

THE EFFECTS OF MANUAL THERAPY FOR TREATMENT OF OVERHEAD ATHLETES: A SYSTEMATIC REVIEW

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ABSTRACT

Background: Physical therapists commonly use manual therapy to improve shoulder range of motion. Manual therapy was investigated to determine its effectiveness in improving range of motion in overhead athletes. **Objective:** The objective of this systematic review is to investigate the effects of manual therapy techniques versus other therapy treatments on improving range of motion in overhead athletes. **Methods:** A systematic search of PubMed, Embase, and PEDro databases using search terms related to manual therapy, shoulder, overhead athletes, and volleyball were combined with Boolean operators. The results were limited to English articles published within the last 5 years. Full text articles that remained after a title, abstract and full text screen were included. **Results:** The initial search yielded a total of 419 articles which were screened based on specific inclusion criteria. Following a title screen, abstract screen, and full text screen, eight articles fit the inclusion criteria defined and were included for review. Of the eight articles included, seven reported significant results of improving range of motion with some form of manual therapy. **Conclusion:** The results support the benefit of administering various forms of manual therapy to an overhead athlete's physical therapy program to further improve shoulder range of motion.

Keywords: overhead athlete, manual therapy, shoulder, volleyball, baseball, tennis, range of motion, instrument assisted soft tissue mobilization, stretching

INTRODUCTION

Shoulder range of motion deficits is a common problem in overhead athletes. These deficits can increase the risk of injury in these athletes. Webster's Medical Dictionary defines an overhead athlete as "one who uses their upper arm and shoulder in an arc overhead to propel a ball toward the opposing team [1]." Range of motion (ROM) deficits are common in overhead athletes due to the repetitive stress that occurs at the glenohumeral joint [2]. These extreme stresses may potentially alter and cause "micro trauma" to the soft tissues of the shoulder joint [3]. While there are numerous sporting activities that require overhead shoulder mobility, the sports of focus for this systematic review were tennis, volleyball, baseball and softball. The action of overhead throwing requires a great amount of skill, and repetition of this movement is a major cause of shoulder pain and injuries in these athletes [4].

The purpose of this systematic review was to examine the effectiveness in manual therapy techniques in improving shoulder ROM in overhead athletes. The American Physical Therapy Association defines manual therapy as "skilled hand movements and skilled passive movements of joints and soft tissue and are intended to improve tissue extensibility, increase range of motion, induce relaxation mobilize or manipulate soft tissue and joint, modulate pain, and reduce soft tissue swelling, inflammation, or