

## **Abstract**

The topic of this thesis was the mechanism of biomechanical and neurophysiological effects of joint mobilisations and manipulations, which we describe in the theoretical part. For better understanding of the issue we also describe a functional pathology, especially a functional joint blockage and its theories of origin. The practical part consists of two components: research and case study. During the research, we tried to capture the effect of spinal manipulation on the range ( $^{\circ}$ ), mobility ( $^{\circ}$ ) and length (mm) of the lumbar spine in 25 healthy individuals using Spinal Mouse. The probands went through three measurements and examination of the spine hypermobility. They filled out the Oswestry questionnaire (version 2.1a). In a separate room, we examined the joint play between the 1st and 2nd measurements. Subsequently, between the 2nd and 3rd measurements, we used spinal manipulation in the indicated individuals. In the mobilized group, in the Matthiass test, there is an average extension of a length of 8.9 mm (SD  $\pm$  8 mm) for normomobile individuals, for hypermobile it is shortening by 3.5 mm (SD  $\pm$  5 mm). In the control group, the average length is shortened by 0.2 mm (SD  $\pm$  2 mm), for hypermobile it is also reduced by 0.1 mm (SD  $\pm$  8 mm). When comparing the values of normomobile individuals we obtain  $p=0.001$  and  $d=2.35$ , for hypermobile  $p=0.485$  and  $d=0.53$ . In the remaining positions and parameters, we found no correlation with spinal manipulation. We believe that by removing joint blockages, we open therapeutic window for intervention. In the case study, we present a patient with right shoulder pain, in which the primary cause was sprained left ankle. Follow-up therapies significantly reduced pain and increased range of motion.

## **Key words**

Functional joint blockage, functional pathology, functional disorders, segmental dysfunction, Spinal Mouse