Abstract

The term neurovisual training describes procedures that improve an individual's visual-cognitive skills. In this thesis, we tried to characterize selected visual-cognitive skills, unify examination procedures and find possibilities for their training. In the theoretical part, you can find a list of conventional and software tools used for this purpose. In the appendices we describe specific exercises with selected tools. In the practical part, we put together training aimed at selected parameters and tested its effect on a group of junior volleyball players.

Methodology: We established seven parameters that we monitored as part of input and output measurements. The examination can be divided into the static part, which was carried out by a qualified optometrist, and the dynamic part using the *Senaptec Sensory Station* under the guidance of a trained physiotherapist. Of the original 31 probands participating in input measurement, only 18 participated in output measurement. They were volleyball players from two Prague clubs with an average age of around 13 years. Probands were randomly assigned to an intervention and control group. The intervention group underwent three months of neurovisual training in a common part of conventional training at a frequency of one per week with the addition of individual training as part of autotherapy. The control group continued with normal training. We compared the results of both measurements using statistical and substantive significance. The study protocol was approved by the Ethics Committee of FN Motol.

Results: In the intervention group, a statistically significant improvement of the working memory parameter was demonstrated with a significance of p=0,004. There was no other significant improvement in other parameters compared to the control group. The question remains whether we can recognize this state as a global positive effect of the designed training. Possible elimination of the limitations summarized in the discussion point out to future success of subsequent research.