Abstract

The bachelor thesis „The aspects of gait stability and its assessment" summarizes knowledge about influences on the gait pattern especially on its stability. The thesis focuses on the control of gait stability, the relationship between the stability of gait, the spatio-temporal measures of gait and COM movement.

The part about assessment of gait stability introduces the dynamical systems theory and describes measures with convergent and predictive validity and measures derived from biomechanics.

The experimental part studies the change of gait pattern as the reaction on higher head stability demands realized by walking with a book on the head and the reaction on plantar stimulation. The changes of the gait pattern were evaluated by spatio-temporal measures of gait.

The interventions influenced the selection of the optimal strategy of gait stabilization. Some subjects narrowed down their step after stimulation by higher head stability demands. The step width of all subjects decreased in comparison with reference values after accomplishment of both interventions.