

EMERGENCY MEDICINE REPORTS

Acute Shoulder Injury

History of Shoulder Injury: Highlights

- Mechanism of injury; inquire about recent activities that may have resulted in injury, such as sport, recreation, or other physical activity
- Duration of pain
- Location of pain
- Exacerbating factors (especially overhand activity)
- Prior shoulder injury/pathology/surgery
- Associated symptoms (paresthesia, radicular pain)*
- Presence of night pain*
- Constitutional symptoms (fever, weight loss)*

* Presence of these features may indicate pathology such as cervical radiculopathy or neoplastic disease (although night pain is seen in rotator cuff tear/tendinopathy, and glenohumeral arthritis).

Physical Examination of the Shoulder: Highlights

- Always perform a trauma-based primary survey before more detailed examination.
- Undress the patient to assess for atrophy or asymmetry; compare to contralateral side.
- Examine at least a joint above (cervical spine) and below (elbow) seeking referred pain or associated injury.
- Observe active range of motion while standing behind the patient, looking for abnormal movement.
- Check and document distal pulses and sensation over the deltoid (axillary nerve) before and after any procedural manipulation.
- Specialized tests for rotator cuff injury (Neer and Hawkins impingement tests, etc.) are neither sensitive nor specific on their own; combine them with a good history and thorough examination.

Proximal Humerus Fracture



From Southerland L, et al. Fractures in older adults. *Trauma Reports* May/June 2014.

Clavicle Fracture



Image courtesy of Ademola Adewale, MD

Classification of Proximal Humerus Fractures

The Neer classification system defines proximal humerus fractures by the number of displaced segments, with additional categories for articular fractures and dislocations. Potential segments involved are the greater tuberosity, lesser tuberosity, articular surface, and humeral diaphysis. A segment is defined as displaced if there is > 1 cm separation or 45 degrees angulation.

One-Part Fracture: No fragments displaced. Fracture with no fragments displaced is defined as a one-part fracture regardless of actual number of fracture lines or their location.

Two-Part Fracture: Greater tuberosity, lesser tuberosity, or articular segment at anatomic or surgical neck is displaced.

Three-Part Fracture: Surgical neck is displaced, along with one tuberosity.

Four-Part Fracture: All four segments displaced, with articular segment displaced laterally from glenoid.

Risk of avascular necrosis increases depending on number of fragments and displacement. Neer also created separate categories for fracture dislocations and to describe articular surface injuries.

Adapted from: Carofino BC, Leopold SS. Classifications in brief: The Neer classification for proximal humerus fractures. *Clin Orthop Relat Res* (2013) 471:39–43.

AC Separation Chart

AC separations are classified based on radiographic displacement, which correlates with extent of ligamentous injury.

Type I: AC ligaments sprained but intact; coracoclavicular ligaments uninjured

Type II: AC ligaments disrupted, coracoclavicular ligaments sprained but intact

Type III: AC and coracoclavicular ligaments disrupted

Type IV: AC and coracoclavicular ligaments disrupted; distal clavicle displaced posteriorly through the trapezius muscle

Type V: AC and coracoclavicular ligaments disrupted; muscle attachments disrupted; significant inferior displacement of acromion

Type VI: AC and coracoclavicular ligaments disrupted; clavicle displaced inferior to coracoid process and posterior to biceps and coracobrachialis tendon