

## **The Impact of Erigo Robotic System Therapy in Patients After Spinal Cord Injury**

### **Abstract:**

This bachelor thesis aims to shed light on the effects of Erigo robotic system therapy in patients after spinal cord injury. Currently, careful attention is devoted to research seeking new ways to cure or treat spinal cord injury. Even though we are just beginning to understand neuroregeneration processes, new rehabilitation robotic systems and devices are gradually starting to occupy a significant role especially in early rehabilitation after spinal cord injury.

The first part of this thesis describes spinal cord injuries with a focus on health implications and complications the injured person has to come to terms with. Employing robot-assisted therapy in early rehabilitation stages can prevent a number of problems. By doing so, such therapy can improve the patients' functional condition, self-reliance their recovery and return to ordinary life.

The use of robotic systems is becoming a standard in many rehabilitation facilities. This bachelor thesis will focus on the frequently used Erigo robotic system and on evaluating the effects of Erigo therapy. The thesis will describe the functions of the Erigo and its advantages. Moreover, several aspects of focus and evaluation criteria will be identified. These aspects will be tested in two patients in order to assess the effects of Erigo therapy.

### **Key words:**

Erigo robotic system, spinal injury, robot-assisted therapy, early rehabilitation