

The Effect of Chiropractic Adjustments on Movement Time: A Pilot Study Using Fitts Law

Objective: To investigate the effect of chiropractic adjustments on movement time using Fitts Law.

Methods: This was a prospective, randomized controlled trial. Ten patients from a private chiropractic practice participated. Participants in the treatment group received high-velocity, low-amplitude chiropractic adjustments to areas of joint dysfunction (chiropractic subluxation). A nonintervention group was used to control for improvement resulting from time and practice effects.

Movement time was measured as participants moved a cursor onto a target appearing on a computer screen. A range of target widths and target distances were used to vary the index of difficulty.

Results: All participants in the experimental group had significantly improved movement times following spinal adjustments compared with only 1 participant in the control group. The average improvement in movement time for the experimental group was 183 ms, a 9.2% improvement, whereas the average improvement in movement time for the control group was 29 ms, a 1.7% improvement. The difference (improvement) scores after the intervention were significantly greater for the chiropractic group compared with the control group as measured by a 2-tailed independent samples t test ($P < .05$).

Conclusion: The results of this study demonstrated a significant improvement in movement time with chiropractic care. These results suggest that spinal adjustments may influence motor behavior.