

Musculoskeletal

Rotator cuff pathology and shoulder mechanics

Do the arthrokinematics and muscle activity differ in patients with rotator cuff pathology?

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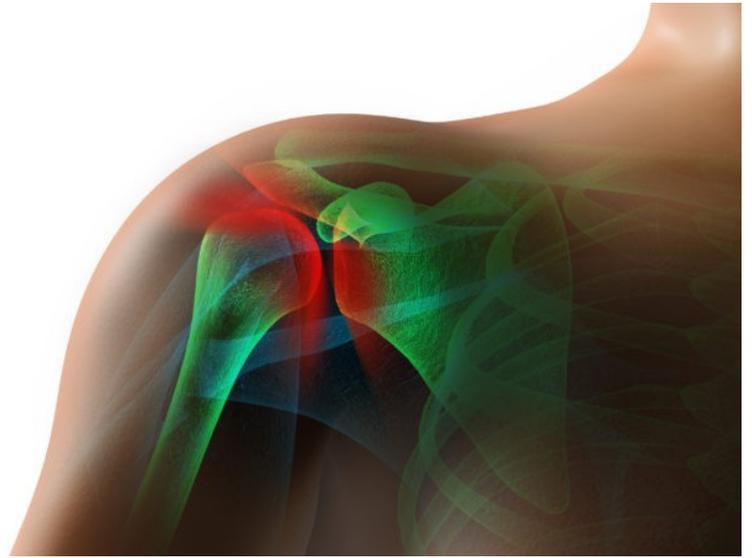
Rotator cuff tears are a common finding in those with shoulder pain and disability.

This study sought to find any differences in the glenohumeral joint (GHJ) translation and muscle activation patterns in those who are experiencing pain in the shoulder in the presence of a confirmed rotator cuff tear compared to those who don't have pain and a rotator cuff tear.

20 shoulders affected by rotator cuff pathology and 20 healthy shoulders were included.

The tested arm was positioned using various straps and orthoses to help the participants not to use muscular activity unless directed to. Intramuscular electrodes were inserted to measure rotator cuff activities and a real time ultrasound was used to measure the GHJ translation.

A hand held dynamometer was used to place the various forces to cause GHJ translation with the shoulder in various positions in relaxed or resisted into an internal or external rotation.



The study revealed increased posterior translation in the pathology group in the abducted and neutral positions. It was also found that, when the posterior translation force was applied, there was reduced muscle activity in the supraspinatus and upper infraspinatus muscles.

The study concluded that GHJ stabilization lacked in the pathology group compared to the control group.

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