

EM CASE OF THE WEEK

BROWARD HEALTH MEDICAL CENTER DEPARTMENT OF EMERGENCY MEDICINE



Shoulder dislocations are a common problem faced in the ED. It is a relatively straightforward diagnosis for which a multitude of relocation techniques have been devised. Relocation may require the aid of one or many of the ED staff. This month we explore the facts about shoulder dislocations.

EM CASE OF THE WEEK

EM Case of the Month is a monthly “pop quiz” for ED staff. The goal is to educate all ED personnel by sharing common pearls and pitfalls involving the care of ED patients. We intend on providing better patient care through better education for our nurses and staff.



Shoulder Dislocation

A 22 year old male is brought into the ED after being transported in a friend’s car. His vital signs are T 98.9, HR 96, RR 20, BP 127/82, O2 sat 99%. The patient is visibly in pain but able to answer questioning. The patient states that he was playing basketball and as he jumped and reached for the ball, he felt immediate pain in his shoulder accompanied by the inability to hold it down at his side. The arm is being held in slight abduction and external rotation. There is limited ROM of the shoulder in all directions secondary to pain. What is the likely diagnosis and what should be the next expected course of action?

- The patient is experiencing a humoral fracture after which the OR should be the next expected course of action.
- The patient is experiencing an anteriorly dislocated shoulder for which a reduction in the ER with or without sedation will be necessary.
- The patient is experiencing a posteriorly dislocated shoulder for which a reduction in the ER with or without sedation will be necessary.
- The patient is malingering for pain medication and should be sent home with his friends.



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Take Home Points

- Shoulder dislocations come in three different forms: anterior, posterior, inferior.
- Anterior shoulder dislocations are, by far, the most common type of dislocation.
- The type of dislocation can usually be determined by the history and physical exam.
- X-ray imaging including an AP and Axillary views should be obtained for each case of dislocation.
- Pre and post reduction neurovascular exams and x-ray imaging should be completed on each patient.

Shoulder Dislocation

The correct answer is B. The patient is experiencing an anteriorly dislocated shoulder for which a reduction in the ER with or without sedation will be necessary. The patient's history and presentation are classic for this type of dislocation. There are 3 different types of shoulder dislocations and many more techniques have been developed to reduce them. We will discuss the proper diagnostic and treatment methodology that should be considered with encountering these patients in the ED.

Discussion:

Let's first begin with the differentiation of each type of shoulder dislocation which can be either anterior (95%), posterior (4%), or inferior aka luxation erecta (1%). Each type of shoulder dislocation requires a different relocation technique so a correct initial diagnosis is important. The history is a good place to start. First find out what type of activity the patient was doing when the dislocation occurred from the most reliable resource. Anterior shoulder dislocations usually involve the patient hyper-extending the arm in abduction and external rotation (common in sports), posterior shoulder dislocations usually involve the patient having an epileptic seizure or being electrically shocked, and inferior shoulder dislocations usually occur after a great axial load is placed on the extended arm. The physical presentation of the patient can also be used as a clue as to what type of shoulder dislocation is present.

(Discussion cont. on next page)

For a list of educational lectures, grand rounds, workshops, and didactics please visit

<http://www.BrowardER.com>

and click on the "Conference" link. All are welcome to attend!

Let's first take a look at the various presentations of shoulder dislocations:

Anterior: slight abduction and external rotation



Posterior: adduction and internal rotation



Inferior: hyper-extended above the head



Physical Exam

The physical exam should involve further determination of the dislocation type as well as assessing damage to any neurovascular structures. The area under the coracoid should be palpated for any signs of fullness which would be present in an anterior dislocation. The neurovascular exam should consist of observing the palm of the affected side for any pallor or decreased radial pulse which would be suggestive of an axillary artery compression. A neurological exam should be included with special attention to the axillary nerve sensory distribution in anterior shoulder dislocations.

Diagnostic Imaging

X-ray imaging is the mainstay of shoulder dislocations which includes an AP and Axillary view of the shoulder joint.

Treatment

For all shoulder dislocations, a proper reduction should be followed by a repeat neurovascular exam with post-reduction films taken of the affected shoulder. Relocation attempts should also follow the sequential order of the initial attempt being done with/without analgesia. Interestingly, Kuhn in 2006 performed an analysis of current literature and found that intra-articular lidocaine was associated with decreased complication rates and ER times when compared to IV sedation for this step. If this fails, conscious sedation should be attempted and if this fails, the patient should be taken to the OR for a reduction under general anesthesia. Relaxation of the musculature surrounding the shoulder is key to a successful reduction. This section will also take a look at the various reduction techniques present in the literature.

Anterior:

- Hippocratic- Foot is placed in the axilla with longitudinal traction applied to the arm
- Matsen's Traction Countertraction- Place a folded sheet across patient's chest to be used for countertraction while the affected arm is flexed to 90° and traction applied with internal/external rotation
- Milch- Externally rotate fully extended arm and bring to overhead abduction with pressure on the humeral head using the thumb in the axilla

Posterior:

- Orthopedic consult to evaluate closed vs open reduction

Inferior:

- Traction-countertraction with force pulled in line with the abducted arm.



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ABOUT THE AUTHOR:

This month's case was written by Andrew Boltuch. Andrew is a 4th year medical student from NSU-COM. He did his emergency medicine rotation at BHMC in March 2015. Andrew plans on pursuing a career in Orthopedic Surgery after graduation.