

## ORIGINAL RESEARCH

## PASSIVE ROTATION RANGE OF MOTION AND SHOULDER SUBLUXATION: A COMPARATIVE STUDY

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## ABSTRACT

**Background.** Conflicting reports of range of motion (ROM) findings exist related to shoulder instability. Knowledge of range of motion findings among individuals with shoulder subluxation may aid in diagnosis and facilitate appropriate management.

**Purpose.** The purpose of this study was to compare passive rotation ROM and determine if a symptom-provoking activity alters ROM between patients with shoulder subluxations and healthy controls.

**Methods.** Seventeen symptomatic patients with shoulder subluxations and 14 healthy controls between the ages of 18 and 35 years were recruited. Lateral and medial rotation ROM measures were taken using a universal goniometer. Symptoms were assessed using a 10cm visual analog scale (VAS). Each group performed a symptom-provoking activity, and VAS and ROM measures were repeated.

**Results.** A two-factor analysis of variance with repeated measures on pre/post activity demonstrated lower medial rotation measures for the instability group, but no differences for lateral rotation or total range ( $p < 0.05$ ). A "warm-up" effect was noted, with greater ROM found in each group post activity, with a greater increase noted among

controls. Analysis of the ratio of lateral rotation to medial rotation ROM found a significantly greater ratio in the instability group. VAS pain scores were greater in the instability group.

**Conclusion.** Shoulder subluxation is not necessarily associated with increased rotation ROM, therefore total ROM findings should not be used to screen for instability. Imbalances in rotation ROM may be associated with symptomatic shoulder instability and may have implications for treatment.

**Key Words:** atraumatic, instability, multidirectional

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