Acute Management of Shoulder Dislocation

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Acute: Injury to rehab.

Management: Hx, O/E, x-ray, Rx

Shoulder: Glenohumeral

Dislocation: Complete separation of surfaces.
Types of shoulder dislocation:

- Direction
- Acute / chronic
- Traumatic / atraumatic
- Involuntary / habitual
- With / without fracture
Anterior Dislocation

- 95%
- three variants
  - Subcoracoid
  - Subglenoid
  - Subclavicular
  - Intrathoracic
Subclavicular dislocation
Intrathoracic Dislocation
Posterior Dislocation

- 4%
- Variants
  - Subacromial
  - Subglenoid
  - Subspinous
Rare Dislocations

- **Inferior**
  - luxatio erecta
  - inverted humeral surface
  - abducted 110-160
  - major soft tissue injury

- **Superior**
  - major injuries
Inferior Dislocation; (luxatio erecta)
Superior Dislocation
Complications of Dislocation; Anterior

- Fractures
- Cuff injury
- Vascular injury
- Nerve injury
- Recurrence of dislocation
Fractures in Anterior Dislocation

- Compression fracture of humeral head; Hill-Sachs lesion.
- # greater tuberosity
- # anterior glenoid margin
- # humeral neck
  - at injury
  - iatrogenic
Cuff Injuries in Anterior Dislocation

- Especially if subglenoid
- Commoner in elderly
- Nerve injury masks diagnosis
Vascular injury in Anterior Dislocation

- Can be iatrogenic
- Increased incidence if;
  - elderly
  - chronic dislocation
  - violent injury or reduction
- Mortality up to 50%
- Resuscitate; reconstruct
Nerve injury in Anterior Dislocation

- About 25% of cases
- 80% just axillary nerve
- Worse if
  - elderly
  - delayed reduction
  - violent injury
- Stretched or crushed; mixed picture
- Expectant treatment
- Documentation
Recurrence of Anterior Dislocation

- Risk higher if;
  - Young
  - Athletic
  - No tuberosity fracture
  - Atraumatic injury
  - Hill-Sachs lesion

- Immobilisation does not help; active rehabilitation might.
Recurrence rate of dislocation related to age
Complications of Posterior Dislocation

- # posterior glenoid, lesser tuberosity, neck.
- Reverse Hill-Sachs
- Nerve and cuff injury less common
- Vascular injury rarely
- Recurrence only significant if:
  - Atraumatic
  - Large # of head or glenoid
  - Displaced LT fracture (subscapularis)
Complications of Dislocation;

Inferior

- Nerve and vascular deficit in most cases;
- Extensive cuff avulsions
- GT # usually reduces

Superior

- Most have severe neurovascular injury
- Various #'s include acromion & coracoid
- Extensive cuff injury
Acute Management of Dislocation

- Assess
- Reduce promptly
- Re-assess
- Rehabilitate
Assessment;
Making the Diagnosis
(including complications)

- History
- Examination
- X-rays
- Treatment
History

- **Mechanism**
  - direct / indirect / fit
  - degree of violence
- **Time (missed Dx ?)**
- **Previous episodes / treatment**
- **Neurological symptoms & history**
Examination

- Posture of arm
- Profile of shoulder
- Prominence of head / coracoid vs. hollow
- Vascular status; can be subtle or profound
- Neurological signs
  - sensation is unreliable
X-rays

- Direction and position
- Fractures
- Calcification (chronicity)
- Views:
  - AP
  - Axillary
  - Scapular lateral
Posterior dislocation on the AP:

- Loss of ellipse
- Vacant glenoid
- Trough line
- Light bulb
The “propeller” view
Axillary View
Treatment of Anterior Dislocation

- Assess and document
- Reduce quickly for:
  - pain
  - soft tissues
  - impaction fracture
- Analgesia; anticipate difficulty
- Gentle, slow reduction; Traction vs leverage
- Reassess and document
Reduction of Anterior Dislocation

- **Hippocratic (or Matsen’s)**
  - foot (or sheet) on chest across axillary folds
  - rotate as spasm relaxes

- **Stimson**
  - prone with wrist weight
  - be patient

- **Kocher**
  - Originally pure leverage
  - Damage to bones, N/V and ligaments
  - Modifications (Milch) avoid leverage
Chronic Anterior Dislocation

- >48 hours
- In elderly, multiple trauma
- Reduction difficult because of:
  - ST contracture
  - Oedema
  - Enlarged head defect
- If < 2 weeks, try gentle, closed reduction
- Consider leaving joint dislocated, or open.
Early Surgery for Anterior Dislocation: Indications

- Irreducible
- Displaced glenoid fracture
- Greater tuberosity remains displaced
- High demand (arthroscopic ?)
- Neck fracture - ? hemiarthroplasty
Early Surgery for Anterior Dislocation: Technique

- Deltopectoral approach
- Incise capsule & subscapularis
- Externally rotate & *lift* head off glenoid
- Hemiarthroplasty if Hill-Sachs >40%
- Examine rotator cuff before closure
Treatment of Posterior Dislocation

- Very painful; GA
- Closed reduction;
  - traction to adducted humerus
  - lift head in ± lateral traction/internal rotation
- Check stability
- If locked (axillary view) / irreducible, open.
Early Surgery for Posterior Dislocation: Indications

- Irreducible / locked
- Lesser trochanter displaced
- >30% reverse Hill-Sachs (?hemi)
- Unstable
- >30% posterior glenoid rim
- Chronic if symptomatic (? total shoulder)
Early Surgery for Posterior Dislocation: Technique

- Deltopectoral approach
- Incise subscapularis or osteotomise lesser tuberosity (LT)
- Lift head into glenoid
- Can insert LT or subscapularis into head defect
- ? hemiarthroplasty
Rendering a “Reverse Hill-Sachs” lesion extra-articular
Treatment of Inferior Dislocation

- Closed reduction usually successful
- Irreducible if buttonholed
- Treat soft tissue injuries (N/V deficits are usually present)
Open inferior dislocation
Treatment of Superior Dislocation

- Rare
- Associated injuries are frequently life-threatening
- Closed reduction
- Reconstruction of hard and soft tissues
Rehabilitation

- **Anterior;**
  - *Short* period in a sling (10-14 days)
  - Active exercises
    - Cuff strength for the young
    - ROM for elderly
  - No heavy work for 3 months

- **Posterior;**
  - Spica if opened or unstable
Cast for Posterior Dislocation
Acute Management of Shoulder Dislocation:

Summary

- Assess
- Reduce promptly
- Re-assess
- Rehabilitate