

# Infraspinatus muscle atrophy in a 23-year-old hockey player

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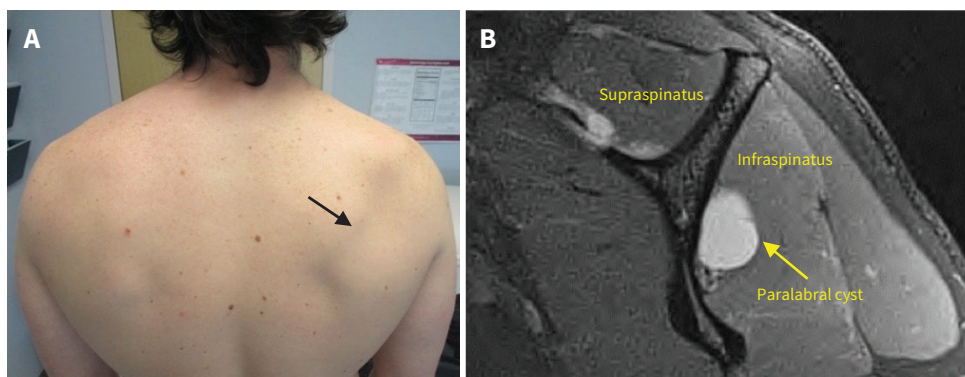
A 23-year-old male presented to an orthopedics clinic with right shoulder pain and weakness that had begun after falling onto an outstretched hand during a hockey game 1 year earlier. When we examined the patient's shoulder, we saw severe atrophy of the right infraspinatus muscle (Figure 1A) with 4/5 strength in external rotation. O'Brien compression test (resisted shoulder flexion to 90°, with 10° of adduction and a pronated forearm) elicited deep glenohumeral pain, suggesting a superior labral lesion.

After radiographs revealed no abnormalities, a magnetic resonance imaging study showed a superior labrum anterior and posterior (SLAP) tear and an associated large paralabral cyst compressing the suprascapular nerve at the spinoglenoid notch (Figure 1B).

Two years after we evacuated the arthroscopic cyst and repaired the SLAP lesion, the patient has full recovery of the infraspinatus and has returned to collegiate hockey.

The suprascapular nerve innervates the supraspinatus and infraspinatus muscles. Compression of the nerve is uncommon. On examination, localizing muscular involvement is useful in identifying the lesion: compression at the suprascapular notch affects both muscles, whereas compression at the spinoglenoid notch affects the infraspinatus alone. Classically, suprascapular neuropathy presents as poorly explained shoulder pain, often suspicious for rotator cuff injury. Magnetic resonance imaging is used to visualize muscular atrophy and underlying causes of nerve impingement, most commonly labral or rotator cuff pathology; however, electromyography and nerve conduction velocity studies are the gold standard in confirming the diagnosis.<sup>1</sup>

Paralabral cysts, which are accumulations of synovial fluid escaping the glenohumeral joint through a labral tear, are the most common causes of suprascapular nerve entrapment. Treatment of labral tears with associated suprascapular neuropathy involves labral repair with or without nerve decompression, typically resulting in substantial pain relief and cyst resolution within 2–3 months; however, if surgical intervention is delayed



**Figure 1:** (A) Isolated atrophy of the infraspinatus muscle in a 23-year-old hockey player. (B) Sagittal and axial T<sub>2</sub> magnetic resonance imaging cuts, showing a large paralabral cyst compressing the suprascapular nerve.

for more than 6 months and major atrophy has occurred, muscle bulk and strength may be permanently damaged.<sup>1–3</sup>

## References

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