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Innovation

Development, validity and reliability of a new pressure air biofeedback device (PAB) for measuring isometric extension strength of the lumbar spine

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This stu ice, using
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(LBP) pe in this
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(kg) duri ay tests of
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compare V) and to

measure the reliability of PAB®. A highly significant relationship were found between air pressure output (mb) and calibrated weights (kg). In addition, Pearson correlation calculations showed a significant relationship between PAB® force (mb) and EMG activity (μV) for all subjects (n = 42) examined, as well as for the asymptomatic group (n = 24). No relationship was detected for the LBP group (n = 18). In terms of lumbar extension strength, we found that asymptomatic subjects were significantly stronger than LBP subjects. The results of the PAB® test differentiated between LBP and asymptomatic subject's lumbar isometric extension strength without any risk to the subjects and also indicate that the lumbar isometric extension test with the new PAB® device is reliable and valid.

Keywords:

PAB® | air pressure | isometric strength | low back pain (LBP) | reliability

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