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## Not Your Ordinary Clavicle Pain

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## Case History

A 20-year-old male with no significant past medical history presents to the emergency department with pain over his right clavicle with activity. He was wrestling with friends four months ago when he was thrown down landing directly on his right shoulder. He notices pain, especially when he does push-ups, lifts his arm over his head, and while lying on his right side. He has no pain at rest. He has no numbness or tingling in his arm. He works in the trades industry and has continued to lift heavy objects while working since his injury. He has not tried immobilizing his arm. His pain has been improving over the past four months, but he notices his clavicle protrudes more compared to the left. He does not have a primary care doctor.

## Physical Exam

- Prominence of the right clavicle at the sternoclavicular (SC) joint, not tender to palpation with no overlying redness or fluctuance.
- Full pain-free range of motion of the right shoulder.
- The clavicle at the SC joint is noted to become more prominent with lifting the arm overhead.
- Sensation is intact throughout the right upper extremity. 2+ radial pulse is palpable distally.

## Differential Diagnosis

- Clavicle fracture
- Sternoclavicular dislocation
- Pectoralis muscle strain
- Acromioclavicular separation
- Rotator cuff tendinopathy

## Testing and Results



Figure 1. Anterior view of the patient's medial chest wall



Figure 2. X-ray right clavicle: No radiographic evidence of acute fracture.

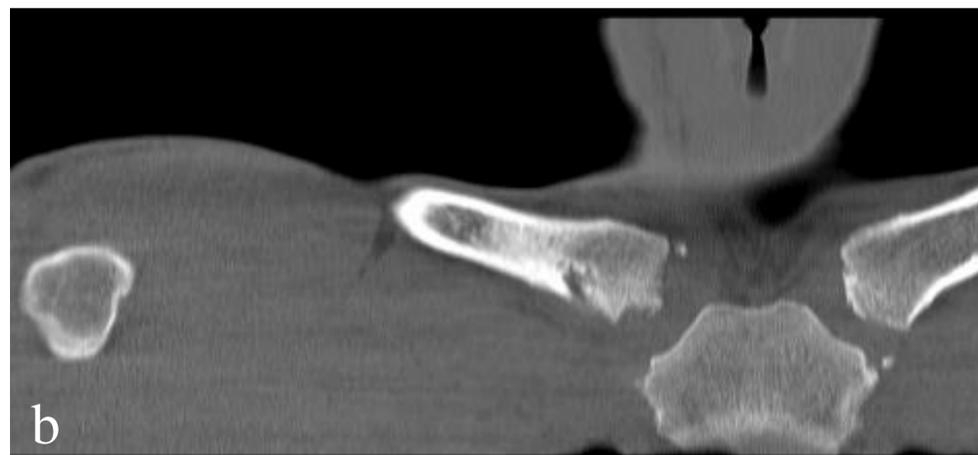
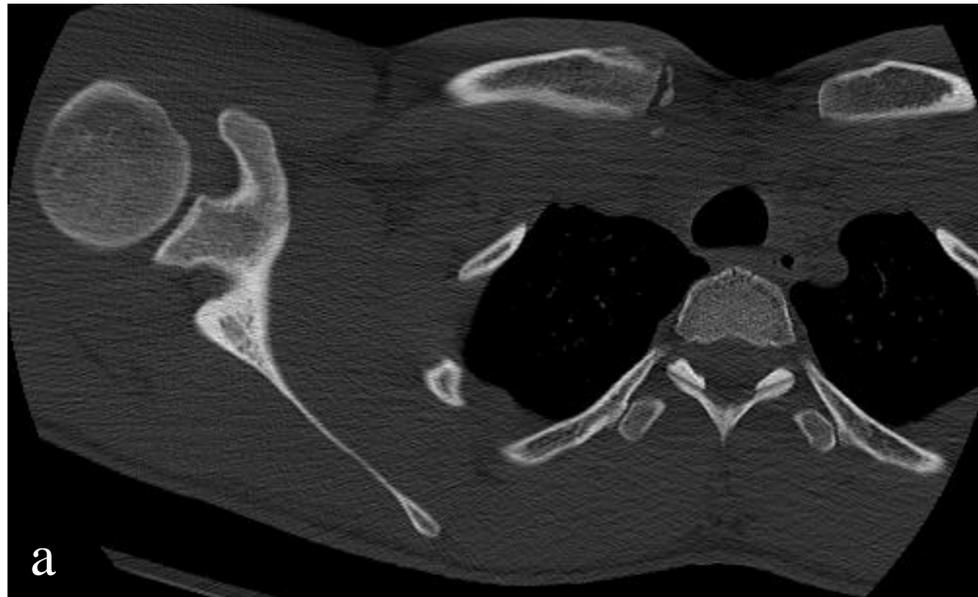


Figure 3. Axial(a) and coronal(b) CT images of the right clavicle demonstrate an incomplete intra-articular fracture involving the medial aspect of the right clavicle without evidence of dislocation of SC joint.

## Diagnosis and Discussion

- **Diagnosis:** Closed non-displaced fracture of right medial clavicle
- Medial-third clavicle fractures are the least common type of clavicular fractures.
- Emergent orthopedic referrals are recommended for displaced fractures greater than 1 cm, posterior SC dislocation, or posterior displacement.
- Surgical repair is recommended for fractures that are open, comminuted, shortened by 2 cm, or completely displaced. This can improve shoulder function after healing and allow an earlier return to sports.
- Conservative treatment includes shoulder immobilization for 2-6 weeks with early mobility and strengthening exercises. Displaced medial clavicle fractures treated nonoperatively should be immobilized for 6-8 weeks, followed by strengthening exercises once clinical and radiographic healing is evident.
- Athletes should not return to sports until their pain has resolved over the fracture site with forceful palpation, have full range of motion and full strength of their shoulder. Athletes can usually return to non-contact sports by six weeks, but contact sports usually require 8-12 weeks.
- This case reveals a rare presentation of an uncommon injury. The patient did not present for treatment until four months after his injury. The patient's presentation may represent delayed healing due to the failure of initial immobilization.

## Outcome

The patient was discharged from the ED with a sling and recommended to take ibuprofen as needed for pain. He was provided a referral to follow up in the Sports Medicine clinic.

## Return to Activity and Follow-Up

The patient left the state for work and did not have a chance to follow up with Sports Medicine. During a follow up phone discussion with the patient a few months after his ED visit, the patient stated his pain had completely resolved. He wore his sling for 3-4 weeks. He is back to work lifting heavy objects during trade jobs. He is slowly returning to weight lifting and sports.

## References

1. Hatch RL, Clugston, Clugston JR, and Taffe J. Clavicle fractures. 2017; <https://www.uptodate.com>
2. Robertson GA, Wood AM, and Oliver CW. Displaced middle-third clavicle fracture management in sport: still a challenge in 2018. Should you call the surgeon to speed return to play? *British Journal of Sports Medicine*. 2018;52(6).