Study of the validity and reproducibility of the Biering-Sorensen test in chronic low back pain

S. Chroubi (Prof)\textsuperscript{a,b,c}, S. Jribi (Dr)\textsuperscript{a,b}, J. Dammak (Prof)\textsuperscript{c}, A. Yahia (Prof)\textsuperscript{a,b}, W. Elleuch (Dr)\textsuperscript{a,b}, M. Chaaben (Dr)\textsuperscript{a,b}, J. Jdidi (Dr)\textsuperscript{c}, S. Ghroubi (Prof)\textsuperscript{a,b,*, S. Jribi (Dr)\textsuperscript{a,b}, J. Jdidi (Dr)\textsuperscript{c}, Sorensen test in chronic low back pain.

Objective
To examine the validity and the reliability of the Biering-Sorensen test in patients with chronic low back pain.

Material and methods
Fifty-nine subjects were included divided into 2 groups: the first group included 30 chronic low back pain patients and the second group included 29 healthy controls.

Results
Anthropometric data of all subjects in both groups were collected for comparability study. Construct validity was investigated with the use of the Spearman rank correlation coefficient (convergent and divergent validity). As for convergent validity, it was investigated via correlation between the Sorensen test and the Shirado test (\(r_p = 0.59, p < 0.001\)) and the Borg scale (\(r_p = 0.58, p < 0.001\)), the Borg scale (\(r_p = 0.4, p = 0.02\)), and the Shirado test (\(r_p = 0.59, p < 0.001\)).

Intra-rater reliability was assessed by use the intra-class correlation coefficient (ICC) and the Bland and Altman method.

Discussion
The Biering-Sorensen test demonstrated its good validity and his reliability in the evaluation of trunk muscles endurance. Consequently, this test could be recommended for the muscular assessment in the management of all patients with chronic low back pain.

Keywords
Chronic low back pain; Muscular endurance; Trunk extensor muscles; Sorensen test; Isokinetic

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

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Tumor necrosis factor-alpha blockade in recurrent and disabling chronic sciatica associated with post-operative peridural lumbar fibrosis: Results of a two-year, double-blind, placebo randomized controlled study

C. Nguyen (Dr)\textsuperscript{a,b,c}, C. Palazzo (Dr)\textsuperscript{c}, S. Grabar (Dr)\textsuperscript{b}, A. Feydy (Prof)\textsuperscript{b}, K. Sanchez (Dr)\textsuperscript{c}, N. Zee (Dr)\textsuperscript{b}, L. Quinquis (Dr)\textsuperscript{c}, M. Ben Boutieb (Dr)\textsuperscript{b}, M. Revel (Prof)\textsuperscript{a}, M.M. Lefe\`vre-Colau (Dr)\textsuperscript{b}, S. Poiraudeau (Prof)\textsuperscript{b}, F. Rannou (Prof)\textsuperscript{b}

Objective
To assess the efficacy and safety of tumor necrosis factor (TNF)-\(\alpha\) inhibition with infliximab (IFX) in treating recurrent and disabling chronic sciatica pain associated with post-operative peridural lumbar fibrosis.

Methods
A double-blind, randomized, placebo controlled study randomized 35 patients presenting sciatica pain associated with post-operative peridural lumbar fibrosis.

Results
Outcome was a 50% reduction in sciatica pain on visual analog scale.
CO24-004-e Assessing the perception of movements in subjects with chronic pain using altered virtual feedback

C. Mercier (Prof)*, M. Roosink (Dr), B.J. McAdyzen (Prof), L.J. Hébert (Prof), P.L. Jackson (Prof), L. Bouyer (Prof)
Centre interdisciplinaire de recherche en réadaptation et intégration sociale (CIRRIS), université Laval, Québec, Canada
*Corresponding author.
E-mail address: catherine.mercier@rea.ulaval.ca (C. Mercier)

Objective Chronic pain is often associated with body perception disturbances, but these have generally been assessed under static conditions. The objective of this study was to use a “virtual mirror” that scaled visual movement feedback to assess body perception during active movement.

Methods This study was performed in military subjects with chronic non-specific low back pain (CNSLBP; n = 15) and military healthy control subjects (n = 15). Subjects performed a trunk flexion task in front of a large screen displaying a full-body virtual mirror-image (avatar) in real-time. Avatar trunk movements were scaled to appear greater, identical, or smaller than their own movements. Based on this two-alternative forced choice paradigm, a psychophysical curve was fitted to the data for each subject, and several metrics were derived from this curve.

Results Groups displayed a similar ability to discriminate between different levels of movement scaling. Still, subjects with CNSLBP showed an abnormal performance and tended to overestimate their own movements (shifted psychophysical curve).

Discussion These results extend previous work in patients with CNSLBP, and denote an important relationship between body perception, movement and pain. As such, the method developed in this study can offer new avenues for understanding and managing body perception disturbances and abnormal movement patterns in patients with pain. A similar method is currently being implemented for the assessment of perception of upper limb movements in individuals with complex regional pain syndrome. It could also potentially be extended to therapeutic applications, to help patients with kinesiophobia to overcome their fear of moving.

Keywords Virtual reality; Robotics; Chronic pain; Proprioception; Low back pain

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

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CO24-005-e Evaluation of therapists’ individual characteristics’ influence on recommendations to CLBP patients

C. Burris (Dr)*, J. Ducki b, M.L. Connaissa b, B. Leger b, P. Terrier b, P. Vuistiner b, F. Luthi (Dr)c
a Clinique romande de réadaptation SuvaCare, 1950 Sion, Switzerland
b Institut de recherche en réadaptation, 1950 Sion, Switzerland
c Service de réadaptation de l’appareil locomoteur, clinique romande de réadaptation Suvacare, 1950 Sion, Switzerland
*Corresponding author.
E-mail address: cyrille.burris@crr-uva.ch (C. Burris)

Introduction This study measured different therapists’ biopsychosocial parameters and their influence on treatment recommendations for chronic low back pain (CLBP) patients. Based on previous studies and with a biopsychosocial approach, this work aimed to understand the variations in recommendations depending on personal dispositions.

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(15) 0.05).

Discussion Parameters’ reproducibility is different depending on the system. The 3D reconstruction with sterEOS® was faster than with BIOMODTM3S. The reproducibility of BIOMODTM3S is less influenced by observer’s experience.

Keywords 3D Reconstruction; Spine; Scoliosis; X-ray

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

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