

## **Abstract**

The aim of this thesis was to evaluate the effect of rehabilitation with visual biofeedback at acute stage after vestibular schwannoma surgery and to evaluate if preoperative intratympanic application of gentamicin has influence on vestibular compensation of standing stability. The study was attended by 20 patients (12 women and 8 men) in the age from 28 to 63 years. Eight patients had vestibular schwannoma diagnosed in their left side, twelve in the right side. Rehabilitation program using interactive rehabilitation system Homebalance took place from the 5th postoperative day until hospital discharge, daily 15 to 20 min. To evaluate of therapeutic intervention objectively the device Synapsys Posturography System was used. Stabilometric examination was done before operation of vestibular schwannoma, after operation and after termination of rehabilitation with visual biofeedback. Statistic analysis showed significant increase of mean values of measured parameters CoP (sway velocity CoP, length of trajectory of CoP, area of the confidence ellipse CoP) postoperatively compared to preoperative values. After termination of therapeutic intervention there was any significant decrease of values of parameters CoP compared to postoperative status. Between group of patients with preoperative application of gentamicin and group without gentamicin was not found statistically significant difference in stabilometric examination.