

## **Abstract**

**Title:** Fitness training for individuals after spinal lesion

**Objectives:** The aim of the bachelor thesis is to monitor the influence of physical intervention in the form of fitness training on body composition and movement performance of individuals after spinal lesion.

**Methods:** In the framework of a quantitative and qualitative research study, four subjects after the spinal lesion who are participating in the reconditioning stay at the Paraple Center were observed in case studies.

Among the selected subjects were three males and one female, three of them with paraplegia and one with tetraplegia in the range C 6 - Th 6. The average subject age was 41.5 years (24 - 74). Except for one individual, all showed moderate overweight and decreased exercise activity in everyday life outside the research.

Research methodology consisted of one month intervention in the form of individually adjusted fitness training. In order to set up the intervention and to evaluate the effect, the following methods were used for input and output testing: observation, assessment of body composition using the Bodystat instrument and evaluation of exercise performance by measurements on a rowing and cross-country trainer where the mileage was monitored.

**Results:** All subjects attained a slight improvement in body composition in the Bodystat output test in the form of a reduction of body fat and an increase of active body mass. When influence factors and measurement errors were taken into account the results could not be considered significant. By comparing the entry and exit times on fitness simulators, a demonstrable improvement of 1.63 - 2.15 minutes was seen, averaging 1.94.

**Conclusion:** One month of intervention in the form of fitness training of 4 individuals with spinal cord injuries resulted in improvements in the area of exercise performance (improvement of 1km distance on the Bodystat), but no significant changes in body composition were achieved. For more accurate results a longer intervention time would be necessary.

**Key words:** physical condition, physical activity, strengthening, spinal lesion, spinal cord injuries.