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“To Reduce or Not Reduce: Is That A Question?”

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Patient Presentation:

- ❖ First game of the high school football season
- ❖ 16-year-old player had his left arm extended as he grabbed the opposition's jersey
- ❖ Subsequently fell onto his outstretched left arm



Physical Exam:

GEN: Distressed, C/o Left elbow pain

MSK: Inspection revealed shortened forearm with the athlete holding his left arm in flexion.

A palpable sulcus was noted over his triceps insertion.

Distal N/V intact.



Differential:

- ❖ Fracture/Dislocation of the Ulna &/or Radius
- ❖ Capsule Ligament Sprain
- ❖ UCL/RCL Sprain
- ❖ Biceps and/or Triceps Tendon Strain
- ❖ Humeral Shaft Fracture

Tests and Results:

- ❖ Three views of the elbow obtained → dislocation of the proximal radius and ulna with respect to the humerus. No associated fracture.
- ❖ Post reduction 2 views → satisfactory reduction of previously noted posterior dislocation.

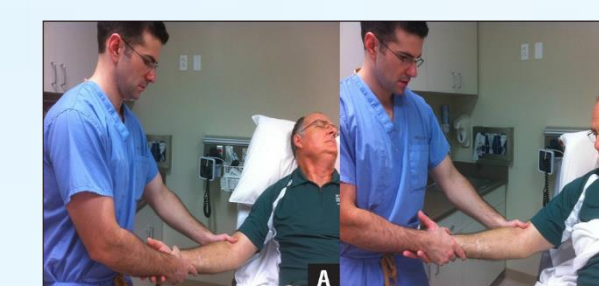


Final Diagnosis:

Posterior Elbow Dislocation

Treatment and Outcome:

- ❖ Player's significant pain: sideline closed reduction not attempted.
- ❖ Arm was splinted and the player was transported to the hospital.
- ❖ Elbow was reduced under conscious sedation.



The traditional elbow reduction method uses traction and counter-traction with the physician's 2 hands.

Discussion/Follow-up:

- ❖ Initial evaluation of the athlete → integrity of the bony elements and neurovascular structures should be assessed.
- ❖ Assessing for neurovascular compromise (paresthesias in the distal median and ulnar nerve distribution and integrity of the radial pulse) is paramount.
- ❖ Suspicion for bony injury of the distal humerus or the proximal radius → sideline reduction should be avoided, unless there is significant neurovascular compromise.
- ❖ Case highlights the question of whether sideline closed reduction should be performed for posterior elbow dislocation.
- ❖ Sideline closed reduction may be attempted when the following criteria are met: technique is “gentle”, technically sound, minimal attempts, and tolerated by the athlete.

Return To Activity:

- ❖ No set return-to-play guidelines for posterior elbow dislocations.
- ❖ In this case, approximately eight weeks from his injury, which included twice-weekly occupational therapy sessions, the player returned to football with a hinged orthosis.



1. Blackard D, Sampson J. Management of an uncomplicated posterior elbow dislocation. J Athl Train. 1997;32(1):63-67.
2. Nirschl R, Kraushaar B. Assessment and Treatment Guidelines for Elbow Injuries. PhysSportsmed. 1996;24(5):43-60.

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