

## **Abstract**

The main aim of the presented diploma thesis was to record objective and subjective changes after therapy with DNS concept in a group of 13 people with LBP. Moiré projection topography was used to record postural changes after 5.5 week therapeutic intervention. It was not clear, whether DNS exercise would help them to achieve visible postural changes and whether this technique is able to record these changes, which would mean that it is a suitable option for objectivisation of therapies focusing on correction of stabilisation and postural functions. Pedoscan was used for further objectivisation of the effect of DNS concept. The chosen correlate of the mentioned objective evaluation was Oswestry disability index, evaluating limitations of common everyday activities resulting from pain in the lower back, and the Numeric pain scale. Patients underwent 5 hour-long physiotherapeutic lessons, the recommended frequency of exercises in the household environment was 3-4 times per day. The probands exercised with the use of DNS concept according to the individual examination findings, especially in the area of the integrated spine stabilisation system. The data were statistically elaborated by Wilcoxon Signed-Rand test, which a non-parametric variant of the pair T-test. It is obvious from the results that there was a significant decrease in the intensity of the perceived pain of the lumbar spine and a significant reduction of the extent of limitations in the common everyday activities. A statistically significant positive change occurred in Moiré topographic parameters of Coronal imbalance VP-DM (mm), Kyphotic angle ICT-ITL (max) (°), Lordotic angle ITL-ILS (max), Rotation correction (pelvis) (°) and Scoliotic angle (°). Changes in the other measured parameters were not evaluated as statistically significant. A relationship between the subjective perception of the condition after DNS therapy and objectivised values obtained on Moiré and Pedoscan can be confirmed on the basis of the obtained results. Use of the Moiré topographic method was proven to be useful for objectivisation of the effect of therapy focusing on correction of stabilisation and postural functions. To find out, if it is enough to focus on DNS concept in therapy of LBP and if patient problems would be reduced in the long term, a more extensive longitudinal, controlled study is needed.