

ISPR8-2434

Effects of high intensity training on pain, disability, exercise capacity and muscle strength in persons with nonspecific chronic low back pain: Preliminary RCT results

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Introduction/Background Nonspecific chronic low back pain (NSCLBP) is a musculoskeletal disorder affecting many people worldwide. Exercise therapy (ET) is an important component of NSCLBP management. However, effect sizes remain low. High Intensity Training (HIT) is an effective training method for improving physical fitness and health related parameters in healthy persons as well as for decreasing pain and disability in persons with chronic disorders. The value of HIT in NSCLBP rehabilitation is unclear. The aim of this study is (1) to compare HIT to conventional ET, and (2) to compare the effects of different modes of HIT, with regard to pain, disability, exercise capacity, and muscle strength, in persons with NSCLBP.

Material and method A five-arm parallel RCT (n = 150) is carried out consisting of an ET program (24 sessions/12 weeks) organized at REVAL (Hasselt University, Belgium) in persons with NSCLBP. Participants are randomly assigned into one of four intervention groups performing various modes of HIT or a control group performing moderate intensity training resembling conventional care (Fig. 1). Participants are measured at baseline and after completing the program. Primary outcome measures are pain intensity (Visual Analogue Scale), functional disability (Oswestry Disability Index), exercise capacity (VO₂max during exercise testing), and abdominal and back strength (Newton/kg during isometric strength testing).
Results Forty-three persons with NSCLBP have completed the program (group average: n = 9). All outcomes showed time-related improvements in all groups (P > 0.001). No between group differences were noted in any outcomes.

Conclusion Preliminary data of this RCT suggest that HIT has positive effects on pain intensity, functional disability, exercise capacity, and isometric abdominal/back muscle strength, in persons with NSCLBP. Patient recruitment is still ongoing to increase the power of this study and further analyse the differences between HIT groups with specific modalities and conventional therapy.

Keywords Low back pain; Exercise therapy; High intensity training

Disclosure of interest The authors have not supplied their declaration of competing interest.



ISPR8-0307

Intradiscal glucocorticoid injection in chronic low back pain with Modic 1 changes

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Introduction/Background The profit of an intradiscal injection of corticoids in low back pain with Modic 1 changes is not totally resolved. The objectives of this work is to estimate the clinical profit at 1, 3 and 6 months after an intradiscal injection of prednisolone acetate versus a lidocain one in low back pain with Modic.

Material and method Fifty patients with low back pain in failure of the medical treatment for more than 6 weeks where included in this prospective, double blind, randomized study.

Results Pain intensity was significantly improved a 1 month in the prednisolone acetate group compared to the lidocain group. A significant difference is also observed at 1 and 3 months in the activities of the everyday life of DALLAS questionnaire in favour of the glucocorticoid group.

There was no significant difference, throughout the follow up on Oswestry evolution, consumption of analgesic or in professional condition.

Conclusion Intradiscal injection of prednisolone acetate in low back pain with modic 1 changes reduces pain intensity at 1 month but not at 3 and 6 months versus lidocain.

Keywords Modic; Low back pain

Disclosure of interest The authors have not supplied their declaration of competing interest.

<https://doi.org/10.1016/j.rehab.2018.05.037>

ISPR8-0249

Transcutaneous electrical nerve stimulation (TENS) versus physiotherapy for chronic low back pain

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Introduction/Background The objective of this study is: to analyse the effect in the long-term of (TENS) in chronic low back pain (CLBP) compared to physiotherapy, to improve the symptomatology, to delay the surgery or to avoid it and to reduce the number of sick-leave days.

Material and method Prospective and randomized study, from September 2010 until December 2016, compared two groups: 95 patients with CLBP treated by TENS versus 66 patients treated by physiotherapy (Infrared and Ultrasound). The duration of treatment was 12 weeks, 3 sessions a week/patient, evaluated by: pain intensity, visual analog scale (VAS), neurological signs, MRI, length of sick-leave and the recourse to surgery. Follow up time was 12 months.

Results In the short and long-terms, pain relief was significantly better in group "TENS" compared with group "physiotherapy" (P < 0.001). The average of sick leave was shorter in group TENS. However, in the two groups, the main radiological symptom was disc degeneration diseases.

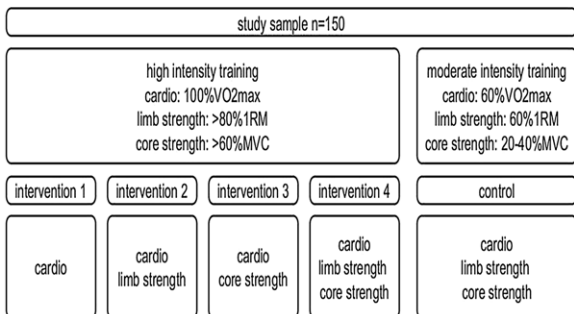


Fig. 1 Therapy protocols.

<https://doi.org/10.1016/j.rehab.2018.05.036>