

## **Summary**

The subject of this bachelor thesis is the application of electrical stimulation according to Jantsche on spastic musculus gastrocnemius in patients after stroke. The parameters investigated are the effect of this stimulation on the reduction of spasticity, the effect on gait speed and the investigation of the immediate and longer-term effect.

The theoretical part is devoted to defining the concept, describing the etiology and pathogenesis of stroke and spasticity. In addition, this section describes the treatment options and therapeutic procedures that are used today. An integral part of the thesis is the research section, which describes the existing knowledge in the areas addressed in this bachelor thesis.

The practical part is preceded by the methodology, which summarizes the examinations used and the methods practiced. The examination was carried out three times in total and I used the Tardieu scale, 10 Meter Walk Test, 2 Minute Walk Test and Timed Up and Go Test. The probands who participated in the examination were randomly divided into two groups. The experimental group and the control group. Participants in the experimental group have odd numbers and participants in the control group have even numbers. The experimental group underwent electrical stimulation according to Jantsch followed by passive stretching and exteroceptive facilitation using balls. The control group underwent only passive stretching and exteroceptive facilitation using balls. No electrical stimulation was applied to these probands. All probands underwent therapy a total of four times during two consecutive weeks. Each therapy session lasted 45 minutes.

I then processed the data into summary tables and graphs, which I always commented verbally. Subsequently, I confronted the results of the work with the results found in the research work.

As a result of this work, it was found that electrical stimulation according to Jantsch proves to be an effective complementary method to the commonly used manual techniques and has a positive effect on reducing spasticity and increasing walking speed.

## **Keywords**

vascular brain injury; ictus; upper motoneuron syndrome; electrical stimulation; passive stretching; ball facilitation; exteroceptive facilitation