

## **DIE PROPRIOZEPTION DER HALSWIRBELSÄULE VON ERWACHSENEN MIT NICHT-SPEZIFISCHEN CHRONISCHEN LUMBALEN RÜCKENSCHMERZEN IM VERGLEICH MIT GESUNDEN ERWACHSENEN**

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- Background** Despite its importance in posture and alignment of the trunk in relation to the head, there are no studies available investigating the relationship of neck proprioception and chronic non-specific low back pain (CNSLBP). The purpose of this study was to evaluate the relationship between neck proprioception and CNSLBP.
- Methods** Cervical joint reposition error was measured in neutral head position, 30° and 60° left and right head rotation, five times consecutively. The main outcome measure was the mean cervical joint repositioning error of the head.
- Results** Forty-six participants with (n=24, 54yrs ±16yrs SD, 14 females) and without (n=22, 36yrs ± 13yrs SD, 13 females) CNSLBP pain were included in the study. The results of the comparison of mean cervical joint repositioning error between patients and healthy controls showed no statistically significant group difference in any of the applied positions. The median and interquartile range in participants with CNSLBP compared to healthy controls with Mann-Whitney U-Test were: neutral head position: 3.27° (1.65-6.27) to 2.38° (1-58-3.22) with p=0.21, 60° left rotation: 1.57 (1.04-2.25) to 1.99 (1.13-2.54) with p=0.36, 30° left rotation: 2.05° (1.15-3.13) to 1.46° (1.03-2.48) with p=0.31, 30° right rotation: 2.70° (1.12-4.70) to 2.14° (1.51-4.19) with p=0.98, and 60° right rotation: 1.87° (1.09-3.24) to 2.26° (1.71-4.07) with p=0.23. An overshooting tendency for both groups was found for neutral head position. There was a statistically significant group difference for age in the current study (p<0.01).
- Conclusion** Physiotherapists should encourage people suffering from CNSLBP to go back to normal movement as soon as possible to avoid decreased mobility. This study can be seen as a step towards better understanding the nature and consequence of somatosensory impairment in CNSLBP. For future research, we recommend to concentrate more on neutral head position and on testing procedures like the trunk-to-head test.