

Humeral Insertion of the Supraspinatus and Infraspinatus – New Anatomical Findings Regarding the Footprint of the Rotator Uuff –

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Background

The atrophy of the infraspinatus muscle is frequently observed in patients with even small to medium-size rotator cuff tears. This fact cannot be fully explained by our current understanding of the anatomical insertions of the supraspinatus and infraspinatus. The purpose of this study was to reinvestigate the humeral insertions of these tendons.

Methods

The study included 113 shoulders from sixty-four cadavers. The humeral insertion areas were investigated in ninety-seven specimens. In sixteen specimens, all muscular portions of the supraspinatus and infraspinatus were removed, leaving the tendinous portions intact.

Another twenty-six shoulders were used to obtain precise measurements of the footprints.

Results

The supraspinatus had a long tendinous portion in the anterior half of the muscle, which always inserted into the anteriormost area of the highest impression on the greater tuberosity and which inserted into the lesser tuberosity in 21%. The infraspinatus had a long tendinous portion in the superior half of the muscle, which curved anteriorly and extended to the anterolateral area of the highest impression.

Clinical Relevance

The present study suggests that rotator cuff tears that were previously thought to involve only the supraspinatus tendon may have had a substantial infraspinatus component as well.

(196 words)