

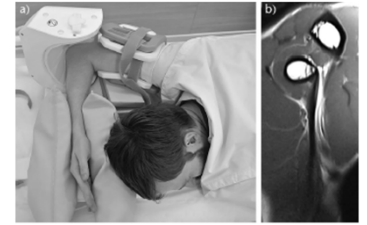
IMAGING

- Radiographs
 - Helpful mainly to eliminate other causes from pain (arthritis, fractures, etc.)
 - Tuberosity can be irregular or larger
 - Avulsions
 - Typically, radiographs are normal.

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IMAGING

- MRI
 - best done with the patient prone, arm overhead, elbow flexed to ninety degrees and forearm fully supinated
 - Allows the entire tendon to be viewed from insertion to MTJ on single image
 - Can show partial rupture, bicipitoradial bursitis



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DISTAL BICEPS TENDON RUPTURE

- Anatomy
- Incidence
- Etiology
- Physical Exam
- Imaging
- **Classification**
- Treatment
- Cases

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CLASSIFICATION

- Temporal – Acute vs Chronic
- Morphologic: Complete vs Partial
- Anatomic
 - Musculotendinous junction
 - **Intratendinous – most common**
 - Bone attachment

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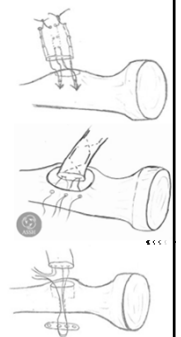
DISTAL BICEPS TENDON RUPTURE

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TREATMENT

- Complete rupture
 - More literature is available to support the repair of all ruptured biceps tendons
 - Without repair patients may have:
 - Activity related pain
 - Weakness in flexion and supination
 - Early fatigue
 - Technique
 - Single incision versus Two Incision
 - Type of fixation: Suture anchors, bone tunnels, buttons



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TREATMENT

- Partial rupture
 - Nonoperative
 - NSAIDs
 - PT
 - Ionto, US, other modalities
 - Operative
 - <50% and failed nonop: biceps endoscopy and debridement
 - >50% takedown and repair
- Counsel on complications:
 - Particularly LABCN neuropraxia (25% or more of cases)

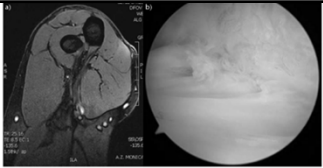


Fig. 8. (A) Flexion abduction sagittal view of a partial distal biceps tendon tear. (B) Endoscopic view of the same distal biceps tendon insertion. Endoscopic debridement is a viable solution for low-grade partial tears.

Adverse event	No. (%)
Radial side forearm numbness	53 (13)
Superficial infection/suture abscess	9 (2.4)
Heterotopic ossification	8 (2.1)
Posterior interosseous nerve palsy	4 (1.1)
Rupture	6 (1.6)
Median nerve palsy	2 (0.54)
Total	82 (22)

Factors associated with adverse events after distal biceps tendon repair or reconstruction

Revisor: B. Bae, MD; Revisor: R.A.J. Glimmer, MD; Lohr S. Oh, MD; David King, MD, PhD; Neal C. Chen, MD

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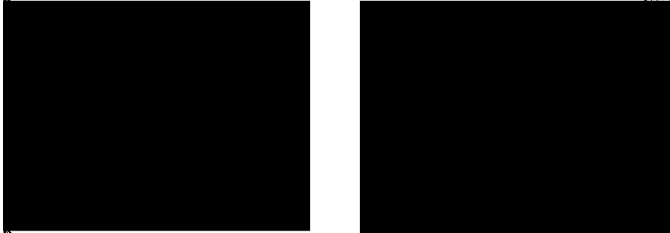
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CASE 2 – SURPRISE

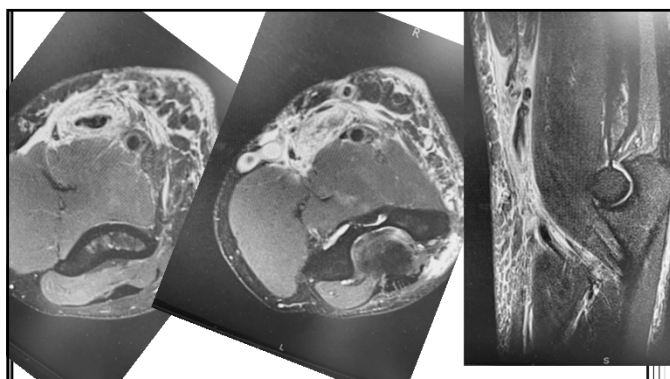
- 46 RHD M
- DOI 9/23/23: playing softball, caught a ball and felt pain over anterior elbow and difficulty with ROM. Ecchymosis started the following day.
- 9/28/23: seen by urgent care, MRI completed same day, stat referral placed
- Seen in ortho clinic on 10/5/23
 - Pt has son with epilepsy and lifts often, questioned whether he had more of a chronic injury

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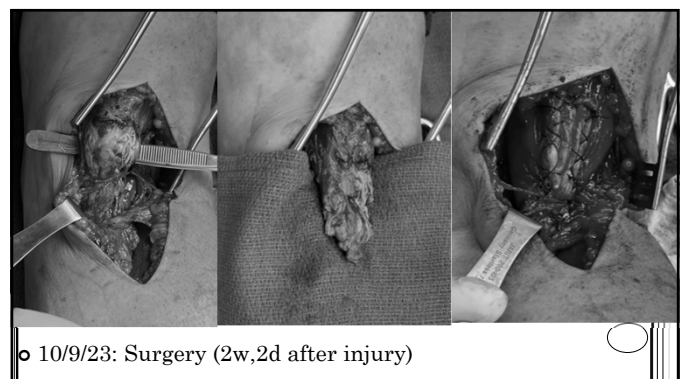
CASE 2 - MRI



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10/9/23: Surgery (2w,2d after injury)

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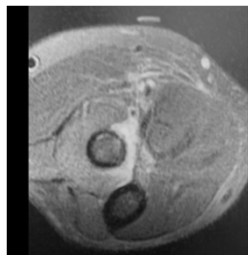
CASE 3 – ATYPICAL ATYPICAL

- 58 yr old RHD female
- DOI: 7/18/23 woke up to husband having a seizure and tried to move him against a wall
- 8/21/23 (4w6d): seen in ortho clinic due to pain and weakness, N/T in 4th/5th fingers as well
 - Exam with negative hook test. Concern for partial distal biceps tear
 - MRI ordered and completed on 8/30/23
- 8/31/23 (6w2d): seen in clinic
 - Exam with weakness in flex/sup. + reverse popeye, + hook test. + cubital tunnel tests
 - Discussed reconstruction, cubital tunnel release

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CASE MRI

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ABLE TO REPAIR PRIMARILY

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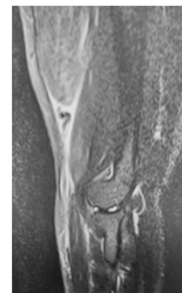
CASE 4 – NEAR MISS

- 38 yr old RHD M
- DOI 7/6/23 attempting to tie down ratchets at work with elbow extended and supinated. Noted sharp popping sensation, +swelling, + ecchymosis
- 7/6/23: seen at urgent care.
 - Exam with tenderness over antecubital fossa and pain with forearm rotation. XR negative
 - Dx with elbow strain and recommend watchful monitoring, f/u ortho in 1 week if no better
- 7/11/23: MRI ordered, completed on 7/18/23
- 7/20/23: seen in clinic
 - + hook test, pain and weakness with elbow flexion, supination

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CASE MRI

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- To OR on 7/21/23 (2w1d)
- Musculotendinous junction unhealthy appearing
- Tendon with interstitial tearing
- Supplement with semiT allograft



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CASE 5 – LAST ONE

- 42 yr old ambidextrous M
- DOI:5/4/23 lifting lawn mower at work with a flat tire and felt something pull
- Seen by Occ Health multiple times over several weeks
- No use left arm work restriction
- No Therapy
- MRI completed on 6/2/23
- Seen by me in clinic on 6/27/23

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CASE

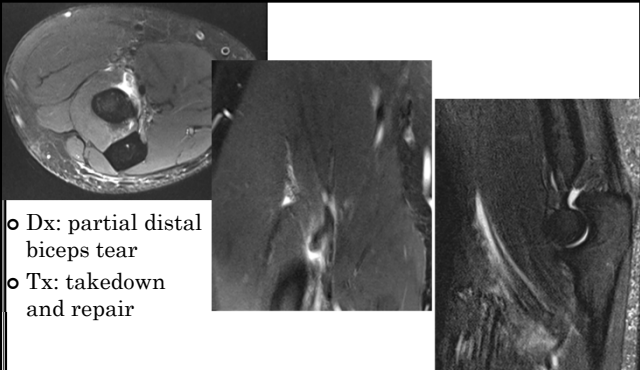
- Pain with turning door knobs, steering wheel, holding child
- Exam: pain with resisted supination, tender over antecubital fossa and radial tuberosity. Weak with resisted elbow flexion/forearm supination

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CASE MRI



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- Dx: partial distal biceps tear
- Tx: takedown and repair

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SUMMARY

- History and exam should point towards diagnosis
- Low threshold for MRI
- Prompt follow up to give best chance of repair
- Counsel on LABCN neuropraxia

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BIBLIOGRAPHY/LECTURE REFERENCES

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