

Isolated Subscapularis Tendon Tear in the Elderly

A Case Report

Austin Davis, BS, Shane Davis, MD, Shahira Khoury, MD
University of California Irvine, Irvine, CA

Introduction

The etiology of a rotator cuff tear (RCT) in an elderly patient is fundamentally different from that of a younger patient. The likelihood of rotator cuff tears increases with age and typically occurs as part of the degenerative process of aging as opposed to a traumatic mechanism, with rates as high as 80% in patients older than 80 years of age.¹ In addition, elderly patients tend to have larger tears, with a reported prevalence of full-thickness RCT of 50% in patients greater than 70 years old, with higher degrees of muscle atrophy and fatty infiltration.^{2,5} Of the four tendons composing the rotator cuff, tears of the subscapularis (SSC) tendon are comparatively uncommon, making up approximately 31.4% to 37% of RCT patients.³ Management of an SSC tear is widely divided between nonsurgical and surgical treatment, particularly in elderly patients. Although several studies have reported successful results after surgery, others have shown that age and initial tear size are negative factors associated with impaired tendon healing.⁴ When conservative management is indicated, rehabilitation programs have been shown to strengthen the shoulder and is often supplemented by steroid injections.⁶ The methodology of treatment should be guided by the patient's symptoms, functional demands, and reparability of the SSC tear.

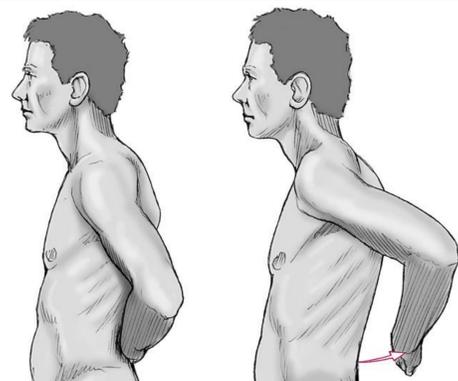


Figure 1: The lift-off test is done to assess tears of the subscapular muscle. Abnormal motion in the scapula during the test may indicate scapular instability.

Case

A 77-year old male presented with one week of left shoulder pain. While descending a set of stairs, he tripped and caught himself with his outstretched left arm on a nearby railing. He heard a “snap” followed by immediate pain described as “deep inside the shoulder joint”. He reported pain and weakness when reaching behind his back. Examination revealed bicipital groove tenderness and positive lift-off test but was otherwise unremarkable. X-ray was negative for acute fracture or joint dislocation, and an in-clinic ultrasound confirmed an isolated subscapularis tear, which was later confirmed with an MRI (Figure 2).

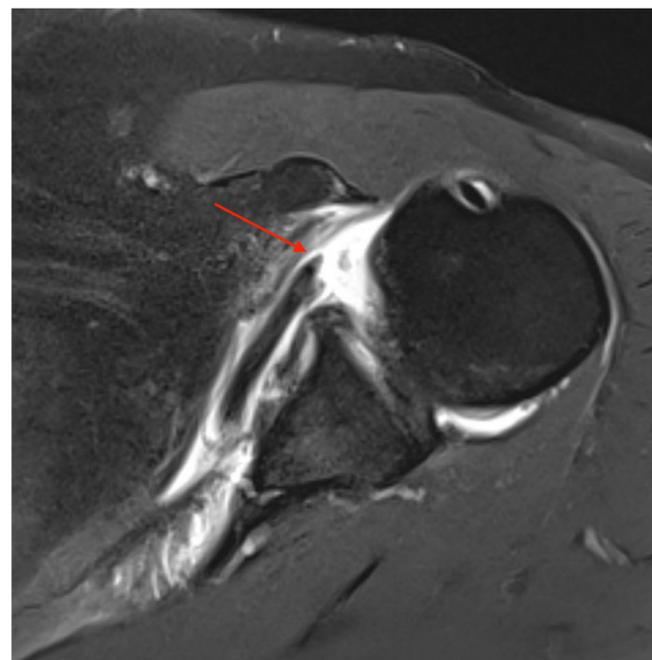


Figure 2: Full-thickness, full-width tear of the subscapularis with 2.7 cm of tendon retraction and significant intermuscular edema.

Discussion

The subscapularis is one of four muscles that make up the rotator cuff and acts to internally rotate the shoulder and stabilize the scapula. While rotator cuff tears are common in geriatric populations, they typically involve the supraspinatus or infraspinatus, rarely presenting as isolated tears of the subscapularis. Furthermore, subscapularis tears in the elderly are commonly due to age-related degeneration as opposed to a traumatic incident seen more frequently in younger patients. Weakness on the lift-off test (Figure 1), a maneuver in which the patient attempts to lift their hand away from their back, indicates scapular instability and a tear of the subscapularis, which can be confirmed with MRI or ultrasound imaging. In cases where the patient is unfit or unwilling to undergo surgery, common conservative treatments involve corticosteroid injections for pain and physical rehabilitation to strengthen and support the affected shoulder.

Conclusion

Isolated subscapularis tears are rare in elderly patients but should be considered in patients with anterior shoulder tenderness and positive lift-off test.

References

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