



Journal of Exercise Rehabilitation

Congratulations

Jad Adrian Washif
Jorg Teichmann
Lian-Yee Kok
Dietmar
Schmidbleicher

JOURNAL OF EXERCISE REHABILITATION,
doi: <https://doi.org/10.12965/jer.1836532.266>

PUBLISHED DATE: FEB 2019

Using stochastic resonance and strength training as part of a rehabilitation programme for recurrent low back pain treatment: A case study

Low back pain (LBP) is a common disabling health problem that can cause decreased spine proprioception. Stochastic resonance (SR) can influence detection performance, besides improving patients with significant sensory deficits, but have not been thoroughly tested for LBP. This study aimed to examine the application of SR therapy (SRT) and strength training for LBP treatment. The subject was a resistance-trained male in his early thirties. His back pain was unbearable after a strength training session. Standard pain relief alleviated the pain but the LBP developed at a similar intensity after 4 weeks. SRT (4–5 sets × 90 sec, 30-sec rest interval, supine position) was prescribed along with other exercises for 3 weeks (phase 1), and followed by tailor-made strength training for 16 weeks (phase 2). The Oswestry Disability Index was 66.7% (interpreted as “crippled”) prior to first SRT, and reduced to minimal levels of 15.6% and 6.7% after four and seven SRT sessions, respectively.

Similarly, pain intensity was ranging from 5 to 9 (distracting-severe) of the Numeric Rating Scale (NRS-11) prior to the first session but this was reduced considerably after four sessions (NRS-11: 0–1). During phase 2, the patient performed without complaining of LBP, two repetitions of bench press exercise at a load intensity of 1.2 his body weight and attained 4 min of plank stabilisation. This LBP management strategy has a clinically meaningful effect on pain intensity, disability, and functional mobility, by receding the recurrent distracting to severe LBP.



Authors

Jad Adrian Washif¹, &
Jorg Teichmann²,
Lian –Yee Kok³,
Dietmar Schmidtbleicher⁴

Affiliations

¹Sports Performance Division, National Sports Institute, Kuala Lumpur, Malaysia

²Sports Medicine Division, National Sports Institute, Kuala Lumpur, Malaysia

³Department of Sport Studies, Universiti Putra Malaysia, Serdang, Malaysia

⁴Department of Sport Science, Johann Wolfgang Goethe University, Frankfurt, Germany



Keywords: Back pain | Muscular strength | Sensory neuron | Stabilisation