

The Immediate Effects of Thrust Manipulation for Thoracic Hyperkyphosis

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Abstract : Thoracic hyperkyphosis, is a well-known spinal phenomenon, refers to an excessive curvature (> 40 degrees) of the thoracic spine. The aim of this study was to explore the effectiveness of thrust manipulation on thoracic spine alignment. 31 young adults with hyperkyphosis diagnosed with Spinal Mouse® device were randomly assigned either thrust manipulation group (n=16, 11 female, 5 male) or sham manipulation group (n=15, 8 female, 7 male). Thrust and sham manipulations were performed by a blinded physiotherapist who is a certificated expert in musculoskeletal physiotherapy. Thoracic kyphosis degree was measured after the interventions via Spinal Mouse®. Wilcoxon test was used to analyse the data obtained before and after the manipulation for each group, whereas Mann-Whitney U test was used to compare the groups. The mean of baseline thoracic kyphosis degrees in thrust and sham groups were 50.69 ± 7.73 and 48.27 ± 6.43 , respectively. There was no statistically significant difference between groups in terms of initial thoracic kyphosis degrees ($p=0.51$). After the interventions, the mean of thoracic kyphosis degree in thrust and sham groups were measured as 44.06 ± 6.99 and 48.93 ± 6.57 respectively ($p=0.03$). There was no statistically significant difference between before and after interventions in sham group ($p=0.33$), while the mean of thoracic kyphosis degree in thrust group decreased significantly ($p=0.00$). Thrust manipulation can attenuate thoracic hyperkyphosis immediately in young adults by not using placebo effect. Manipulation might provide accurate proprioceptive (sensory) input to the spine joints and reduce kyphosis by restoring normal segment mobility. Therefore thoracic manipulation might be included in the physiotherapy programs to treat hyperkyphosis.

Keywords : hyperkyphosis, manual therapy, spinal mouse, physiotherapy

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