

## **Abstract**

Orthostatic hypotension is a common problem for individuals with spinal cord lesions, especially in the acute period after spinal cord injury. The first part of this study deals with the theoretical analysis of the pathophysiology of cardiovascular control after spinal cord injury, the definition of orthostatic hypotension and its inclusion within the classification of the syncopal conditions. An important part of the theoretical part is the management of orthostatic hypotension, which brings non-pharmacological therapeutic approaches, and marginally pharmacology, to decrease the severity of this condition. The experimental part focuses on testing of a group of probands with spinal cord injury (11 quadriplegics) on two different types of tilt tables according to the same protocol. The first tilt table is a standard; the second one is Erigo, tilt table with integrated robotic mechanism, which moves the legs to simulate walking. The parameters, such as blood pressure, heart rate, oxygen saturation, and the occurrence and severity of pre-synkopal symptoms, were compared. The study is based on the assumption that passive leg movement, which is mediated by the Erigo, will maintain venous return, cardiac output, and a significant drop in blood pressure and development of orthostatic hypotension, including negative pre-synkopal subjective symptoms, will not appear. Significant result of the study shows proven change (decrease) in systolic and diastolic blood pressure during the measurement time on a standard tilt table. There was not shown the decrease in systolic or diastolic blood pressure on the Erigo tilt table. Friedman and Wilcoxon test was used for the statistical analysis of data in the study.