

Reductions of Dislocations

J. Scott Delaney MDCM, FRCPC, FACEP
McGill University

FACULTY DISCLOSURE

Dr. Delaney

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

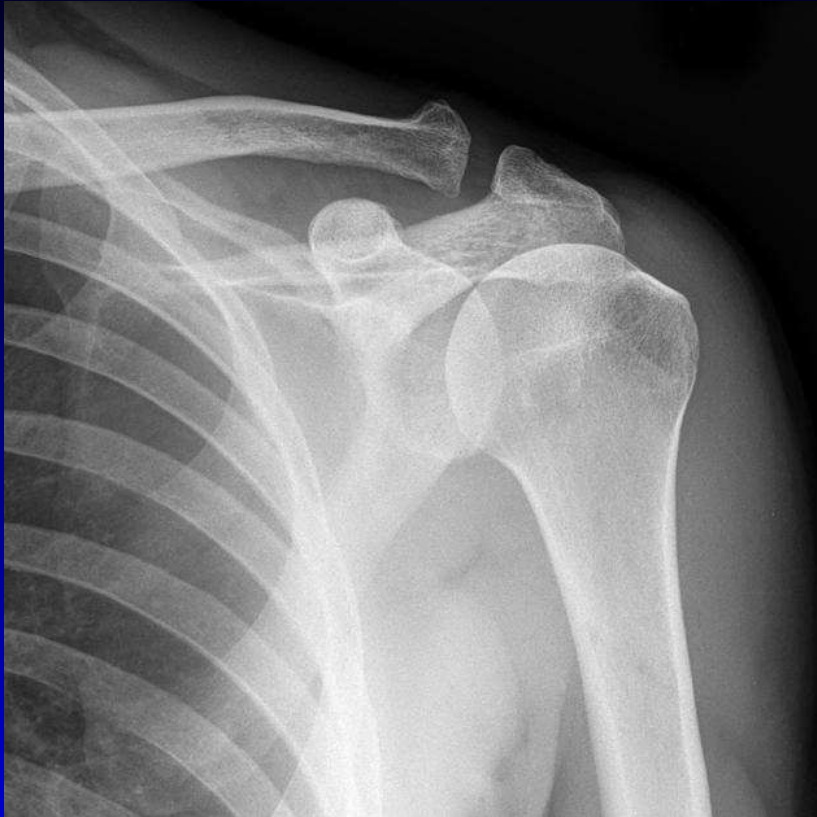


Acromioclavicular Separation

- Presentation



X-rays- Shoulder



AP



Ext rotation

X-rays- Shoulder



Transthoracic view

Axillary view of shoulder

- Normal



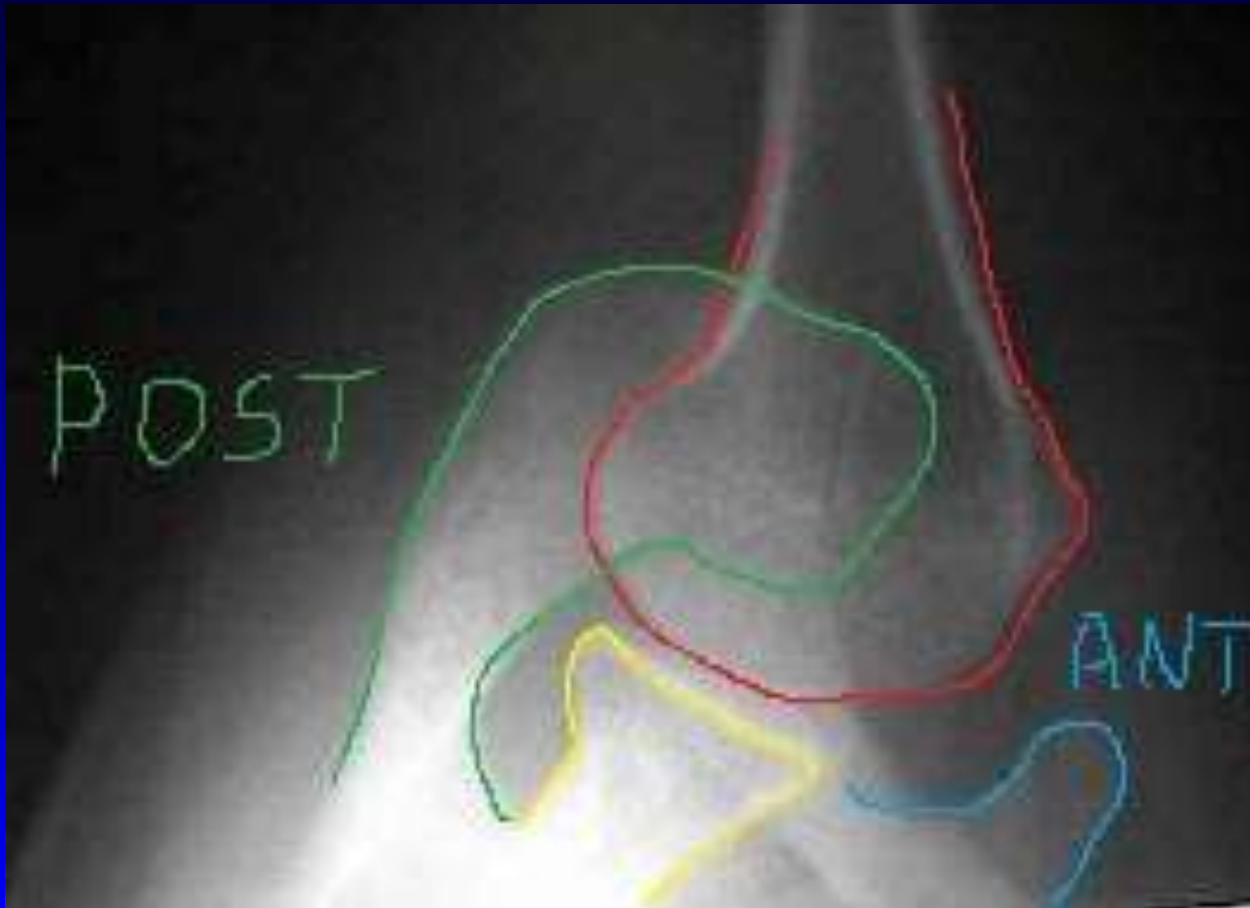
Axillary view of shoulder

- Normal



Axillary view of shoulder

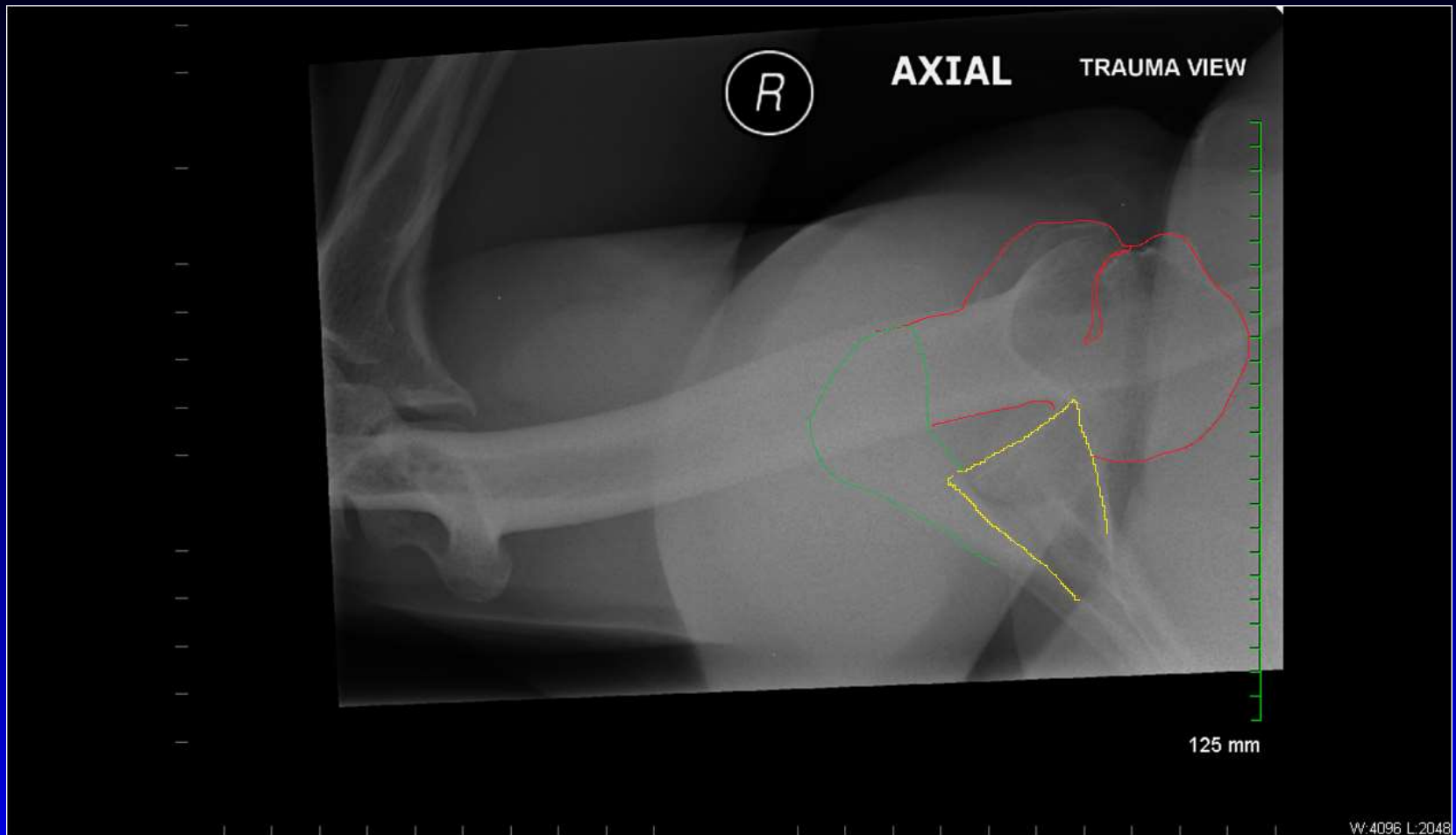
- Normal



Shoulder Injury 1



Shoulder Injury 1



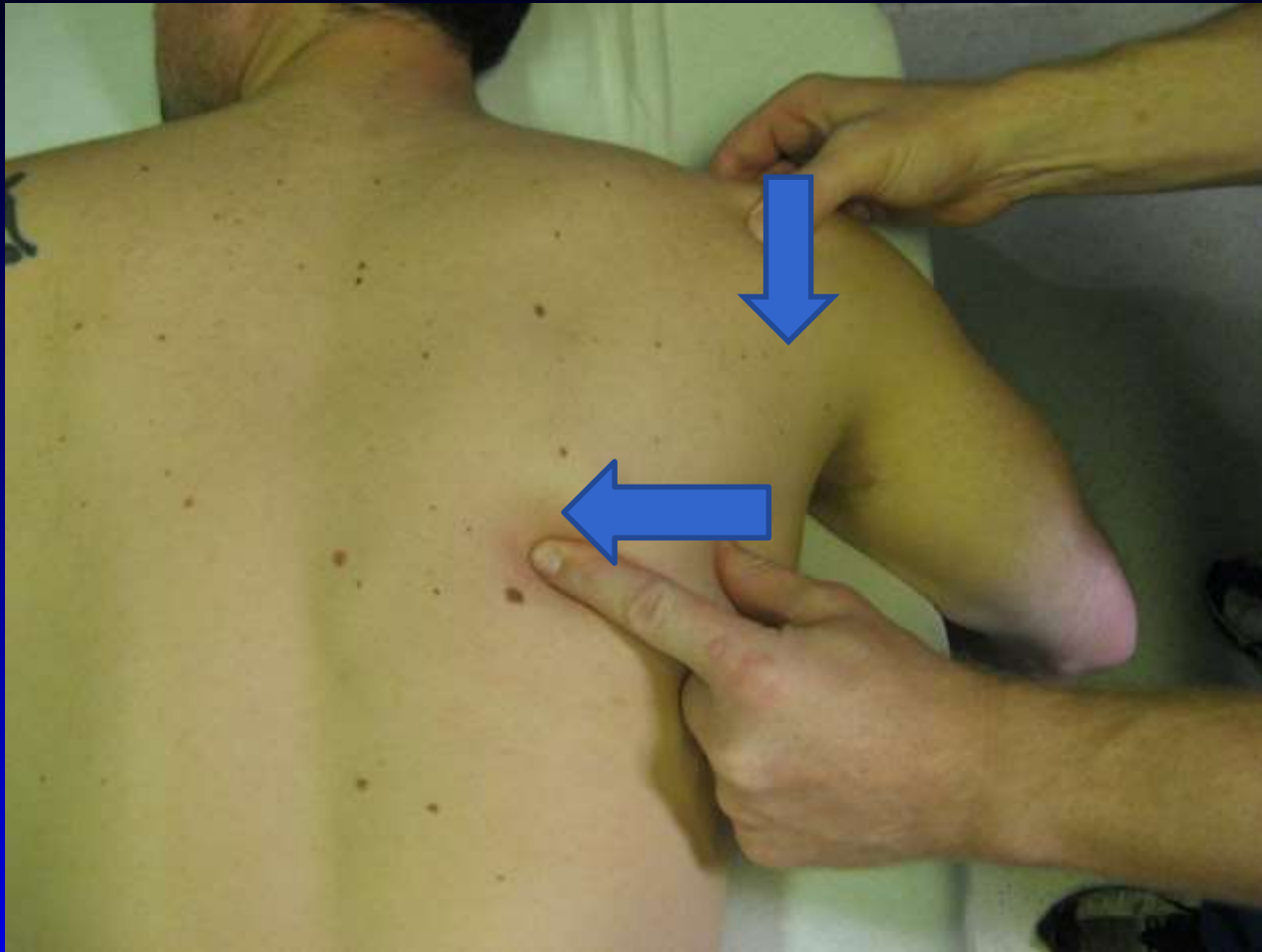
Stimson Technique



Scapular Rotation



Scapular Rotation



External 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



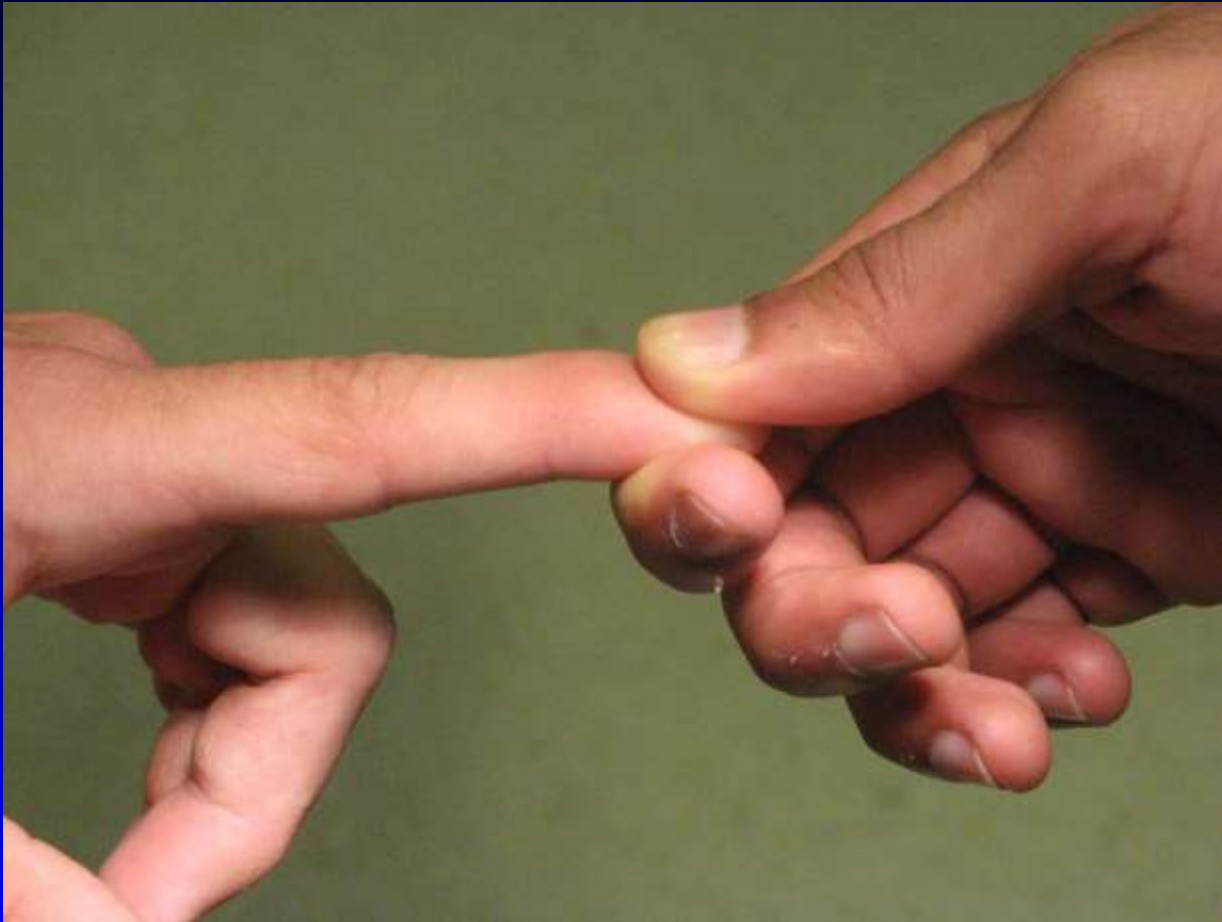
Finger Dislocations

- 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



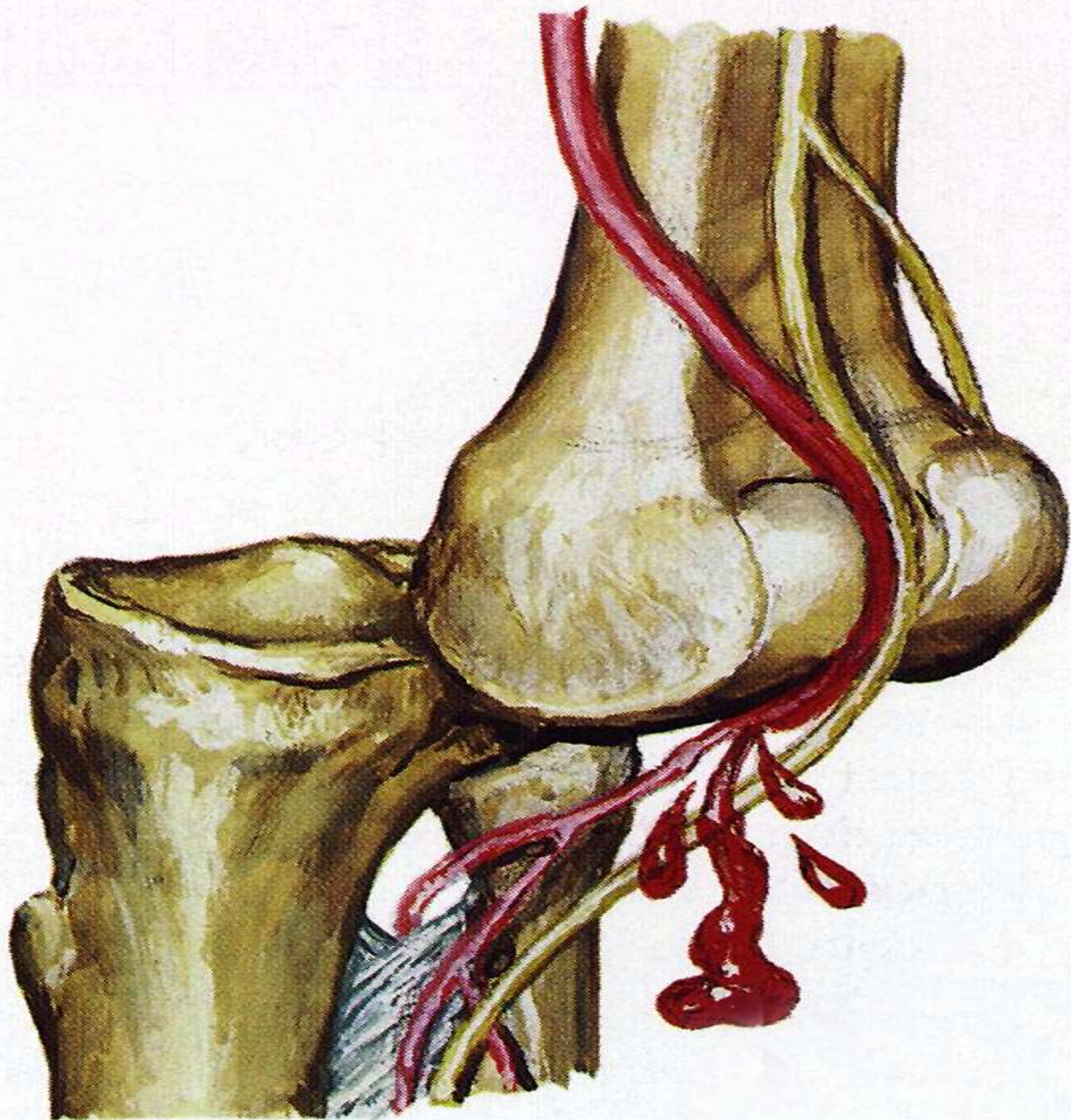
Patellar Dislocation



Knee Dislocation

- Limb-threatening emergency
- MUST RULE OUT:
 - Popliteal artery injury
- BEWARE:
 - The knee may look normal !





Knee Dislocation

- Normal pulse \neq 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



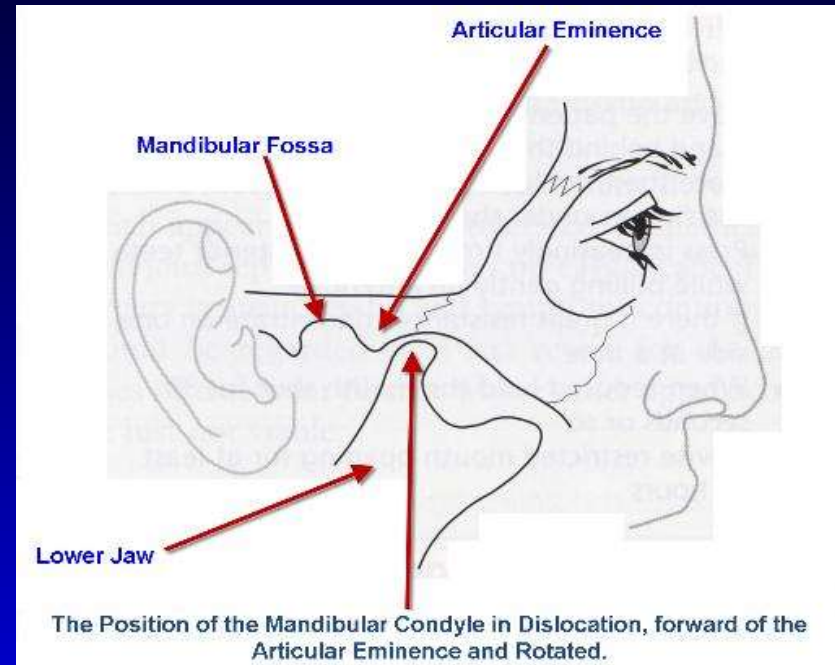
Allis Maneuver



Whistler technique



Mandible Dislocation



Mandible Reductions



Fin

Questions ??

Captain Morgan's Technique

