

**Title:** The use of dual task training in rehabilitation of patients after acquired brain injury

**Abstract:**

Patients after acquired brain damage may have a range of cognitive, motor, psychological, phatic, or sensory difficulties. These impairments impact the individual's performance in personal and instrumental activities of everyday life. Simultaneously, patients may lose functions that were previously automatic, such as the ability to maintain postural control. Therefore, they need to make more effort to consciously control movement and because of this, the ability to perform two tasks at the same time is reduced. However, the conditions of a normal day require simultaneous execution of multiple interactions.

The cognitively oriented Day Care Centre of The Department of Rehabilitation Medicine of the General Hospital and the First Medical Faculty of Charles University includes a dual task program for patients after acquired brain injury, which focuses on training of cognitive and motor functions. The theoretical part of this thesis is addressing the issue of dual task paradigm. The aim of the practical part is to evaluate the effect of this 4week intensive program on cognitive, motor functions and self-sufficiency of individuals after acquired brain injury.

To determine the effect of the dual task program, the performance of the experimental group was compared with the control group that underwent conventional rehabilitation. Both research samples were tested at the beginning and at the end of rehabilitation with the following test battery: MiniBESTest, TUG, TUG with dual task, CIQ-R, FIM and KONB. The collected data were used for subsequent analysis. A total of 25 probands of the experimental group and 7 probands of the control group were analysed in this study. This is a quantitative type of thesis.

The results suggest that the patients who completed the dual task program need to put less effort into performing a dual task. This change may lead to an easier integration of individuals back into normal life.

**Keywords:** dual task, acquired brain injury, motor function, cognitive function, cognitive-motor interference