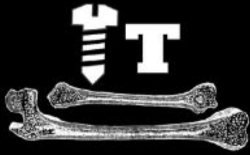

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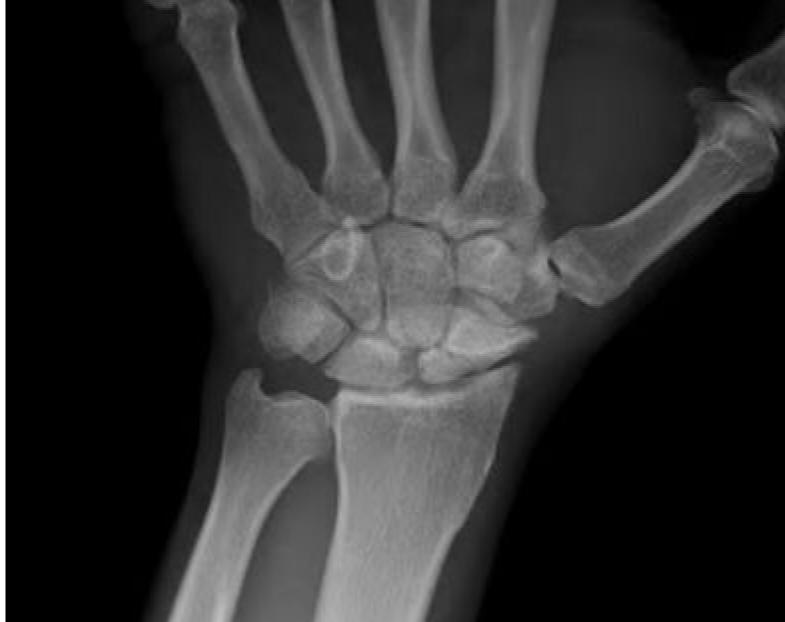
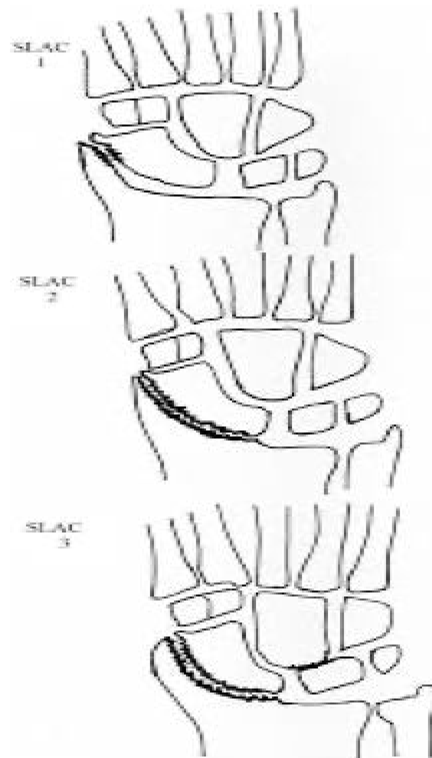
SLAC/SNAC Notes w/ Dr. Ryan Rose @ UT Health San Antonio

Definitions

- **SLAC- scapholunate advanced collapse**
    - **Progressive instability leading to radiocarpal and and midcarpal arthritis**
    - **Chronic SL ligament> DISI deformity**
        - **Palmar flexion of scaphoid, dorsiflexion of lunate**
        -

- **SNAC- scaphoid non-union advanced collapse**

- 
- Developed to explain initial wear at radioscaphoid junction (stage 1/II)
    - Progressed to involved midcarpal joint (stage III) - but spares spherical radiolunate articulation
    - Pan carpal- Stage IV
    - 

SLAC/SNAC Etiology

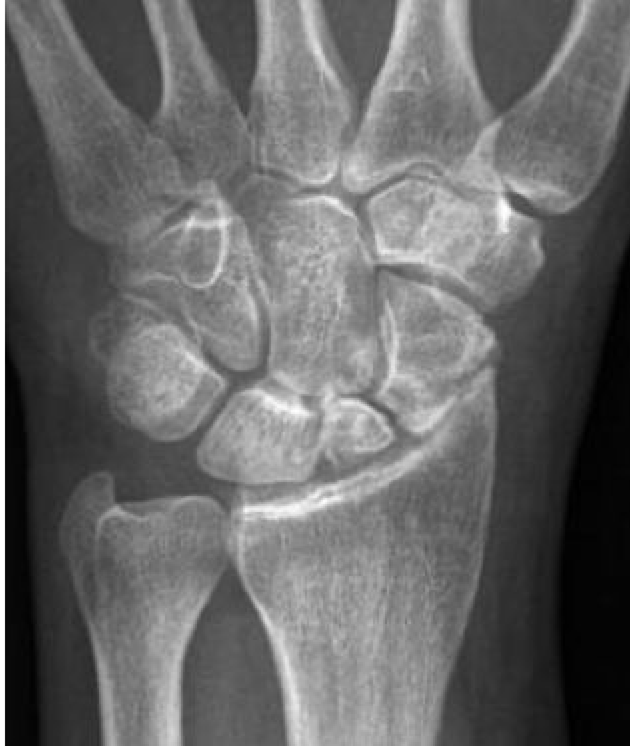
- Trauma leading to scaphoid fx.
- SLAC- traumatic injury to S-L ligament.
- Pseudogout reported as well

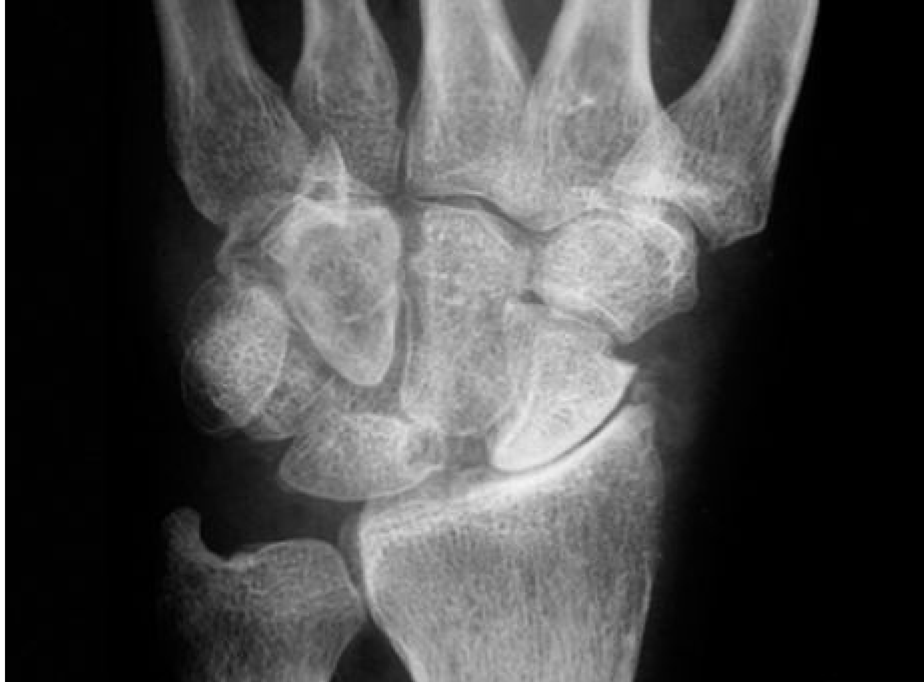
- **Is painful SLAC arthritis inevitable with scapholunate ligament injury?**
    - **No. can be painless**

Evaluation

- **Joint effusion, dorsal radial wrist swelling, TTP at radioscaphoid joint**
- **Reduced wrist ROM.**
- **Eval for CTS, trigger finger, + basilar joint thumb arthritis.**

Imaging

- **Bilateral wrist xrays**
- **SNAC**
    - 
- **SLAC**

- 

Treatment (Non op)

- Splint, injection.
- No studies on long-term success of non surgical tx

Surgical

- Partial/complete wrist arthrodesis
- Proximal Row Carpectomy
- Denervation
- Radial styloidectomy
- SNAC- can excise distal un-united scaphoid fragment

Four Corner arthrodesis

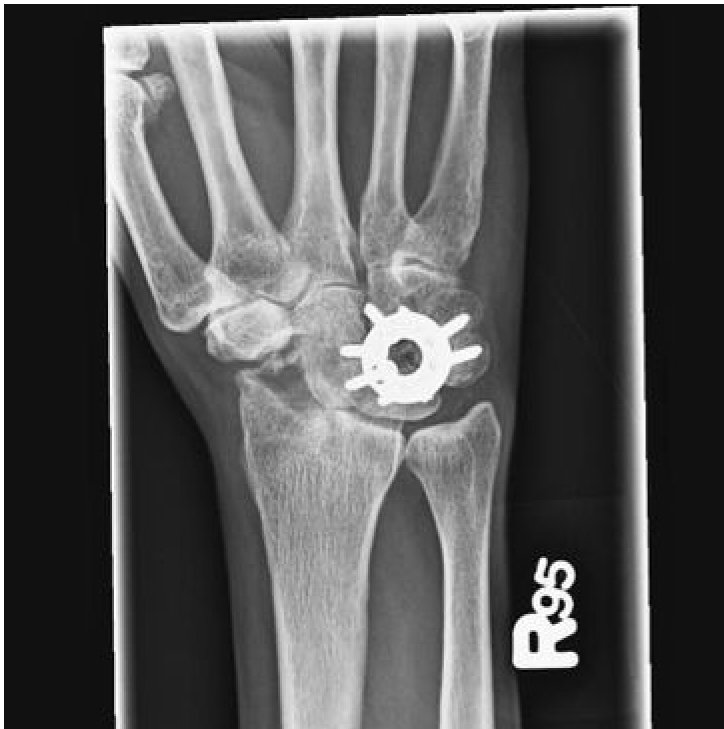
- Excision of scaphoid w/ fusion of capitate, hamate, lunate + triquetrum w/ K wire fixation + distal radius bone grafting
- Transverse incision.
- K wires moved at 6 weeks, some at 12 weeks
- Technical modifications:
    - Circular plate fixation (more stable fixation, less change non-union)
        - High 26-63% non union rate.
        - Some report 100% fusion- use bone graft, debride joint surfaces, remove debris, at least 2 screws in each bone
    - Lunate position
        - Flexed (20), neutral, or extended (30)?
        - Extended lunate- improves flexion & vice versa
    - Fusing capitolunate joint w/ or w/o triquetrum excision
        - 4 corner arthrodesis goal- union of capitolunate joint
            - Results comparable to standard 4 corner arthrodesis
    - Conversion of 4 corner to complete wrist fusion

        - Reduced pain by 67% at rest, but rarely eliminates wrist pain

Proximal row carpectomy

- Traditional: degeneration of capitate articular surface - contraindication to PRC
- Multiple techniques
    - PRC + osteochondral resurfacing of capitate w/ resected carpal graft
    - PRC w/ capitate head resection + dorsal capsular interposition
    - Capsular interposition

4 corner arthrodesis v PRC

- Original- 4 corner arthrodesis cause concern that the capitate had sharper radius of curvature than lunate + didn't fit well into radius.
    - Also found poor cartilage on proximal capitate compared w/ lunate
- Despite above- excellent results w/ PRC
- PRC advantages
    - Earlier motion, no hardware, no need for fusion
- 

Studies show:

- No difference in outcomes
- Vanhove- higher complication rate w/ 4 corner arthrodesis

Denervation

- Complete or partial (sectioning only PIN nerves proximal to wrist joint
- Some good results w/ pain reduction

Complete wrist arthrodesis

- Plate fixation recommended no fusion of the 3rd CMC joint.
- Good symptom relief after plate removal

Radial styloidectomy

- SLAC wrist- radial styloidectomy

- **SNAC wrist- excision of distal scaphoid fragment**

Distal scaphoid pole excision

Sources:

Scapholunate Advanced Collapse and Scaphoid Nonunion Advanced Collapse Arthritis—Update on Evaluation and Treatment Robert J. Strauch, MD