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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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Pages 216-222 | Received 10 Sep 2015, Accepted 20 Oct 2016, Published online: 14 Nov 2016

 Cite this article  <https://doi.org/10.1080/03091902.2016.1253794>

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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 (μ V) 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

Acknowledgements

Sincere appreciation is extended to electronics engineer, Mr Gary Webster (Webtex, Pinetown, South Africa) for the software development of the PAB[®] device.

Disclo

The author declares that there is no conflict of interest for the content of this article.



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