° (which is considered an inconvenient side for calves). In this regard, it should be noted that during the rotation of the body in an awkward direction (right side), a steady decrease in balance stability (time) was observed. For example, the dynamic balance stability of these handball players is expressed in 6.02 1.05 seconds at the beginning of the annual training, 5.11 0.57 seconds at the end of the training period or before the competition period, and decreased to 4.81 0.48 seconds at the end of the annual training. detected. Hence, there is reason to admit that the dynamics of the observed indicators in handball players not only prove that the vestibular analyzer is not sufficiently polished, but also indicate that they have left-sided functional asymmetry between left and right rotation movements. This situation, in our opinion, has a negative impact on maintaining dynamic balance, distinguishing the time-interval between objects and the coordination of actions aimed at a specific goal (passing the ball, throwing the goal).

Conclusion. Based on the results of the study and their comparative analysis, it can be concluded that the functional "Energy" of the vestibular analyzer in skilled handball students engaged in training based on traditional training programs is very fast-changing rapid movements - jogging, jumping, turning, turning, bending. -unable to react sustainably to record-related loads.

This situation encourages the development of the exercise base that forms the studied coordination abilities, including vestibulokinetic stability, and the organization of experimental studies aimed at determining its integral effectiveness.

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