

## Bibliographic identification

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## Abstract

**Objectives:** To investigate and compare the graphesthesia, proprioception and somatognosis acuity in patients with chronic low back pain and a control group. The aim is to prove a deficit of these functions as a result of chronic pain and to find a possible influence of pain intensity and duration on sensorimotor control.

**Participants:** Twenty patients with chronic LBP (9 men and 11 women, average age  $47,3 \pm 8,9$  years) and 20 age- and sex-matched healthy controls participated in this study.

**Methods and Measures:** Several specific tests were used to investigate the graphesthesia, proprioception and somatognosis in both groups. All the probands filled the Short-Form McGill Pain Questionnaire and a questionnaire with basic anamnestic data. Differences between the experimental and control groups were measured and compared using two-tailed unpaired t-test.

**Results:** Differences exist among individuals with chronic LBP and healthy individuals in sensorimotor control. Statistically significant deficits ( $p < 0,05$ ) were found in the group of patients in functional tasks of graphesthesia and proprioception. A significant difference between subgroups of patients with lower and higher intensity of pain was proved in graphesthesia tests in the lumbar region and proprioception test in upper limb. Relationship between somatosensory functions and duration of pain was observed in graphesthesia accuracy in the lumbar region and in one test of somatognosis.

**Conclusions:** This study defines the sensorimotor deficits present in individuals with LBP compared to the healthy group.

## Keywords

sensorimotor control, low back pain, graphesthesia, proprioception, somatognosis, chronic pain