



EM CASES SUMMARY

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Episode 58 – Commonly Missed Uncommon Orthopedic Injuries, Part 2

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Biceps Tendon Rupture

Distal Biceps Tendon Rupture is almost exclusively a male injury and occurs in a younger age group compared to the proximal biceps rupture. It is important to distinguish these injuries as their management and outcomes are different.

Q: What are the mechanisms of injury in a biceps tendon rupture?

Proximal biceps tendon ruptures typically occur in older patients with age-related degeneration of the tendon and who often have rotator cuff symptomology. There is usually no obvious mechanism.

Distal biceps tendon ruptures typically occur in younger patients, such as construction workers or weight lifters with chronic repetitive microtrauma that causes weakening of the tendon that attaches to

a well-built muscle. This large bicep muscle is capable of a sudden massive eccentric contraction that tears the tendon. This occurs almost exclusively in males.

Q: What are the physical exam findings of biceps tendon ruptures?

In *both* distal and proximal biceps tendon ruptures, a '*Popeye*' sign (named after the old cartoon 'Popeye The Sailor Man' is typical.



Fig 7a: 'Popeye' sign



Fig 7b: Popeye The Sailor Man

In a *distal* biceps tendon rupture, you will often see ecchymosis on the anterior aspect of the elbow. There is usually decreased force of supination and/or pain with supination.

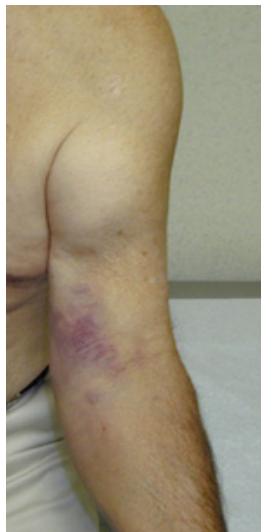


Fig 8: Distal Biceps Tendon Rupture

Look for the *Hook Sign* (see Fig 9): use your index finger and go lateral to the insertion of the biceps and hook your finger around the biceps tendon. If there is no Hook Sign (an empty space) – there is likely a *distal* biceps rupture.

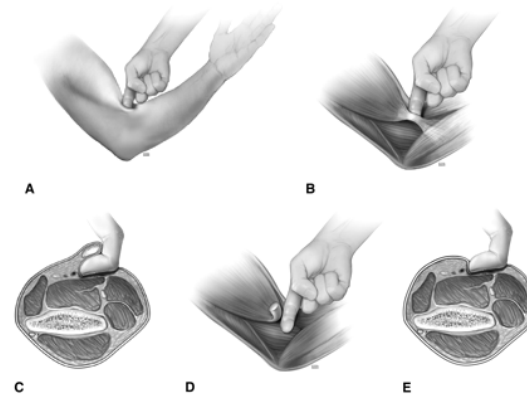


Fig 9: Hook Sign

Q: How does the management of *distal* biceps tendon rupture differ from that of a *proximal* biceps tendon rupture?

Patients with a distal biceps tendon rupture should be immobilized, with early referral to orthopedics, as surgical repair within 2 weeks is desirable to avoid tendon retraction.