DAILY PHYSICAL ACTIVITIES OF PATIENTS WITH CHRONIC LOW BACK PAIN, ASSESSED WITH ACCELEROMETRY

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INTRODUCTION
Different theoretical models consider the development and maintenance of chronic low back pain (CLBP) have in common that they all predict changes in the daily activities, although the direction of change may differ between or within these models (hypo- versus hyperactivity). The objective of the present study was to investigate these changes, using accelerometers to obtain a quantitative measure of the activity patterns over the day.

METHODS
A cross-sectional study was performed in 30 patients and 20 controls. Daily activities were assessed by measuring body movement with a tri-axial accelerometer that was worn for seven consecutive days during waking hours in their own daily environment (in-doors and out-doors). Differences in activity level between patients and controls were investigated as well as differences over days and day parts. Besides the influence of work status on activity pattern over the day was investigated.

RESULTS
Results show that the overall activity level of patients (mean 0.73; sd 0.44) is not significantly different from those of controls (mean 0.70; sd 0.46) neither were the differences between days within both groups. However, patients show compared to controls a significantly different activity pattern over the day with significantly higher activity levels in the morning (p=0.000) and significantly lower activity levels in the evening (p=0.007). Work status had no influence on the activity patterns as no significant differences in activity patterns were found between leisure time and working time as well as between patients with different work status.

DISCUSSION
The overall activity levels are not different in CLBP patients compared to controls, but the distribution of activities over the day differs significantly. Work status doesn’t seem to influence the differences found in activity pattern between patients and controls.

CONCLUSIONS
The fact that patient with chronic low back pain are at an overall level not less active but do show a difference in distribution of activities over the day suggests that a treatment focusing on balancing this activity pattern could be of potential. A treatment worthwhile to explore might be an ambulant activity based feedback treatment in which subjects receive feedback about their daily activities multiple times a day.