

OTZ Tension Adjustments for Frozen Shoulder Syndrome: A retrospective case series of 50 patients[☆]

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Introduction: Frozen Shoulder Syndrome (FSS) is a condition characterized by a restricted and painful arc of the shoulder that can persist for months to years, and has a high co-morbidity rate with diabetes mellitus, Parkinson disease, hypothyroidism, and stroke. It is speculated that with FSS there is a breakdown of the entire dynamic shoulder complex, but particularly of the scapulothoracic joint mediated by neuropathology of cranial nerve 11 causing malfunction of the trapezius muscle. The purpose of this paper is to describe the outcomes of patients presenting to a private chiropractic practice specializing in the treatment of FSS using the OTZ Tension Adjustment.

Methods: Case files of 50 consecutive new patients presenting with FSS between May 2007 and March 2008 were reviewed retrospectively. Two primary outcomes were extracted each at 2 points, upon initial examination and at the final evaluation: (1) the 11-point Numeric Pain Rating Scale (NPRS), which has been shown to be a valid and reliable measure in patients with shoulder pain, and (2) the percentage change in shoulder abduction, with 100% improvement meaning the patient achieved the norm of 180° of painfree active abduction. Each patient received a series of specific chiropractic adjustments focusing on the cervical and thoracic spine, especially the atlanto-occipital joints, cervicothoracic junction and the ribs. The specific technique used was the OTZ Tension Adjustment (OTZ Health Education Systems, Dallas, TX).

Results: Of the 50 case files reviewed, 40% were male ($n = 20$) and 60% were female ($n = 30$), and all were between ages 40 and 70 years. The median number of days in the treatment program was 28 days, with a range of 11–51 days. The median initial NPRS score was 9 out of 10 with a range of 7–10. The median final NPRS score was 2 with a range of 0–10. The median change in NPRS score was –7 with a range of 0 to –10. Of the 50 cases, 16 resolved completely, regaining 180° of painfree active shoulder abduction. Another 25 showed 75–90% improvement in active abduction, 8 showed 50–75% improvement, and 1 showed 0–50% improvement.

Discussion: The results of this study are encouraging in that many of these patients' complaints were resolved or greatly improved within 1 month of presentation, whereas in general it is thought that FSS symptoms can persist for 2 years or more. The limitations of this study are those for any case series, such as, the management of these patients occurred with a private chiropractic practice and, therefore, was an uncontrolled environment. Caution is urged when drawing definitive conclusions from these results or when generalizing to other patients. This study would have been strengthened by the reporting of the length of time the patients had the FSS symptoms before presentation.

Conclusion: This retrospective analysis of the outcome of treatment using the OTZ Tension Adjustment for FSS was reported with encouraging results. Future research is warranted and should consist of experimental clinical trials testing the effectiveness of the OTZ Tension Adjustment in a controlled setting.

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Effects of manipulative therapy on the expressions of NADPH-diaphorase and nitric oxide synthase in the spinal motor neurons after right knee joint immobilization in the guinea pig[☆]

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Introduction: Chiropractic manipulative therapy can be helpful in alleviating some of the pain in knee joint problems; however, studies on the effects of chiropractic manipulative therapy in knee joint problem are rare. Recent interest in nicotinamide adenine dinucleotide phosphate-diaphorase (NADPH-d) and nitric oxide synthase (NOS) has focused on its expression in motor neurons in the central nervous system (CNS) after peripheral nerve injury. The induction and up-regulation of NADPH-d and NOS have been suggested to be related to neuronal degeneration. The aim of the present study was to investigate effects of manipulative therapy in neurochemical changes of NADPH-d and NOS of the spinal motor neurons after right knee joint