



JOURNAL OF EXERCISE SCIENCE AND PHYSIOTHERAPY

Indexed, Peer Reviewed, Referred

Since 2005



Immediate Effect of Lumbopelvic Correction Techniques on Tibial Nerve Parameters in Healthy Individuals

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Abstract

Background: Lumbopelvic is a specific instance of coordinated, simultaneous activity lumbar flexion and anterior pelvic tilting during trunk flexion and extension. The mechanism of spinal manipulation is theorized to be mediated by the nervous system. The question lies in how a very quick, dynamic, mechanical thrust could change the sensory output to the nervous system. **Materials and Methods:** The study was a single group pre- test and post- test study including 100 subjects who fulfill the inclusive and exclusive criteria with simple random sampling. Pre and Post NCV of right and left tibial nerve were taken along with giving lumbopelvic manipulation. **Results:** The results showed that a single session of lumbopelvic manipulation significantly improved tibial nerve conduction velocity. Post-intervention the nerve conduction velocity increased on both sides (Right CV = 51.05 ± 6.08 m/s; Left CV = 49.85 ± 6.12 m/s) compared to pre-intervention values (Right CV = 47.00 ± 4.87 m/s; Left CV = 46.73 ± 7.41 m/s). Although amplitude values showed improvement following intervention but the changes were not statistically significant. **Conclusion:** This study concluded that there is considerably significant improvement in the conduction velocity of the tibial nerve when lumbopelvic manipulation was given in healthy individuals.

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Key words: Lumbopelvic, spinal manipulation, NCV, healthy individuals

DOI: 10.18376/jesp/2026/v22/i2/47768

Introduction

Lumbopelvic is a specific instance of coordinated, simultaneous activity lumbar flexion and anterior pelvic tilting during trunk flexion and extension. It is a combination of lumbar and pelvic movements (Cailliet 1966). The lumbopelvic part consists of 13 to 15 vertebrae. The 5 lumbar vertebrae are regarded as the true or movable vertebrae, but the 5 sacral and 3 to 5 coccygeal vertebrae are referred to as the false or fixed vertebrae because they merge to produce the 2 adult bones of the sacrum and coccyx (Hodges and Richardson 1996). Incontinence, SI joint discomfort and other (LPD) lumbopelvic region dysfunction, such as LBP, are quite prevalent in today's culture. One of the major risk factor for these