

## Chronic and Sub-Acute Lumbosacral Radiculopathies Behave Differently to Repeated Back Extension Exercises

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**Abstract :** Background: Repeated back extension exercises (RBEEs) are among the management options for symptoms associated with lumbosacral radiculopathy (LSR). RBEEs have been reported to cause changes in the distribution and intensity of radicular symptoms caused by possible compression/decompression of the compromised nerve root. Purpose: The purpose of this study was to investigate the effects of the RBEEs on the neurophysiology of the compromised nerve root and on standing mobility and pain intensity in patients with sub-acute and chronic LSR. Methods: A total of 40 patients with unilateral sub-acute/chronic lumbosacral radiculopathy voluntarily participated in the study; the patients performed 3 sets of 10 RBEEs in the prone position with 1 min of rest between the sets. The soleus H-reflex, standing mobility and pain intensity were recorded before and after the RBEEs. Results: The results of the study showed that the RBEEs significantly improved the H-reflex, standing mobility and pain intensity in patients with sub-acute LSR ( $p < 0.01$ ); there was not a significant improvement in the patients with chronic LSR ( $p < 0.61$ ). Conclusion: RBEEs in prone position is recommended for improving the neurophysiological function of the compromised nerve root and standing mobility in patients with sub-acute LSR. Implication: Sub-acute and chronic LSR responded differently to RBEEs. Sub-acute LSR appear to have flexible and movable disc structures, which could be managed with RBEEs.

**Keywords :** h-reflex, back extension, lumbosacral radiculopathy, pain

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