

## **Abstract**

**Title:** Influence of activation of the deep stabilization system of the spine on speed of shot in ice hockey players

**Objectives:** The aim of this thesis is to clarify whether the exercise focused on the deep stabilization system of the spine affects the quality on its function and the speed of shot in ice hockey players.

**Methods:** The theoretical part is developed in the form of research. In the practical part, is 26 male probands who participated in this experiment. In the initial measurement, the speed of shot with a puck into the goal, was measured with a special radar in all players and the quality of the deep stabilization system was looked into by 8 tests according to Kolář. Furthermore, they were randomly divided into experimental and control groups, while the experimental group underwent a physiotherapeutic intervention focused on the deep stabilization system of the spine for 3 months, while the control group underwent only regular hockey training. After the intervention, the measurement was performed again in the same way. The obtained values from the checkups and measurements were registered to Microsoft Office Excel 2021 and further statistically processed for which the Shapiro-Wilk normality test was used to determine the distribution of data. The parametric T-test was used in case of fulfillment of parametricity, in case of non-parametric the Mann Whitney U-test was used.

**Results:** The results of this experiment showed that a three-month exercise focused on the correct activation of the deep stabilization system of the spine had a statistically significant effect on its quality of function. Regarding the speed of shot, statistical relevancy was established only in snapshot. The improvement was not statistically significant in slap shot and wrist shot.

**Keywords:** ice hockey, the deep stabilization system of the spine, stabilizing function of the spine, posture stability, speed of shot