

## Chronic Recurrent Ankle Sprain: A Randomized Clinical Trial Studying the Impact of Two Treatment Protocols

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**Introduction:** Ankle injuries account for 23,000 US inversion sprains daily and 85% involve lateral ligaments. Inversion sprains cause pain, swelling, stiffness, instability, and predisposition to reinjury. Untreated, these become risk factors for reinjury. This randomized clinical trial compared ankle manipulation (group 1) versus muscle energy technique mobilization (MET) (group 2) in the treatment of mild to moderate, chronic recurrent ankle inversion sprain, or ankle instability syndrome (AIS).

**Methods:** Seventy-one AIS candidates, ages 18 to 50, were examined and 40 were included. Twenty were randomized to manipulation and 20 to MET. The primary outcome measure was the one leg standing test (OLST); secondary measures included the numerical (pain) rating scale-101 (NRS-101), inclinometer, the functional evaluation scale (FES), and the short-form McGill pain questionnaire (SFMPQ). Six treatments over 3 weeks were delivered. Outcome measures were

collected at baseline and at the 4th and the follow-up 6th visit.

**Results:** No difference was detected between groups. Post-hoc power suggested that  $N = 40$  was too small to detect differences. Resources did not allow for a blind assessor. Therefore, no efficacy extrapolation between groups should be made. However, Kolmogorov-Smirnov tests demonstrated normal data. Consequently, paired  $t$  tests demonstrated significant and clinically meaningful changes for the OLST, NRS-101, SFMPQ, dorsiflexion, and FES at  $p \leq .05$ . The OLST was  $\geq 10$  seconds, which suggests a centrally mediated positive neurological effect on the function of the locomotive system.

**Conclusions:** Ankle manipulation and mobilization significantly increased balance, range of motion, and function. Both decreased pain, appearing beneficial in short-term AIS treatment. Further research is merited.

## Chiropractic Care for Patients with Asthma: A Systematic Review of the Literature

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**Objective:** To provide a systematic review and annotated bibliography and to rate the quality of published studies regarding chiropractic care, including spinal manipulation, for asthmatic patients.

**Methods:** A multimodal search strategy was conducted, including multiple database searches, along with reference and journal hand-searching. Studies were limited to those published in English and in peer-reviewed journals or conference proceedings between January 1980 and March 2009. All study designs were considered except personal narratives or reviews. Retrieved articles that met the inclusion criteria were rated for quality by using the Downs and Black checklist. An annotated bibliography was also written of each retrieved study.

**Results:** Eight articles met the inclusion criteria of this review in the form of one case series, one case study, one survey, two randomized controlled trials, one randomized patient and observer-blinded cross-over trial, one single-blind cross-study design, and one self-reported impairment questionnaire. Their quality scores ranged from 5 to 22 out of 27.

**Conclusion:** Results of the eight retrieved studies indicated that chiropractic care showed improvements in subjective measures and, to a lesser degree, objective measures, none of which were statistically significant. It is evident that some asthmatic patients may benefit from this treatment approach; however, at this time, the evidence suggests chiropractic care should be used as an adjunct, not a replacement, to traditional medical therapy.

## Chiropractic Care of a Student Athlete with Lumbar Disc Herniation, Sacroiliac Joint Dysfunction, Spina Bifida Occulta, and Clasp-Knife Syndrome

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**Objective:** Chiropractors frequently treat lumbar disc pathology in practice, but typically in adult patients. This case involves a 16-year-old football player diagnosed with an L5 disc herniation in association with sacroiliac joint dysfunction, spina bifida occulta, and clasp-knife syndrome.

**Clinical Features:** A 16-year-old male high school football player with a history of chronic low back pain and multiple traumas sought care for his chronic low back pain. Radiographic examination showed a nonunion at S1, and MRI examination showed a disc herniation at L5-S1. Diagnosis