stratified at levels are shown in the Table 1. The kappa value for level L5/S1 was -0.18 and the kappa value for the levels L3/4 and L4/5 were 0.13 and 0.25 respectively. At levels L3/4 and L4/5 a total agreement of 40/63 was found.

Conclusion At level L5/S1 US does not seem to be of any diagnostic value. At the levels L3/4 and L4/5 US was in agreement with CT/MRI in about 2/3 of the patients and could be of potential use at these levels. Further investigations are needed to establish the role of US.

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OP0078 ASSESSMENT OF A BIOFEEDBACK PROGRAM TO TREAT CHRONIC LOW BACK PAIN

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Background Low back pain is a common problem that can affect up to 80% of adults during their lives. The symptoms of these chronic pain patients include affective, cognitive and behavioural components. Many interventions have been found to be beneficial in the rehabilitation of chronic low back pain patients, one of them is biofeedback.

Objectives Assess the efficacy of a biofeedback program for chronic low back pain patients and its impact in their pain, disabilities, and depression and anxiety symptoms; and promote higher abdominal muscles contraction levels without increasing paraspinal muscles contraction levels.

Methods Sixty patients with chronic low back pain were randomly assigned into a control and a treatment group and were oriented to take analgesics when necessary. The treatment group participated in a biofeedback program (8 weeks) that included: global relaxation training and abdominal strength exercises with and without biofeedback and cognitive restructuring techniques. The outcome measures used were Visual Analogue Scale (VAS), Roland-Morris questionnaire, Schöber Index, Beck Depression Inventory (BDI) and State-trait Anxiety Inventory (STAI) in the beginning and at the end of the observation period. Contraction (EMG) levels of abdominals and paraspinal muscles were registered in the beginning, after 1 month and at the end of the observation period.

Results At the end of the observation period treatment group patients improved significantly on VAS ($p = 0,012$) and STAI ($p = 0,003$). Roland-Morris questionnaire improved in both groups without differences between them (treatment $p = 0,0001$ and control $p = 0,006$). The control group improved significantly on BDI ($p = 0,013$). There were no differences in the contraction levels of abdominals and paraspinal muscles, and neither in the Shöber Index.

Conclusion Our biofeedback program reduced pain and anxiety symptoms of chronic low back pain patients. The disabilities improved in both groups. The program didn't change depression symptoms and the paraspinal contraction levels while contracting abdominal muscles

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OP0080 A RANDOMISED CLINICAL TRIAL OF THREE BACK MUSCLE REHABILITATION PROGRAMS FOR CHRONIC LOW BACK PAIN

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Background

Objectives The purpose of this study was to determine the efficacy (pain relief and functional outcome) and the effect on the cross-sectional area (CSA) of the lumbar multifidus in chronic low back pain patients (CLBP).

Methods To achieve this goal, fifty-nine patients were randomised into a 10-week stabilisation training (group 1, N = 19), a 10-week stabilisation training combined with dynamic resistance training (group 2, N = 20) and a 10-week stabilisation training combined with dynamic-static resistance training (group 3, N = 20). Prior to and after 10 weeks of training, the multifidus CSA's, were derived from standard CT images at three different levels (upper endplate of L3 and upper and lower endplate of L4). Pain relief and functional outcome were evaluated.

Results Comparing pre-post training, the CSA of the multifidus statistically increased in group 3 at all levels. In contrast, no statistical differences over time were found in group 1 and 2. Comparing the increases in CSA during the study, a statistical significant greater increase was observed in group 3 compared to group 1 and 2. After intervention, all groups showed a statistically significant reduction in pain and functional disability levels, without statistically significant difference among the three intervention groups.

Conclusion The results of this study suggest that stabilisation exercises and dynamic intensive lumbar resistance training have no significant effect on the CSA of the lumbar multifidus in CLBP patients. The static holding component, between the concentric and eccentric phase was found to be critical in inducing muscle hypertrophy during the first 10 weeks. On the basis of the pain and disability improvements all of the treatments were equally beneficial.