

It is important to maintain a posture via equilibrational and protective reactions in all activities of daily living. There is normal neurological finding in upper extremities in patients with a spinal cord injury in the area from Th1 to Th7, muscles of the thorax are paralysed under the level of the lesion and when there is a complete² damage of the upper pectoral spinal cord, abdominal muscles are always paralysed. There is an important part in a therapy of patients with a spinal cord lesion, which consists of an activation of the postural system by means of sensomotory stimulation exercise according to Janda called sitting on a cylinder. The aim of this study is to objectively evaluate the impact of the exercise on a cylinder on postural system of patients with lesion of postural muscles. Surface electromyography was chosen as the most suitable objective method. Special set of testing movements on a deckchair or on a cylinder was created. Selected patients were tested by exercises on a deckchair or on a cylinder before a stay in the centre. After a ten-day stay the patients are tested by the same set of exercises and evaluation of their muscular activities is performed. Results of our measurement lead to a conclusion, that sensomotory stimulation is valuable part of kinesiotherapy in patients with SCI in the subacute phase of the injury. By this therapy there is a higher possibility to influence central regulation circuits controlling the posture and to facilitate central pathways of motor system of hypoactive muscles (it is possible to activate even paralysed muscles). The pattern of postural activity can be changed by motor learning. The exercises on a cylinder is a valuable part of kinesiotherapy.