Reductions of Dislocations

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has no affiliation with the manufacturer of any commercial product or provider of any commercial service discussed in this CME activity.
Objectives

• Review general principles for reductions that apply to all joints

• Learn one or more techniques for the reduction of various joint dislocations

• Learn how to combine different techniques for difficult reductions
Don’t Worry!

- In-line (longitudinal) traction
  - works in almost all instances
PLEASE DON’T DO THIS...
Dislocations

- Shoulder (glenohumeral)
- Elbow
- Fingers
- Patella + Knee
- Hip
- TMJ
Where?

- ED
- Office
- Sports coverage
- Everywhere!
General Principles

• Dislocations (Luxation)
  – Complete displacement of 2 bones that normally meet

• Subluxation
  – Partial displacement of 2 bones that normally meet
General Principles

• Neurovascular status
  – documented before and after any manoeuvre
• Analgesia and/or sedation
• Immobilization
  – For X-rays and after procedure
• Consent
• Have proper equipment and personnel
  – if possible!
Do you need X-rays?

• Gross Vs anatomic reduction
• Immediate reduction with no x-ray if:
  – *Neurovascular compromise*
  – “Tenting” of the skin
  – Grossly deformed limbs

• **How?**

  = In-line Traction!!
Emergent Reduction

Reduction prior to radiology strongly indicated if:

1. Vascular compromise
2. Neurological compromise
3. Grossly deformed
4. Cutaneous compromise
5. Massive blood loss
Emergency Splinting

• Document N/V status, and any open skin areas *prior* to sedation and splinting
• Treat patient humanely
• Securely splint after grossly reducing if needed
• Re-check and document N/V status, and any open skin areas *after* reducing and splinting
Glenohumeral (shoulder) Dislocations

- Most common joint dislocation
- 95% are *anterior* dislocations
- Beware of axillary nerve injury (document!)
  - Sensory= over lateral deltoid
  - Motor= any ability to abduct arm at all
Anterior Glenohumeral (shoulder) Dislocation

- Presentation
Acromioclavicular Separation

- Presentation
X-rays - Shoulder

AP

Ext rotation
X-rays- Shoulder

Transthoracic view
Axillary view of shoulder

- Normal
Axillary view of shoulder

- Normal
Axillary view of shoulder

• Normal
Shoulder Injury 1
Shoulder Injury 1
Stimson Technique
Scapular Rotation
External Rotation
Traction-Countertraction
Whistler Technique
Posterior Shoulder Dislocation

- most commonly missed dislocation
- should be suspected in all individuals who have suffered a seizure or electrical shock
Posterior Shoulder Dislocation

- tend to be more painful than anterior dislocations
- posterior shoulder prominence
- flattened anterior contour
- prominent coracoid process
Posterior Shoulder Dislocation

• AP view often deceptively normal
X-rays - posterior dislocation

Light bulb sign
X-rays

Post dislocation

Normal
Traction-Countertraction
Elbow Dislocations

- 95% are *posterior* dislocation
- Beware of associated fractures
- Beware of ulnar / median nerve injuries and brachial artery injuries (document!)
“SCARE” Technique

- Straighten
- Curl
- Abduct
- Ring
- Evaluate sensation & pulses
Posterior Elbow dislocations
Stimson Technique
Traction-Countertraction
Finger Dislocations

• Dorsal PIP dislocation most common
  – hyperextension injury

• If fingers do not reduce
  – may be mechanically blocked by volar plate, tendons, or ligaments
  – don’t keep forcing!
DIP Dislocations
Dorsal PIP
Volar PIP
MCP Dislocations

• Presentation
MCP Dislocation
Patellar Dislocation

- Presentation
Patellar Dislocation
Knee Dislocation

- Limb-threatening emergency

- MUST RULE OUT:
  - Popliteal artery injury

- BEWARE:
  - The knee may look normal!
Knee Dislocation

- Normal pulse ≠ no vascular injury !!
- ABI for all cases
- ANGIOGRAM is gold standard
- Document Document Document!
Hip Dislocations

• A true emergency
  – the longer the joint is dislocated = higher chances of avascular necrosis
• 90% are *posterior* dislocations
• Beware of sciatic nerve injury (document!)
  – Sensory= over foot (L4, L5, S1)
  – Motor= foot extension (L4)
    great toe extension (L5)
    foot eversion (S1)
Posterior Hip Dislocation

• Presentation
Allis Maneuver
Whistler technique
Mandible Dislocation

The Position of the Mandibular Condyle in Dislocation, forward of the Articular Eminence and Rotated.
Mandible Reductions
Fin

Questions ??
Captain Morgan’s Technique