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Fight Bite with Tendon Laceration

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Fight Bite with Tendon Laceration

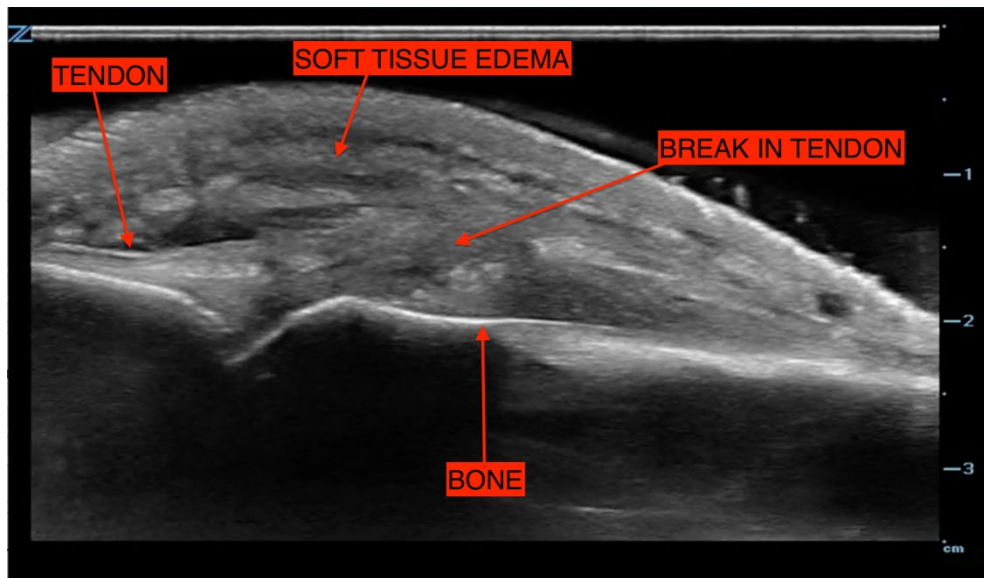
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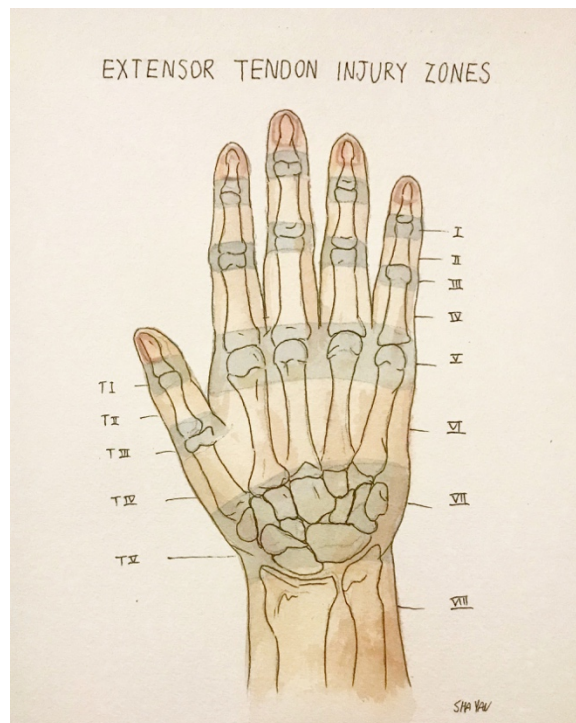
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Video Link: <https://youtu.be/MPvBuV72VHU>



History of present illness: A 57-year-old male presented 24 hours after punching another individual in the mouth and injuring his right hand. He complained of pain and decreased range of motion in his 4th digit. On exam, the patient had a 1 cm laceration to his right 4th metacarpophalangeal joint with soft tissue swelling and limited extension of the digit against resistance.

Significant findings: The video shows a water bath ultrasound of the right 4th digit, demonstrating soft tissue swelling with a hypoechoic region along the tendon consistent with edema and tendon disruption (see video and annotated still image).

Discussion: Hand extensor tendon injuries can be caused by laceration, trauma, or overuse.¹ Extensor tendon injuries are classified into eight zones.² This patient suffered a Zone V partial tendon injury, commonly termed a “fight bite.” Management of tendon injuries is dependent on: partial vs full, closed vs open, and injury location.^{3,4} Closed tendon injuries require a volar extension splint with hand surgery follow-up within one week. Open tendon injuries involving >50% tendon width can be repaired in the emergency department, though some will require delayed repair.⁴ Ruptures involving <50% of tendon width should be placed in a volar extension splint, whereas ruptures involving >50% of tendon width should be sutured.³ Injuries to Zones II-IV and Zone VI may be repaired in the emergency department.⁴ However, injuries to other zones, the thumb, open fractures, neurovascular compromise, grossly contaminated wounds, or immunocompromised patients should be referred to a hand surgeon.⁵ “Fight bite” injuries should be treated with antibiotics and hand surgery consult for possible operative intervention.⁶

After a normal X-ray, a bedside water-bath ultrasound was performed, revealing a Zone V extensor tendon rupture. The patient received tetanus prophylaxis, IV antibiotics, was splinted and admitted to the hand surgery service for operative washout of the wound and delayed tendon repair.

Topics: Water bath ultrasound, tendon laceration, extensor tendon injury, fight bite, hand injury, orthopedics.

References:

1. de Jong JP, Nguyen J, Sonnema A, Nguyen E, Amadio P, Moran S. The incidence of acute traumatic tendon injuries in the hand and wrist: a 10-year population-based study. *Clin Orthop Surg.* 2014;6(2):196-202. doi: 10.4055/cios.2014.6.2.196
2. Newport M L. Extensor tendon injuries in the hand. *J Am Acad Orthop Surg.* 1997; 5:59-66.
3. Griffin M, Hindocha S, Jordan D, Saleh M, and Khan W. Management of extensor tendon injuries. *The Open Orthopedics Journal.* 2012; 6:36-42. doi: 10.2174/1874325001206010036
4. Bowen W, Slaven E. Evidence-based management of acute hand injuries in the emergency department. *Emerg Med Pract.* 2014;16(12):1-24.
5. Katzman B, Klein D, Mesa J, Geller J, Caligiuri D. Immobilization of the mallet finger. Effects on the extensor tendon. *J Hand Surg Br.* 1999;24(1):80-84.
6. Shewring DJ, Trickett RW, Subrmanian KN, Hnyda R. The management of clenched fist 'fight bite' injuries of the hand. *J Hand Surg Eur Vol.* 2015; 40(8): 819-24. doi: 10.1177/1753193415576249