

CHIROPRACTIC & HEALTH: A Natural Connection

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Landmark Paper on Biomechanics of Chiropractic Adjustment Proves Safety and Effectiveness

KEY FINDINGS

“Combined, the results of this study suggest that spinal manipulative treatments produce stretches of the vertebral artery [in the neck] that are much smaller than those that are produced during normal everyday movements, and thus they appear harmless.”

“There was substantial relative movement of the target and adjacent vertebrae during the preload phase, and there was further relative movement of target and adjacent vertebrae during the thrust phase of the manipulative treatment. This result illustrates that there is movement of the target (facet) joint during thrust application beyond the movement achieved by the preload force.”

“Finally, patients presenting with spastic muscles showed EMG activity in the muscles of the treatment area. When subjected to a HVLA treatment thrust, the muscles relaxed, and EMG activity was abolished.”

CLINICAL IMPORTANCE

Key Concepts and Take-Home Points:

1. Although the amount of force varies by clinician and spinal region, there is a consistent duration of thrust and thus, the force-time curve is very consistent for all thrust adjustments/SMTs regardless of clinician or site of application. Chiropractic adjustments are highly standardized in terms of force-time curve and thus in terms of beneficial neurophysiological response/benefit.
2. There is consistent significant relative movement of targeted segments, and often adjacent segments, during chiropractic thrust adjustment/SMT. The claim that chiropractic adjustment/SMT moves the targeted segments is validated – chiropractic adjustments are specific which makes the identification of restricted segments, a skill only chiropractors spend years learning, all the more important.
3. There is a significant difference between the elicited neurological activity from thrust adjustment/SMT vs non-thrust mobilizations. Only thrust adjustment/SMT elicits this beneficial neurological activity. Chiropractic thrust adjustment/SMT is NOT synonymous with non-thrust mobilizations from other practitioners.
4. This elicited neurological activity is thrust dependent and not cavitation or “joint crack” dependent. It is the specific thrust delivered to specific segments that elicits the unique benefit from segment-specific chiropractic adjustments not the “cracking” noise. The cracking noise is neither harmful nor required.
5. Chiropractic thrust adjustment/SMT results in less stretch/strain on the vertebral arteries in the neck than diagnostic tests or normal activities of daily living. Chiropractic adjustments are SAFE.

Herzog, W. PhD (2010) The Biomechanics of Spinal Manipulation Journal of Bodywork and Movement Therapies 14, 280-286.

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