Abstract

This thesis deals with measuring the effect of vibration with the Vibramoov® on the CNS of a critically ill patient. We hypothesized that vibration therapy could address the central nervous system and produce a targeted motor response. The predicted motor response was recorded with an accelerometer.

The theoretical part summarizes the issue of a critically ill patient in the departments of intensive medicine, the possibility of early rehabilitation and related early mobilization. The work assesses the consequences of the patient's health after hospitalization in these wards and discusses the trend of device physiotherapy and their effects associated with early rehabilitation. Furthermore, the thesis deals with motion control and motor programs are analyzed, whose activation and expression are examined in the practical part.

The practical part is conceived as a case report. Using the accelerometer, motor responses were detected during four vibration therapies using the Vibramoov® device. A 74-year-old man in a critical condition who was hospitalized after a craniotrauma caused by a fall of unclear etiology with the Glasgow coma scale 3-4 was observed.

Data from the accelerometer were statistically processed. The presence of a motor response was demonstrated by Student's t-test at a significance level of 0.05. In three of the four therapies the motor response was confirmed.

Keywords:

critically ill patient, early mobilization, device physiotherapy, vibration, motor programs