

## Musculoskeletal Case Conference

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Lenox Hill Radiology, NYC  
University of California, San Diego

Scan for  
lecture  
syllabus



## Disclosures

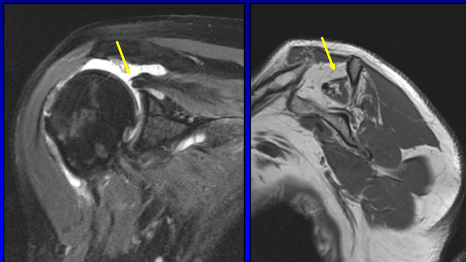
- Book Royalties: Elsevier
- Consultant: Bioclinica
- Advisory Board: Philips
- Contractor: POCUSPRO
- Not relevant to this talk

Syllabus on line and other educational material:  
[www.jacobsonmskus.com](http://www.jacobsonmskus.com)

1

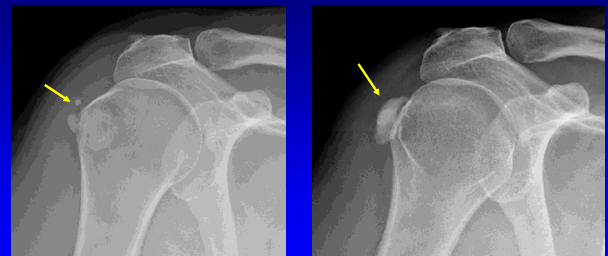
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### Full-thickness Tear: supraspinatus



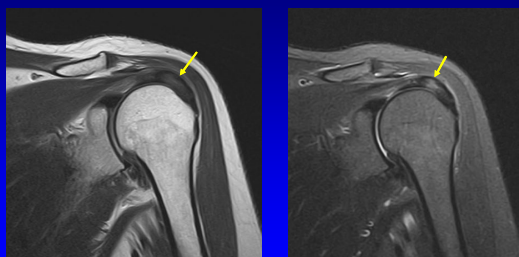
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### Calcium Hydroxyapatite Deposition



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### Tendinosis: supraspinatus

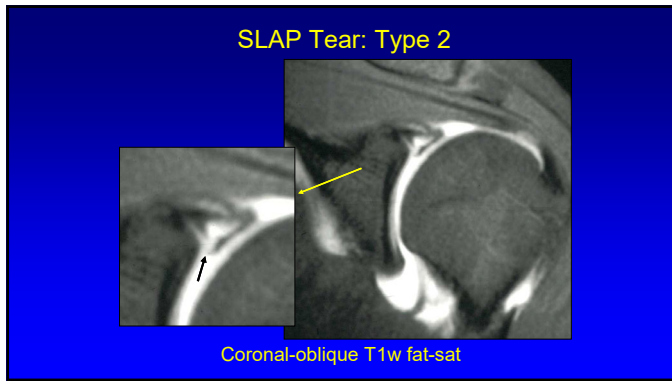


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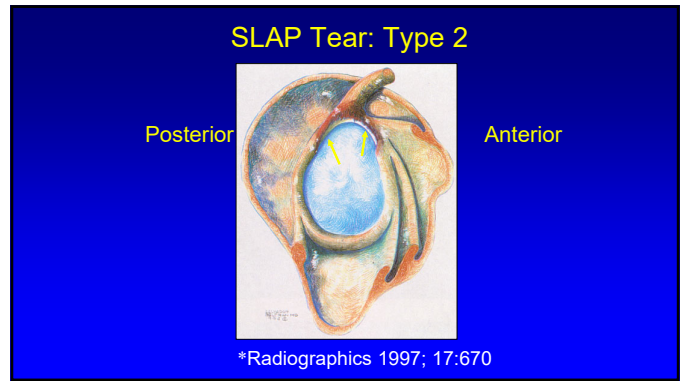
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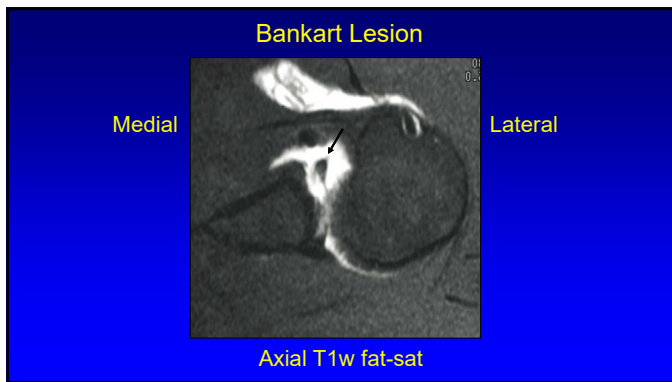
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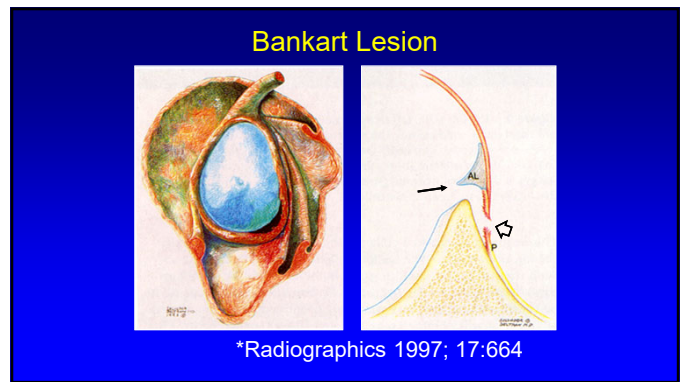
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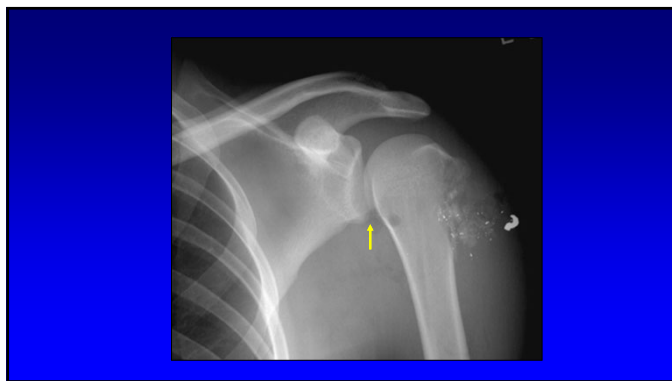
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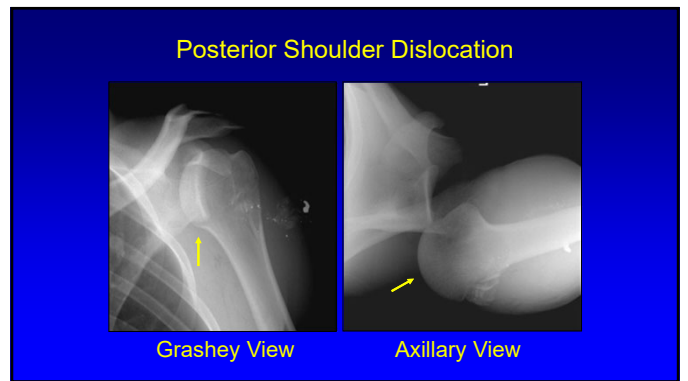
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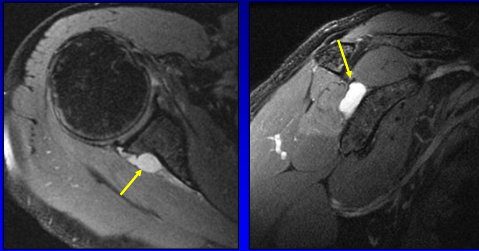


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### Paralabral Cyst



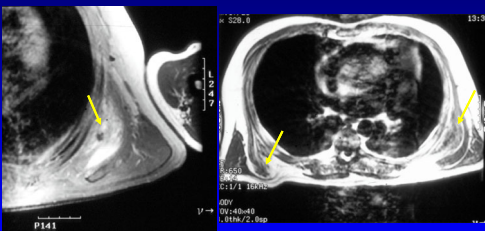
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### Unicameral Bone Cyst



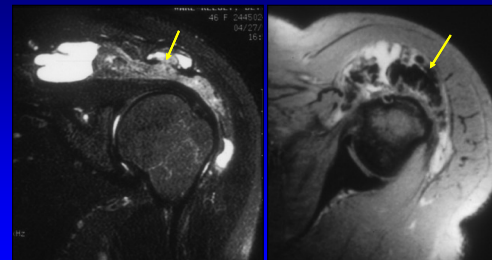
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### Elastofibroma



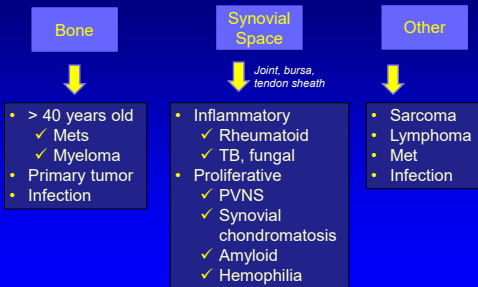
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### Pigmented Villonodular Synovitis



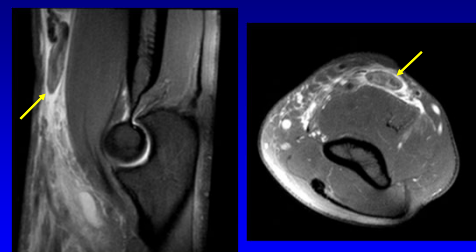
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### Mass Algorithm



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### Distal Biceps Brachii Tendon Tear



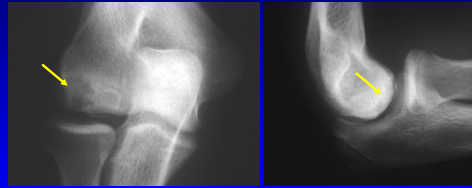
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Common Extensor Tendinosis



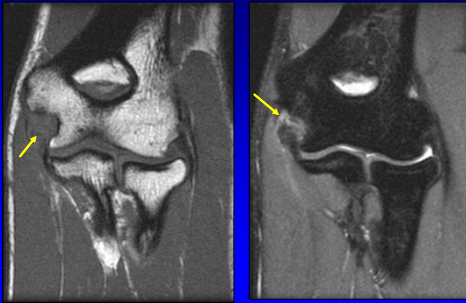
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Osteochondral Abnormality



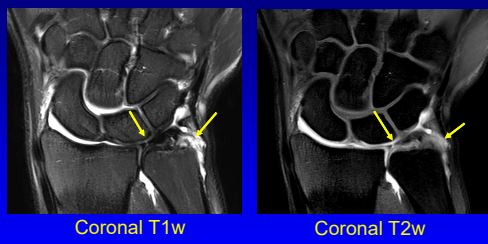
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Ulnar Collateral Ligament Tear



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TFC Tear

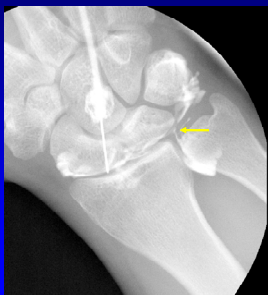


Coronal T1w

Coronal T2w

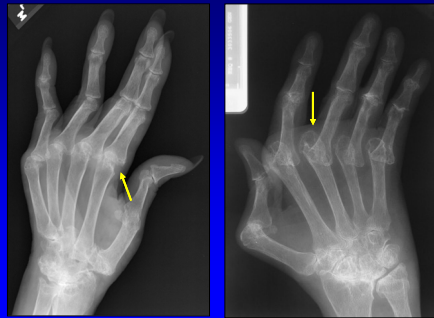
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Triangular Fibrocartilage Tear

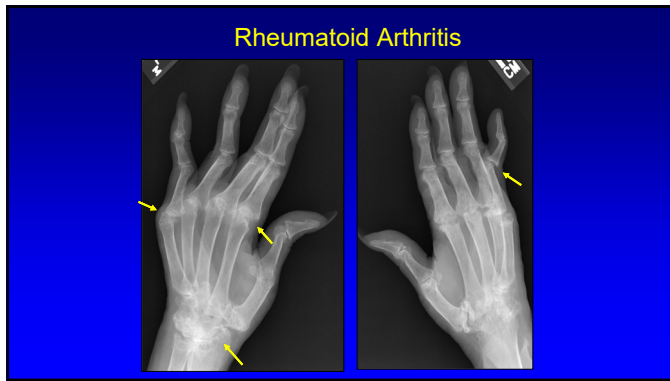


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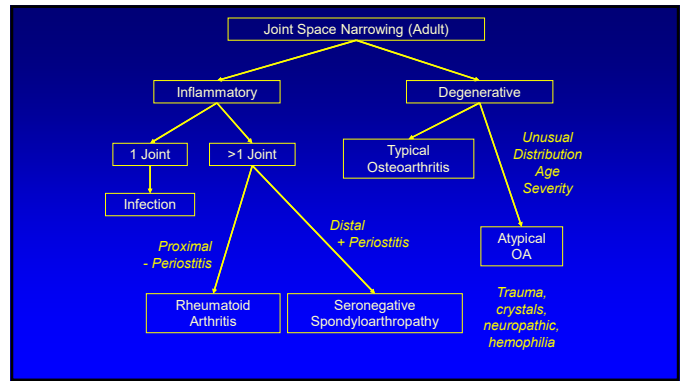
Rheumatoid Arthritis



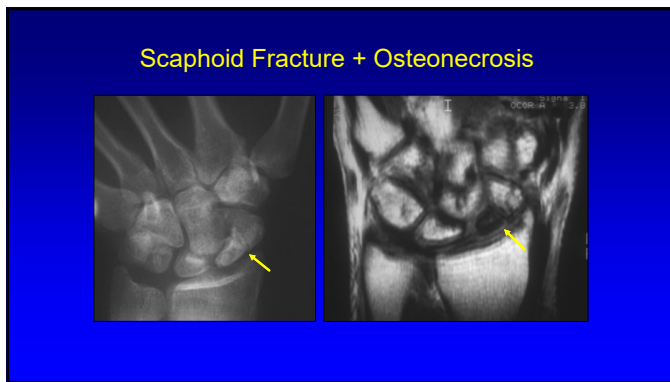
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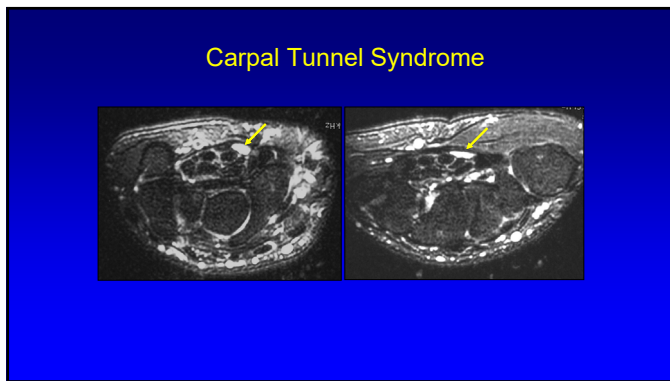
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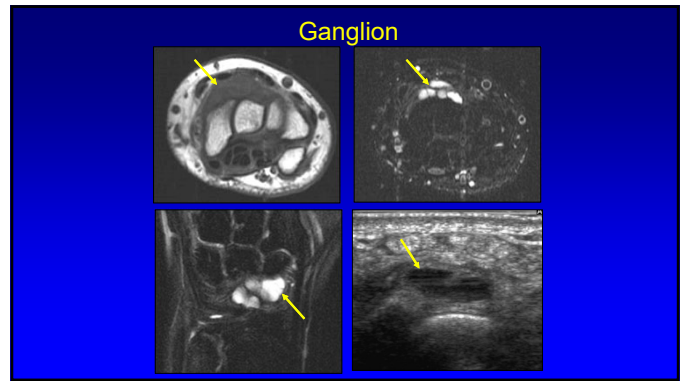
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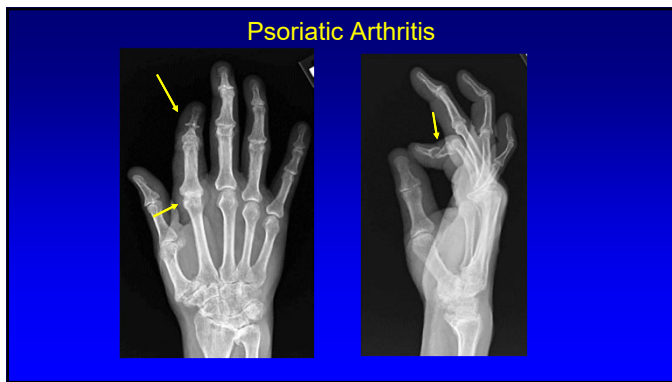
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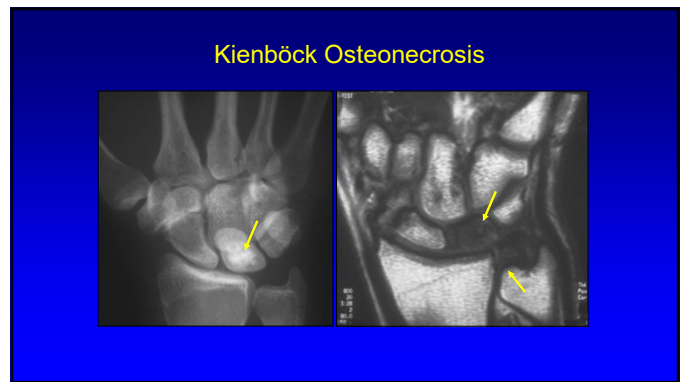
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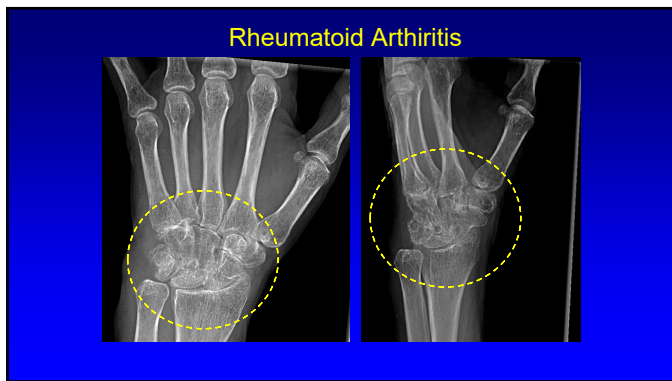
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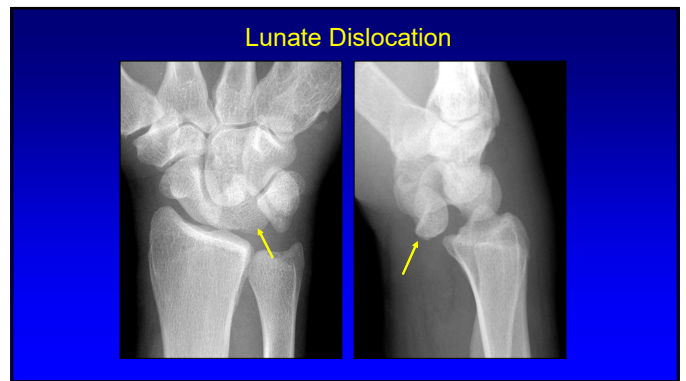
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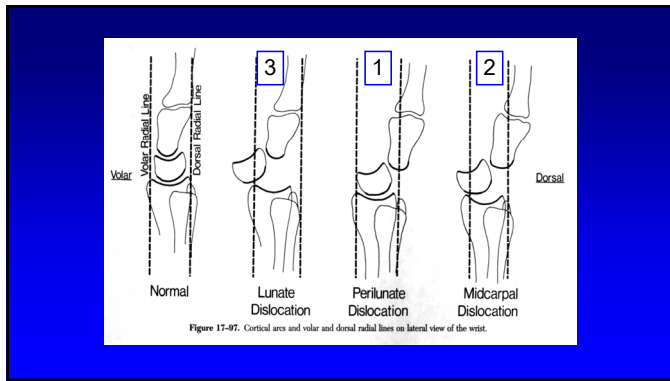
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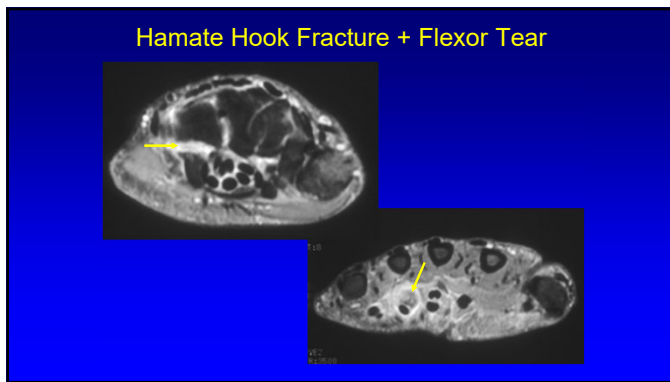
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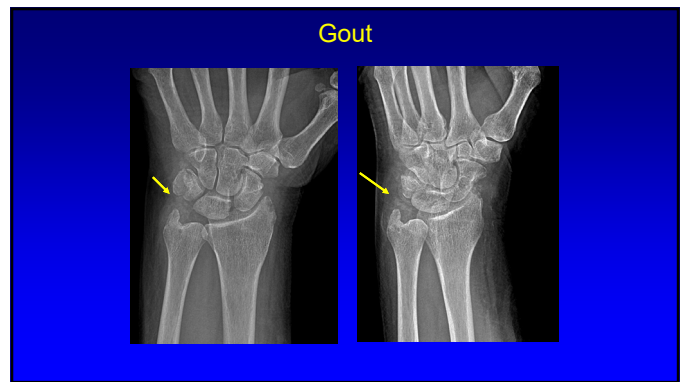
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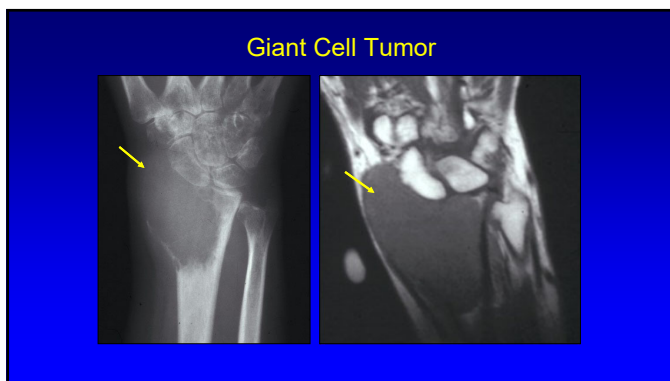
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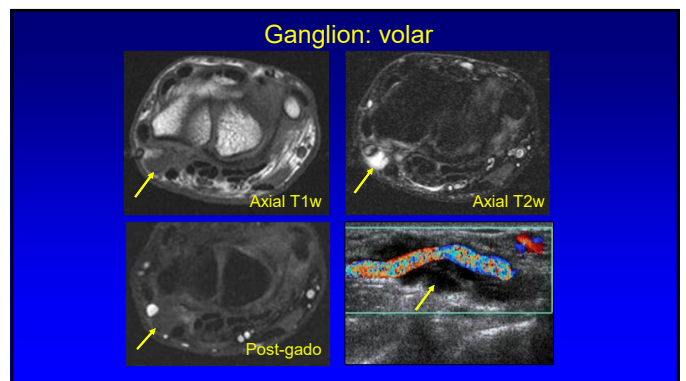
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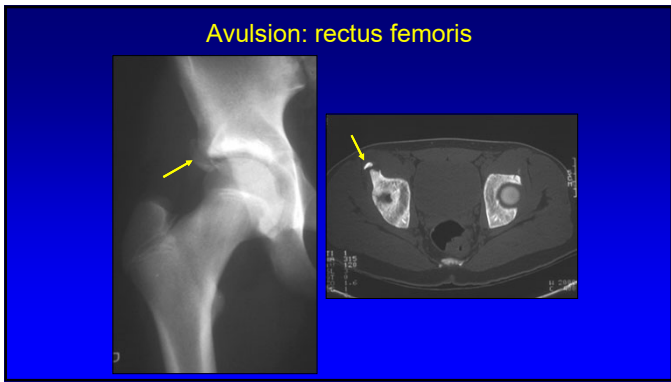
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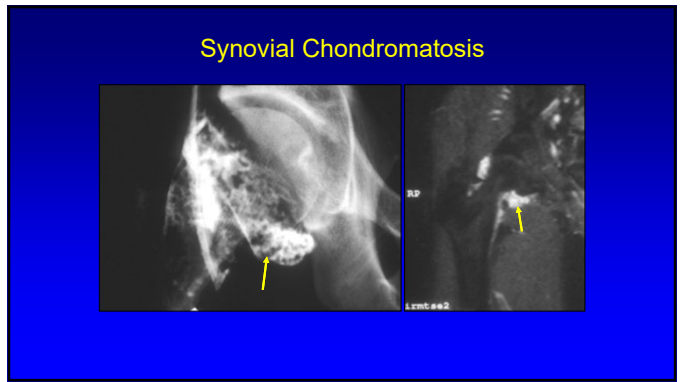
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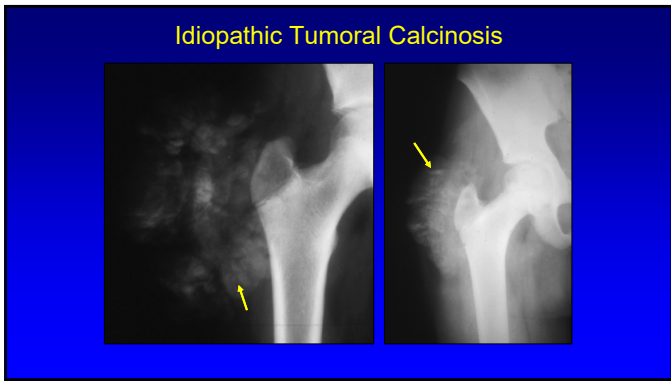
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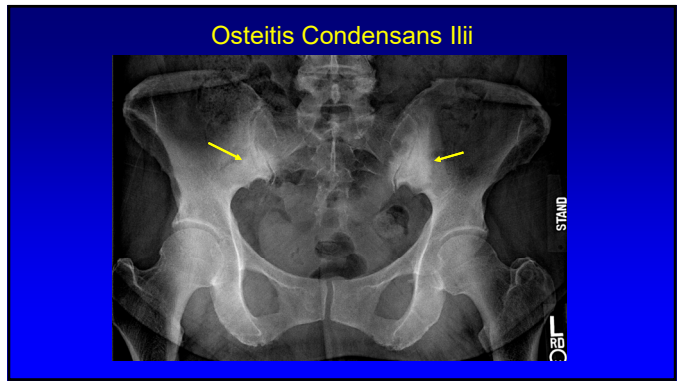
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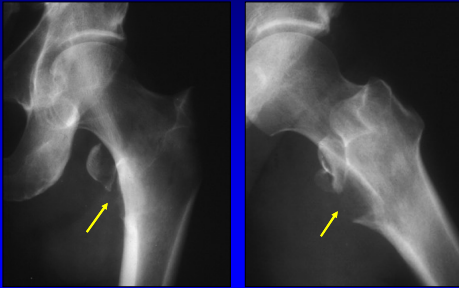
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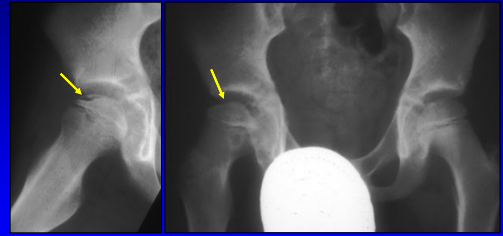


Metastatic Lung Cancer: avulsion



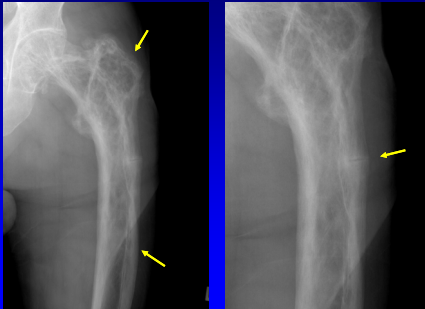
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Legg-Calvé-Perthes Disease (osteonecrosis)



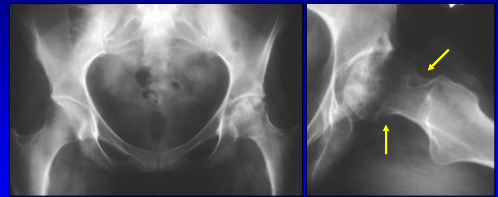
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Paget Disease + Insufficiency Fracture

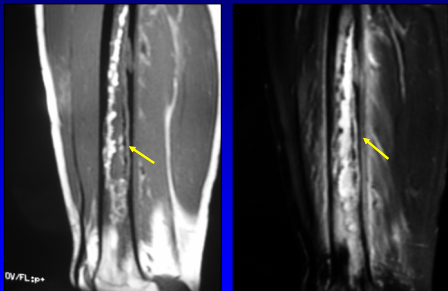


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Pigmented Villonodular Synovitis

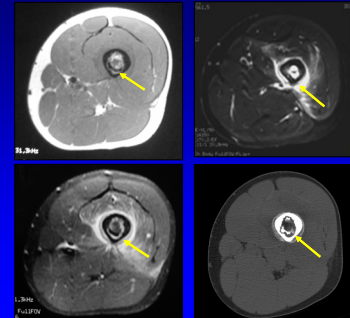


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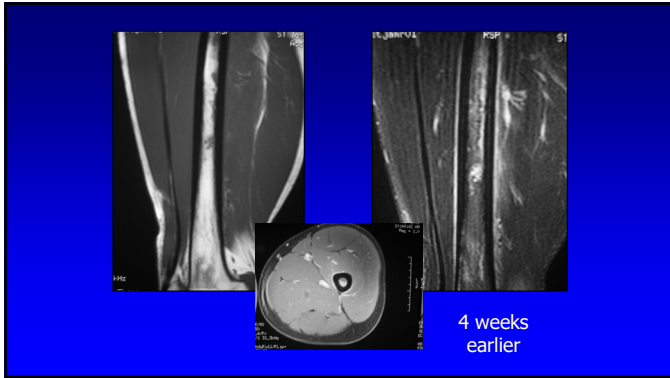


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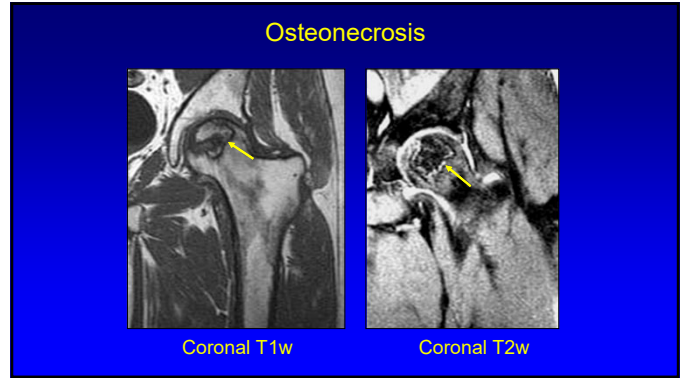
Chronic Osteomyelitis: sequestrum



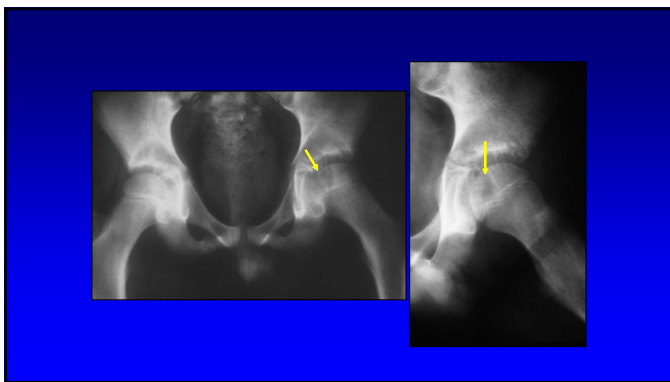
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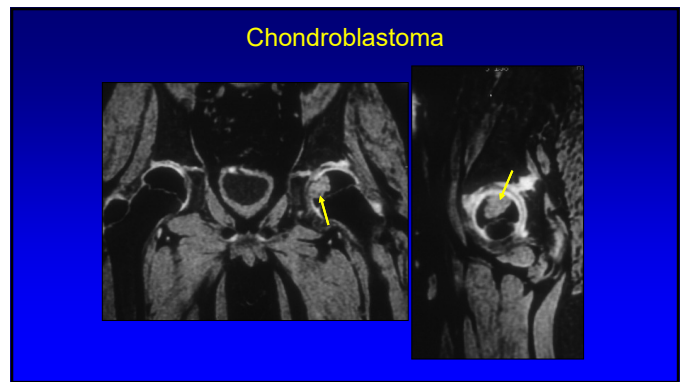
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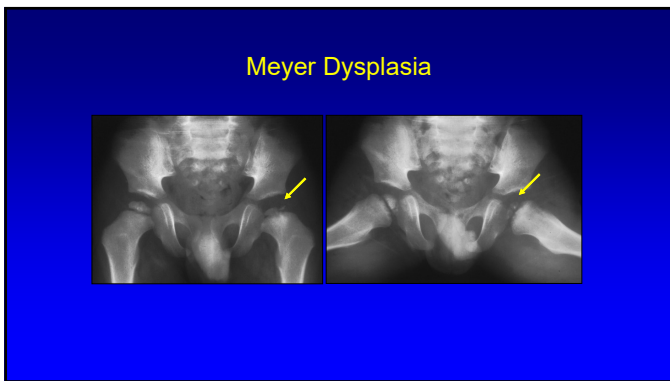
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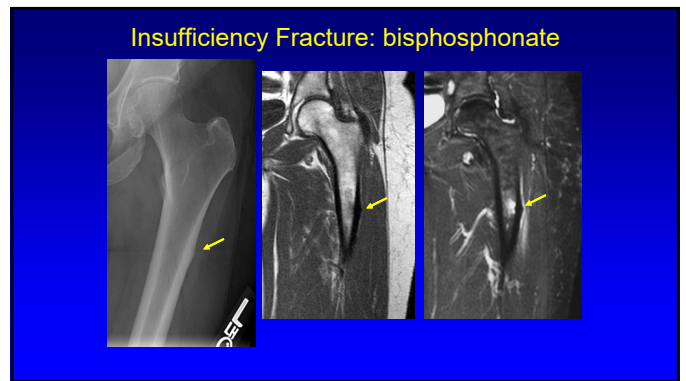
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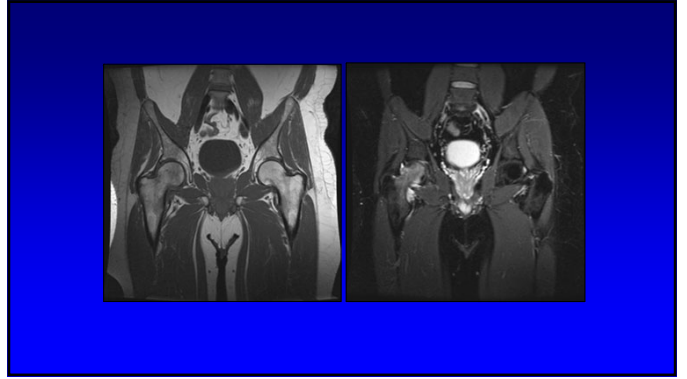
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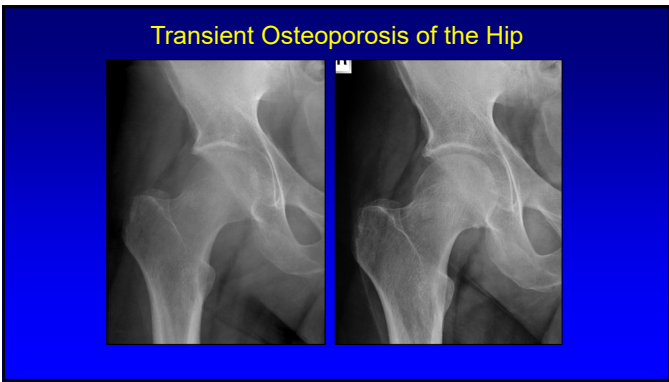
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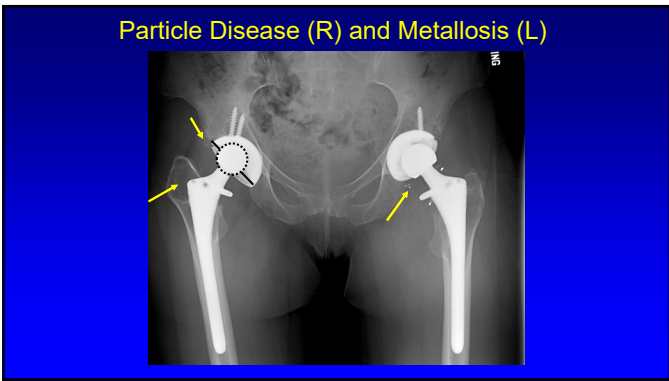
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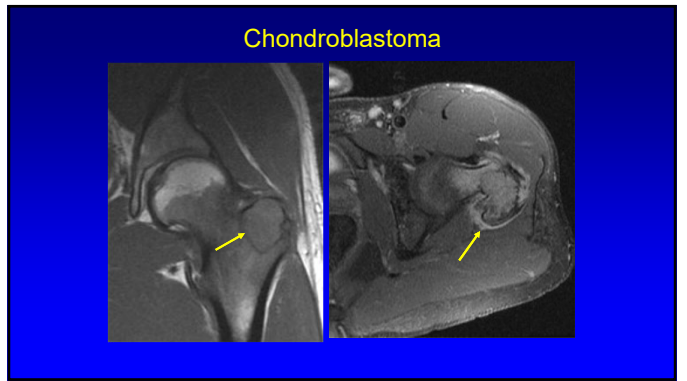
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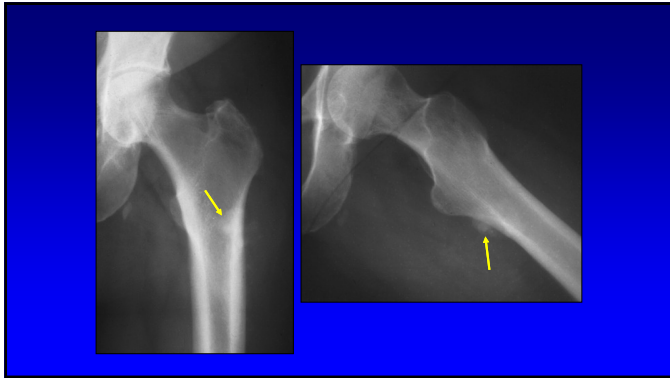
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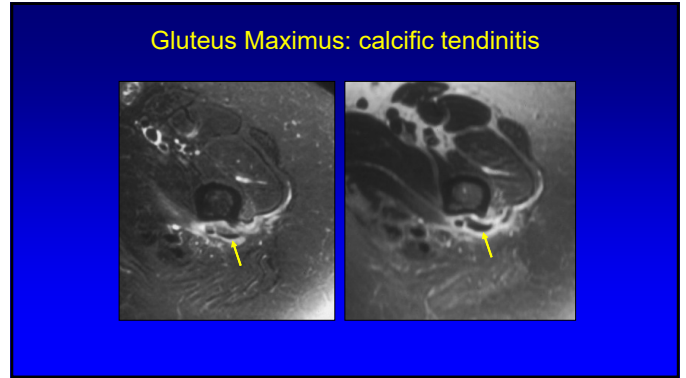
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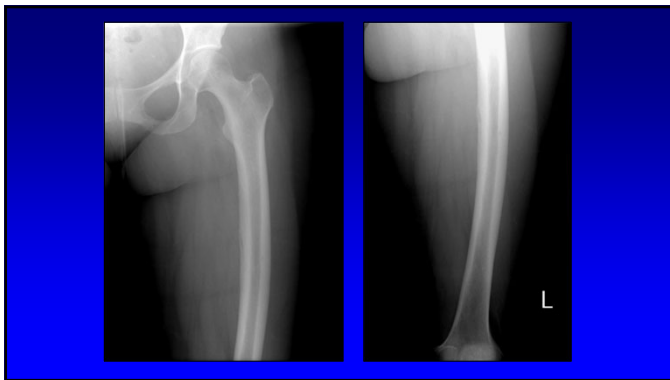
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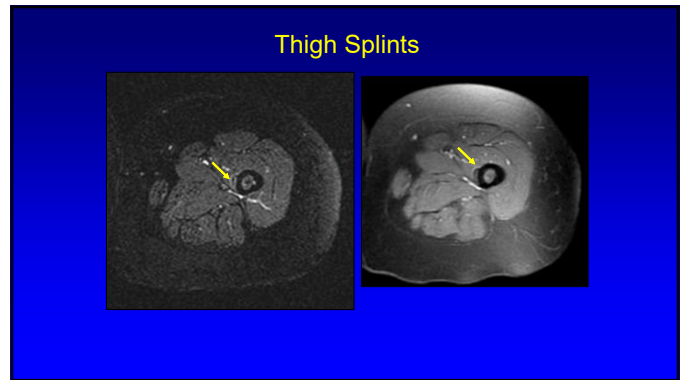
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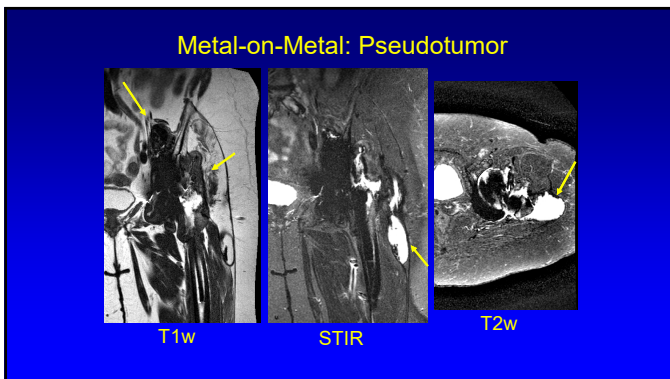
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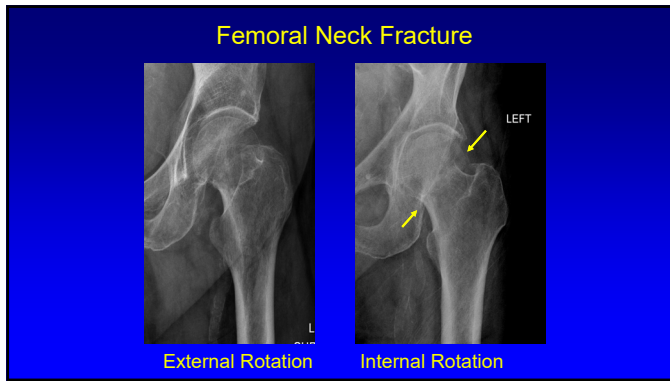
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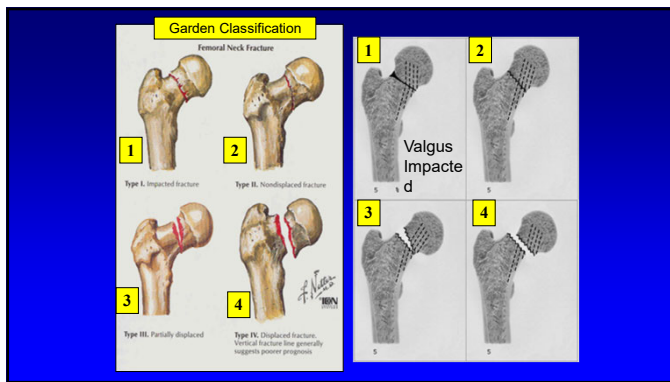


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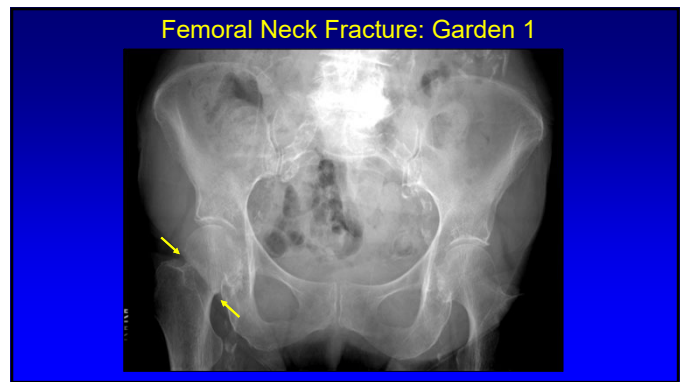
### Femoral Neck Fracture:

- Internal rotation radiograph essential
- Goal: diagnose non-displaced femoral neck fracture
- Garden Classification: 1 – 4
  - 1 & 2: non-displaced → percutaneous pins
  - 3 & 4: displaced → arthroplasty (risk of AVN)
- With osteopenia, MRI necessary
  - CT not effective

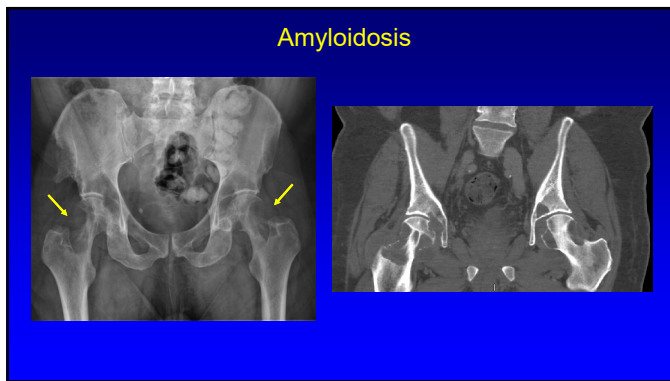
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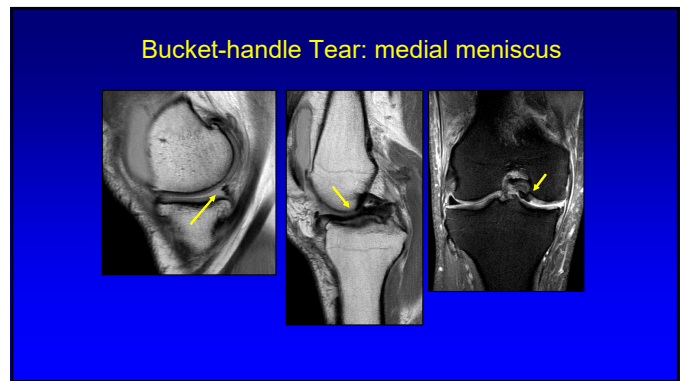
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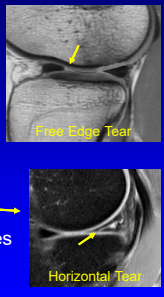
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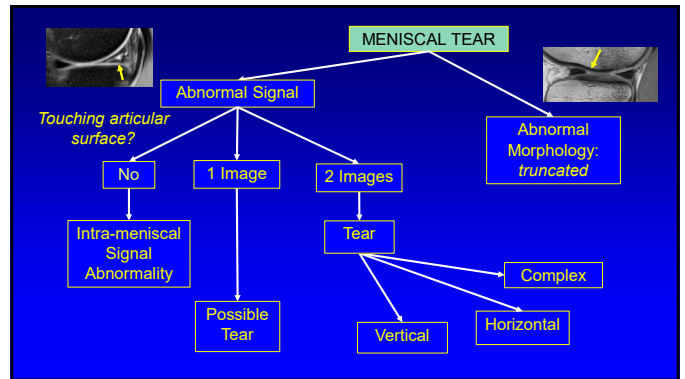
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### Meniscus Tear: MRI criteria

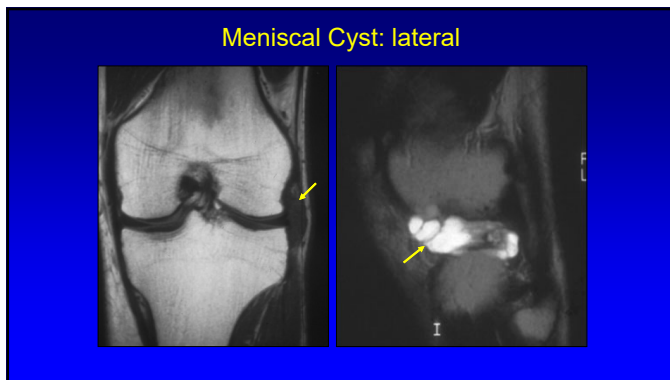
- Abnormal morphology
  - Truncation, absence
- Abnormal signal
  - Extends to articular surface (unequivocally)
  - Two consecutive or orthogonal images
  - "Two-slice-touch rule"



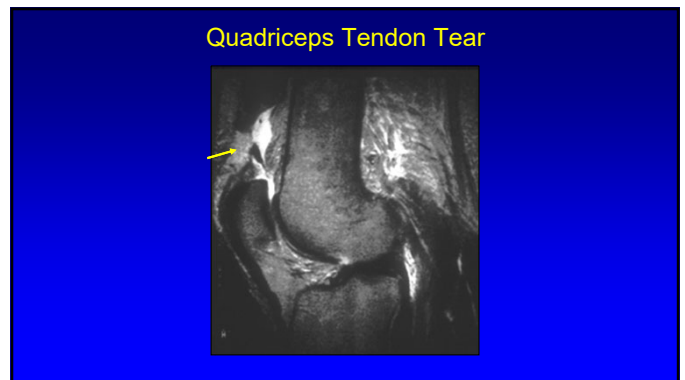
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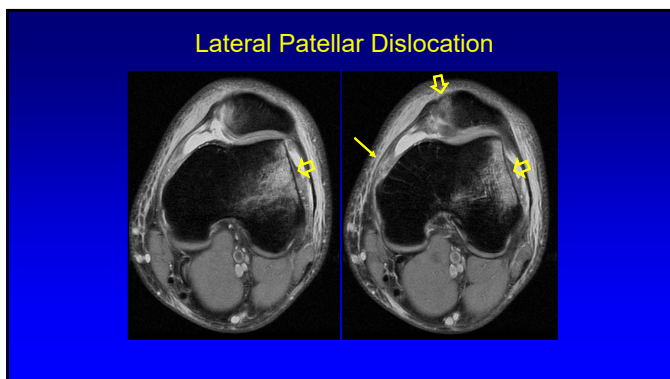
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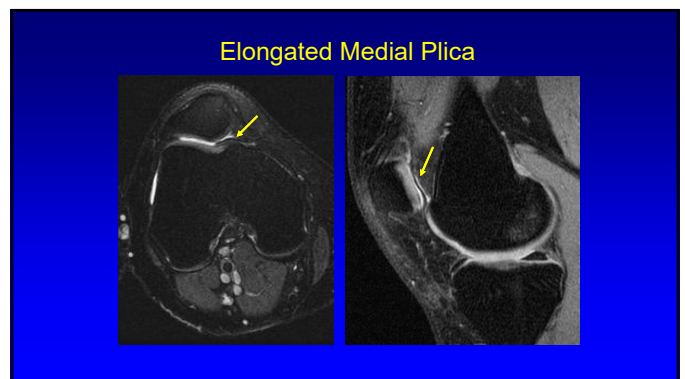
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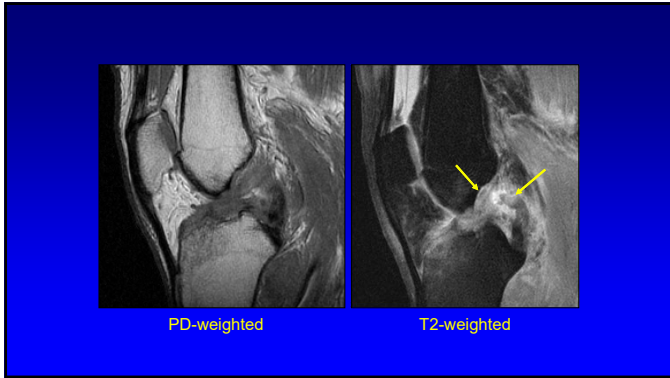
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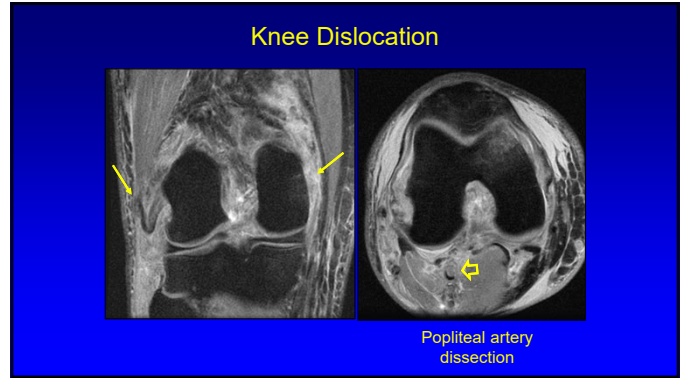
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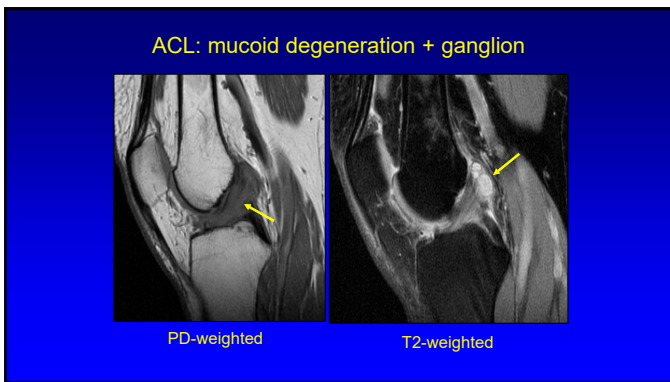
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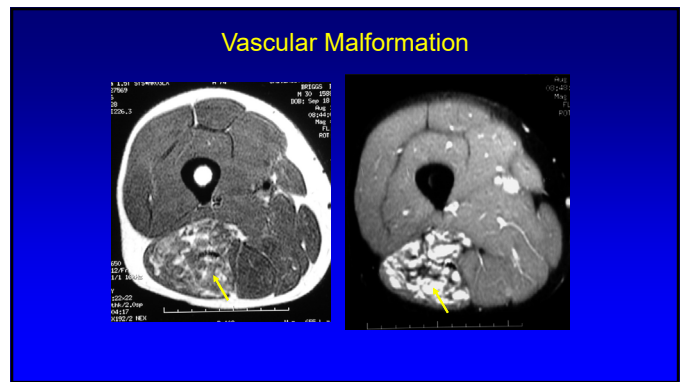
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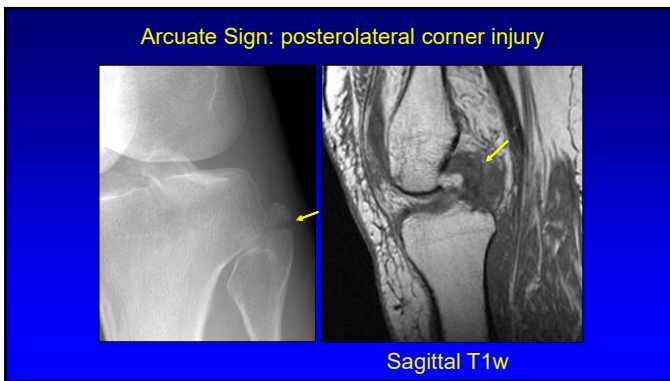
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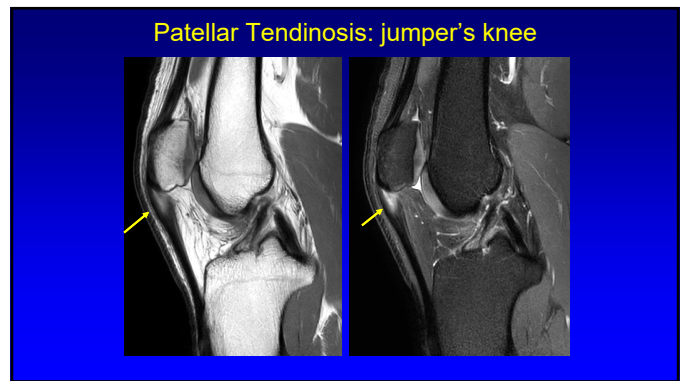
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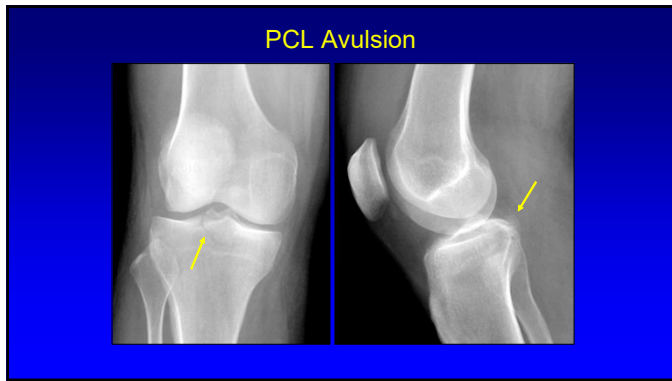
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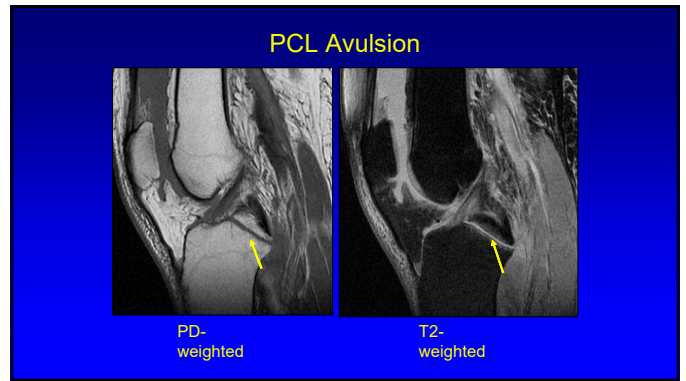
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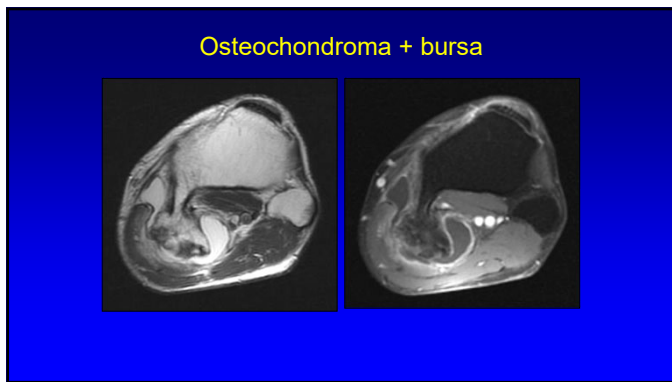
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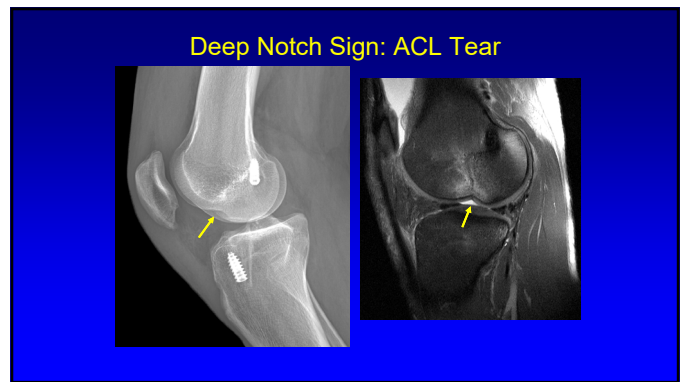
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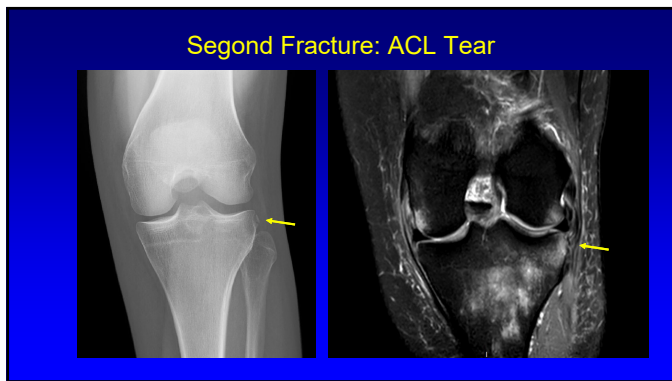
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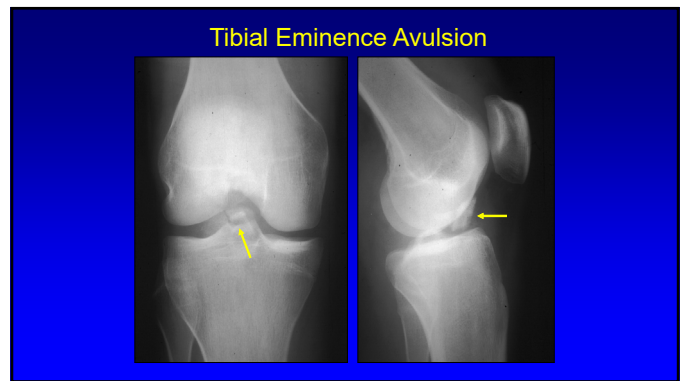
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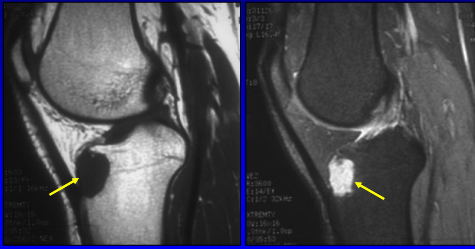
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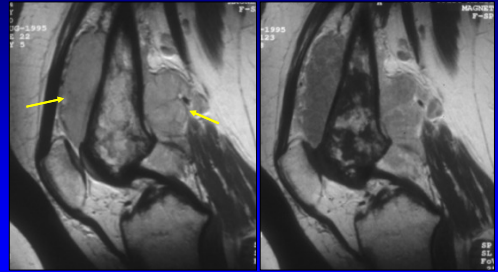


### Chondroblastoma



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### Lymphoma



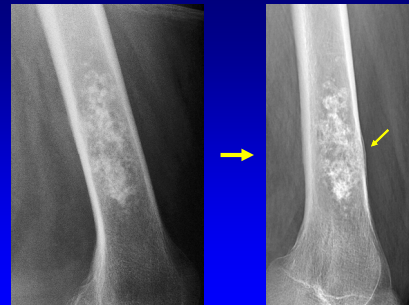
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### Patellar Sleeve Fracture



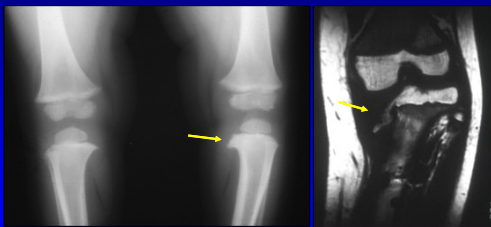
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### Low Grade Chondrosarcoma



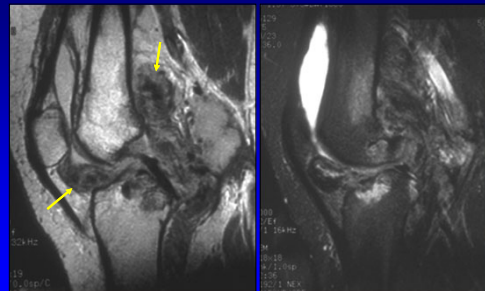
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### Bount Disease: tibia vara

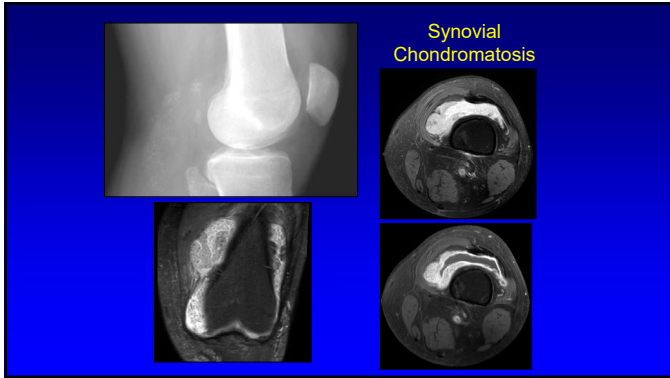


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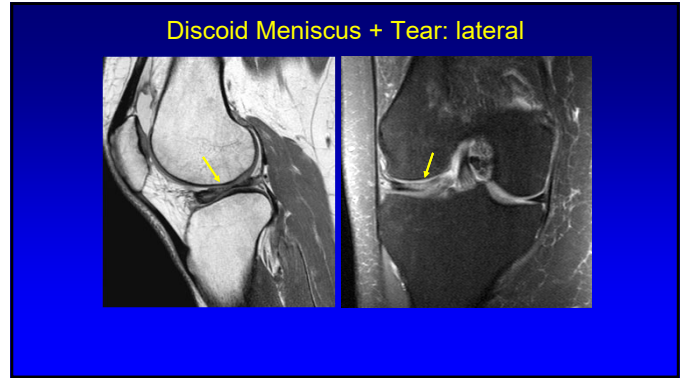
### Pigmented Villonodular Synovitis



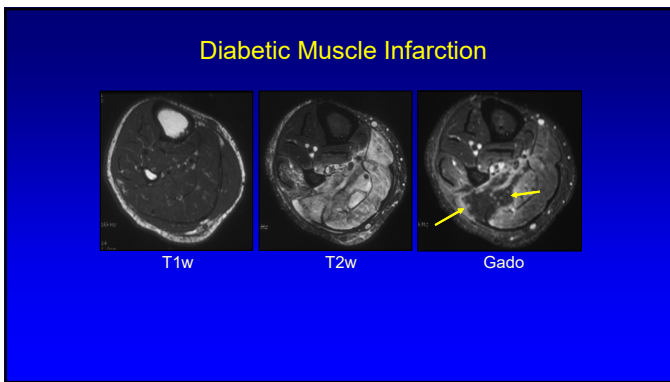
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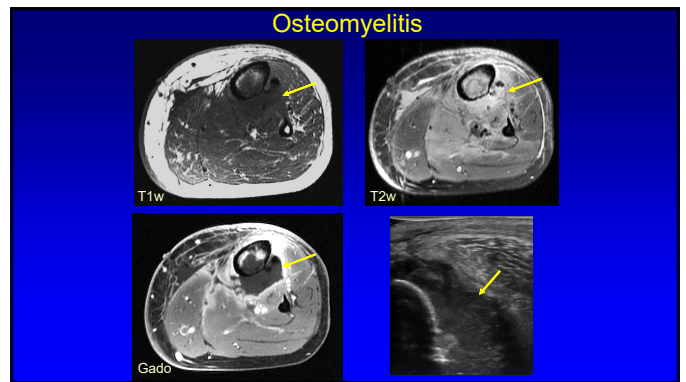
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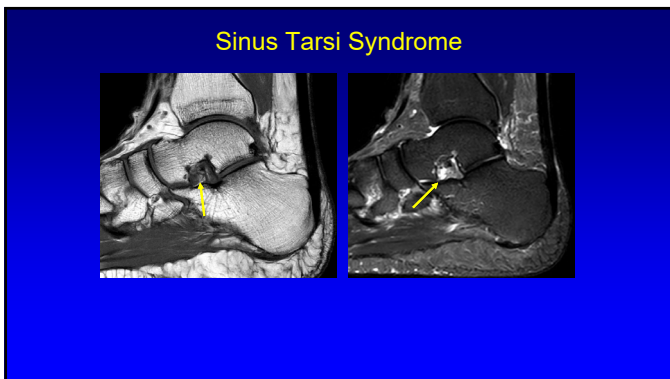
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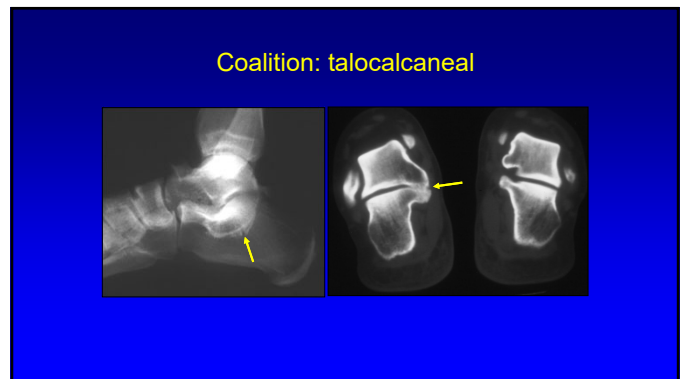
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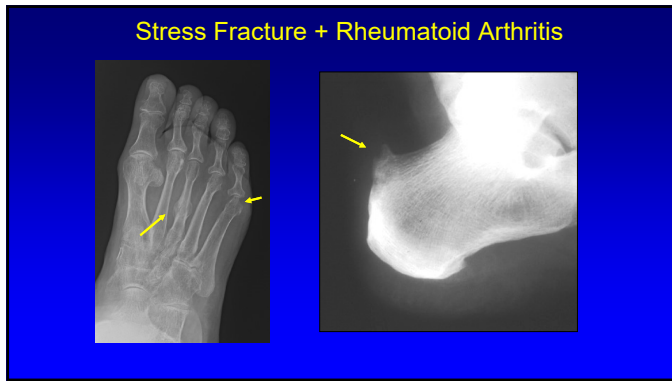
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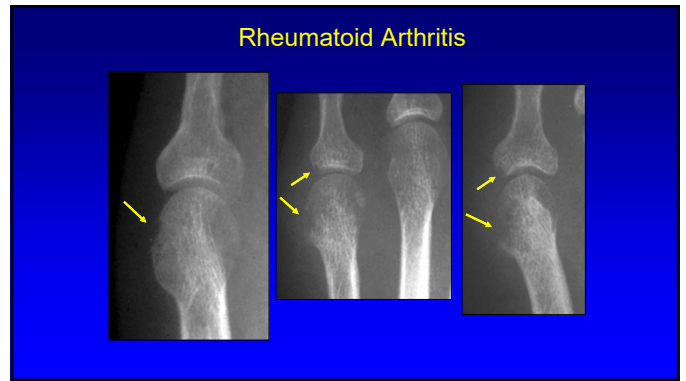
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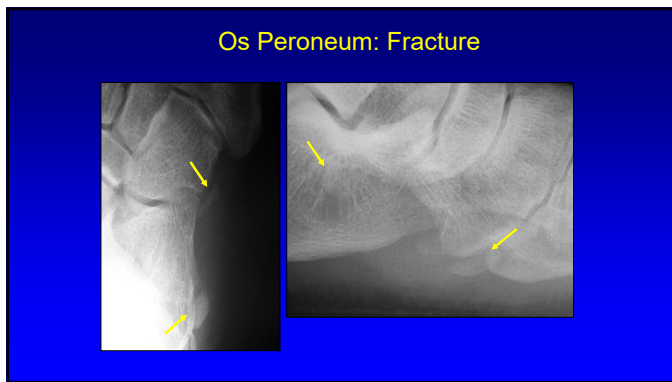
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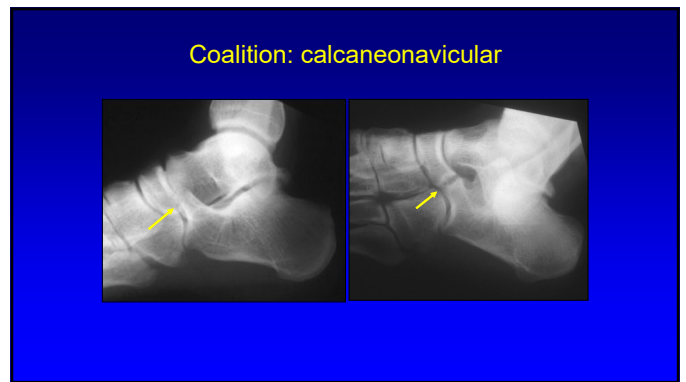
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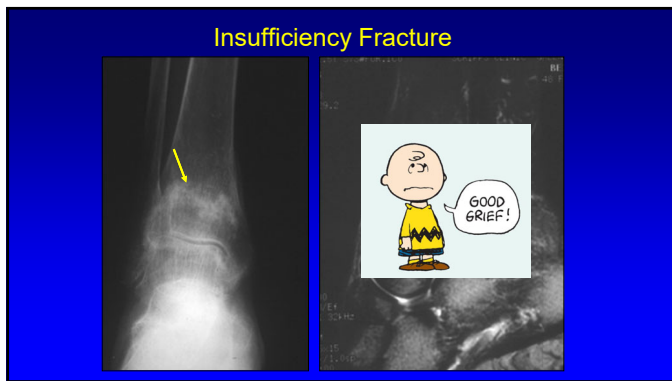
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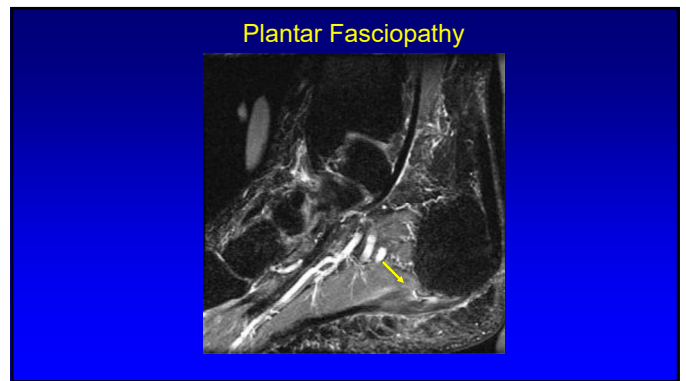
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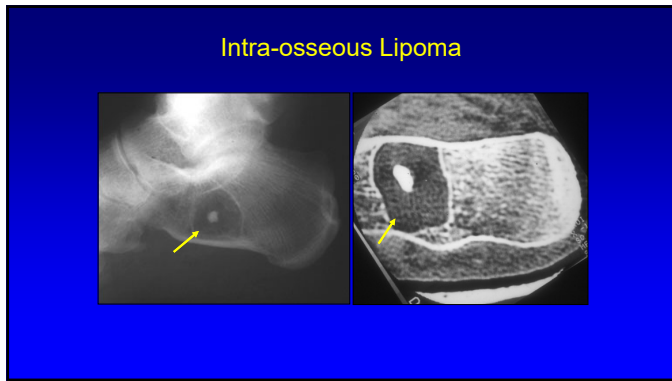
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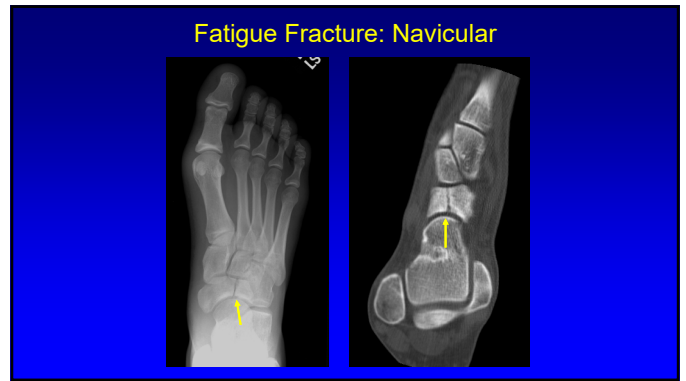
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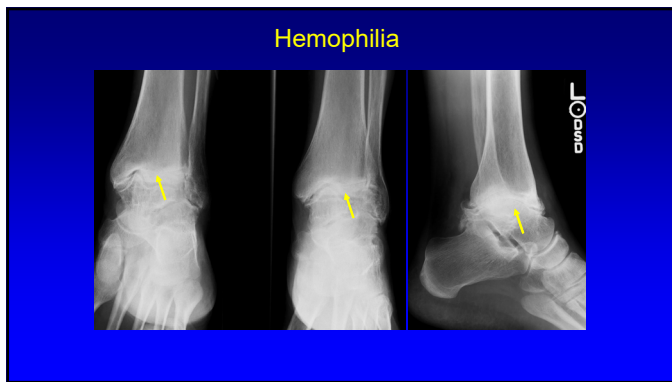
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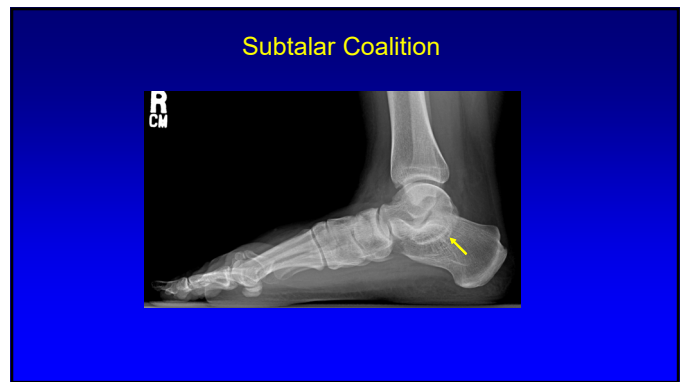
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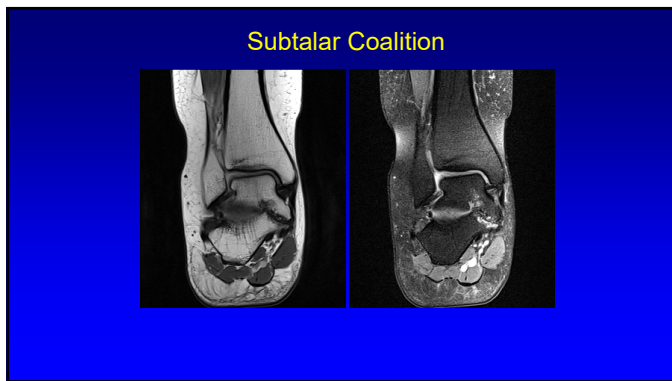
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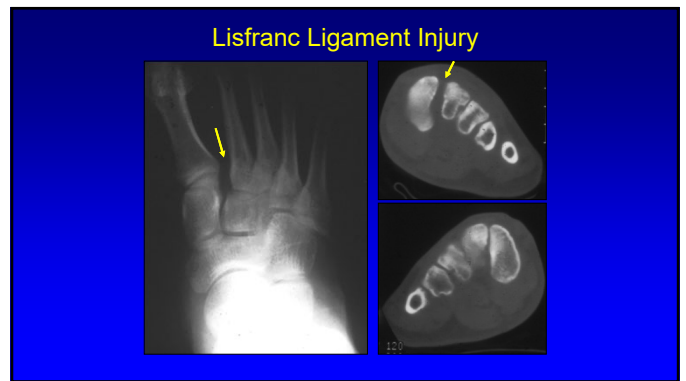
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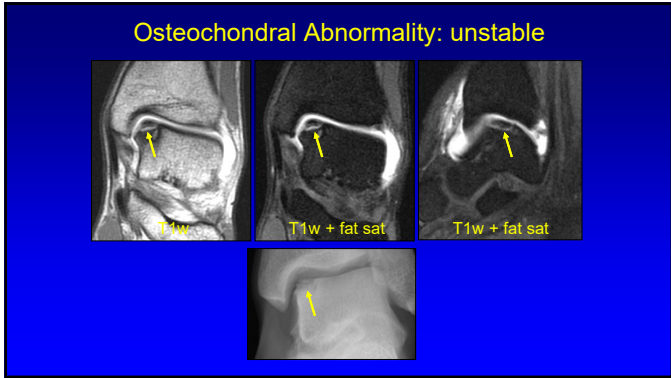
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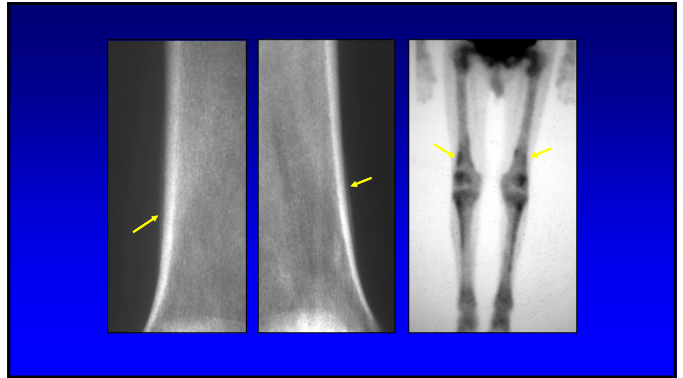
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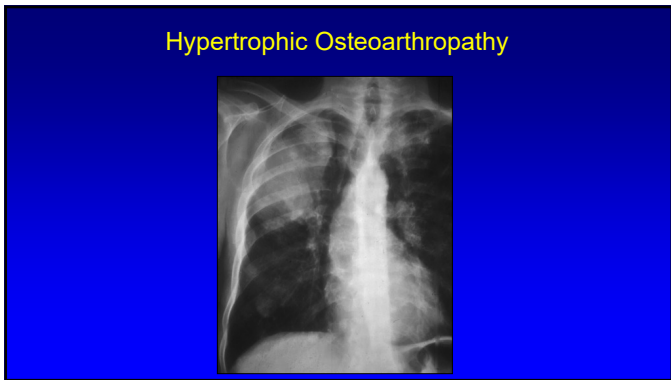
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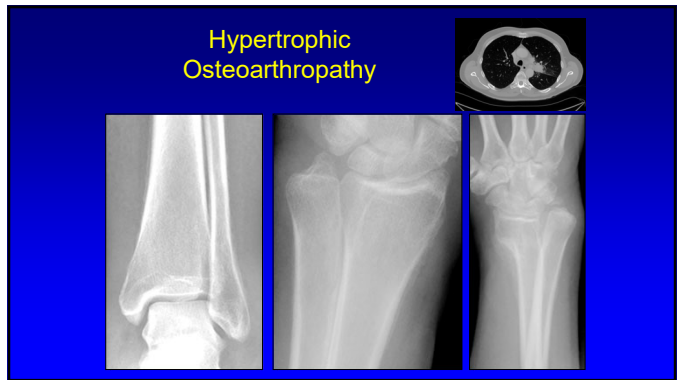
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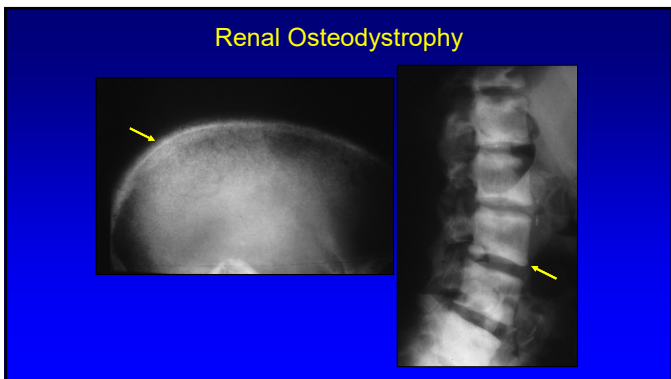
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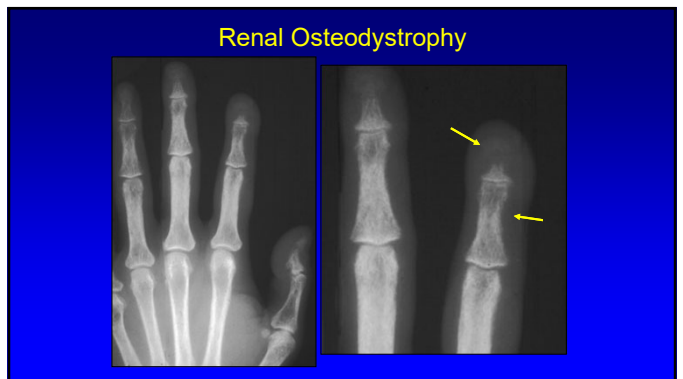
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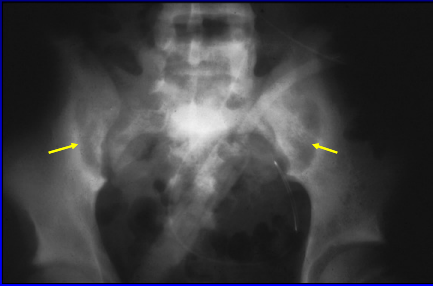


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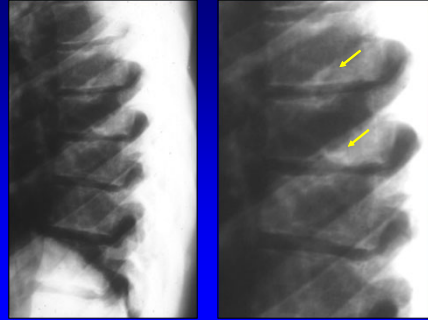
207

Renal Osteodystrophy



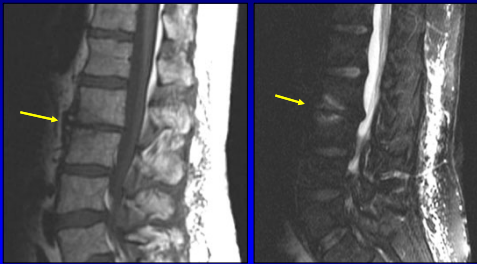
208

Scheuermann Disease



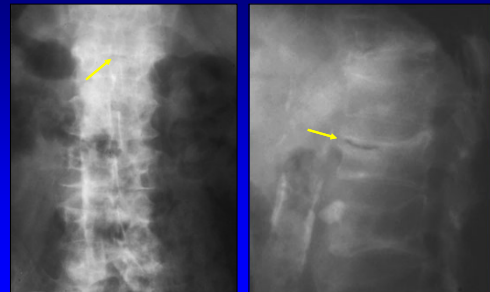
209

Modic 1 Degenerative Changes



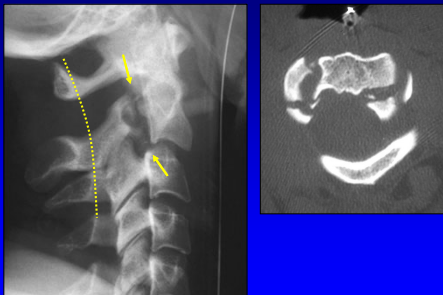
210

Ischemic Collapse (Kümmell Disease)



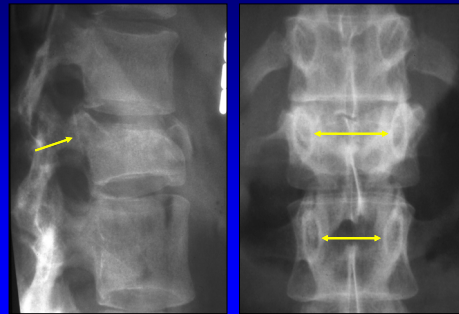
211

Hangman's Fracture

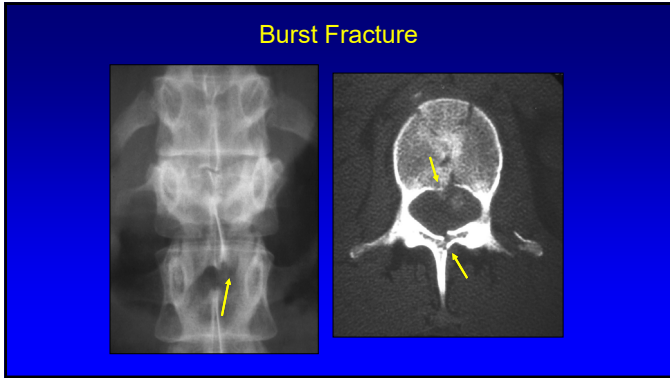


212

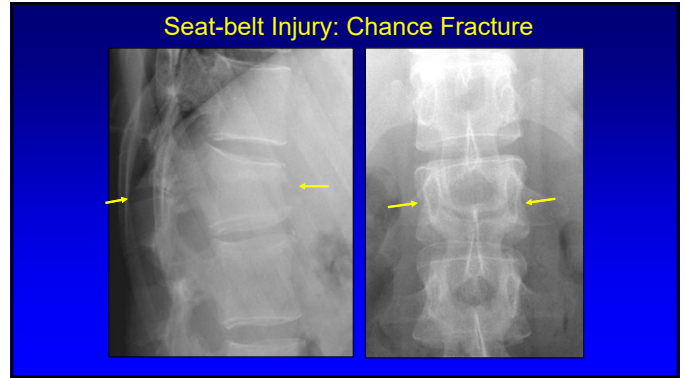
Burst Fracture



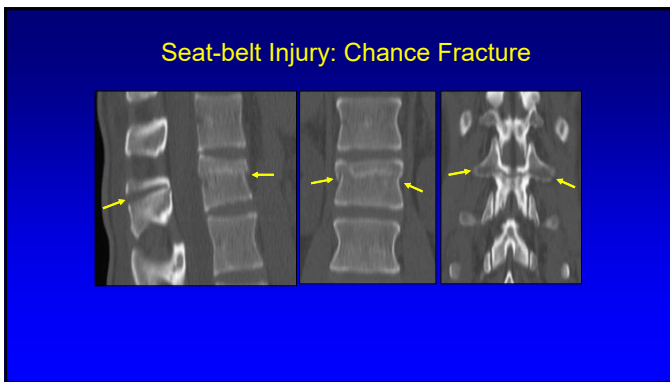
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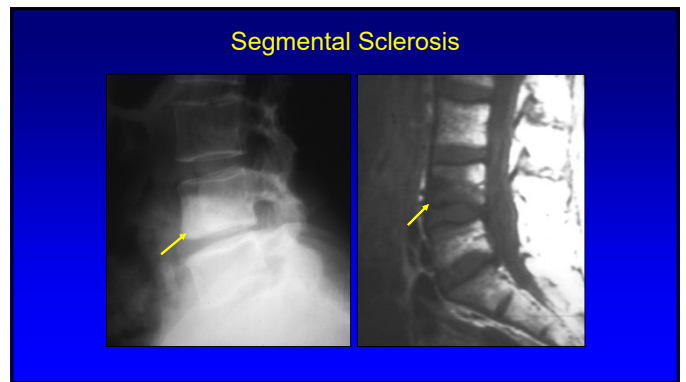
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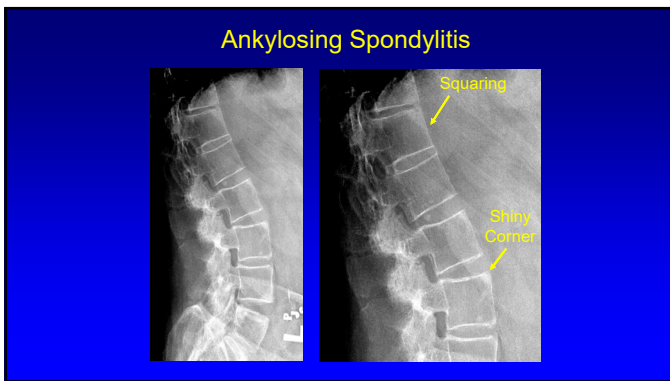
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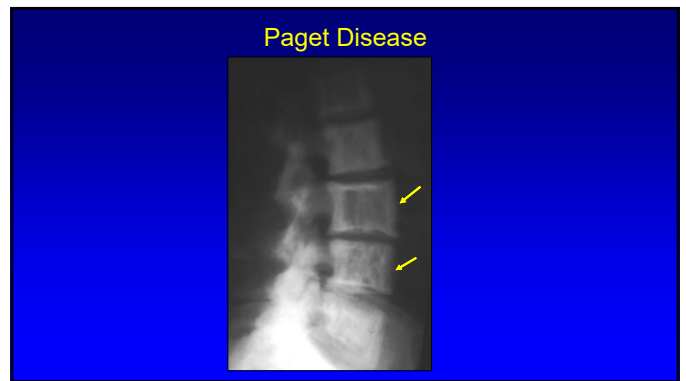
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219

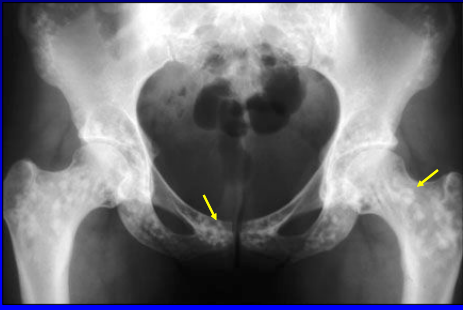


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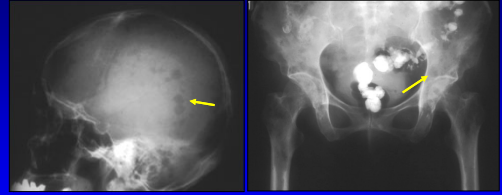


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Osteopoikilosis

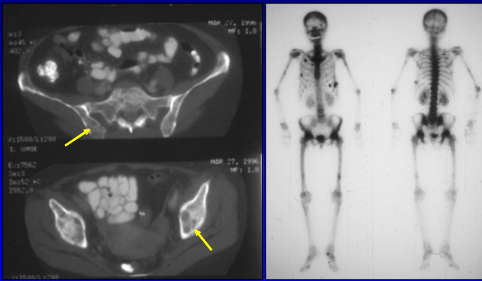


227



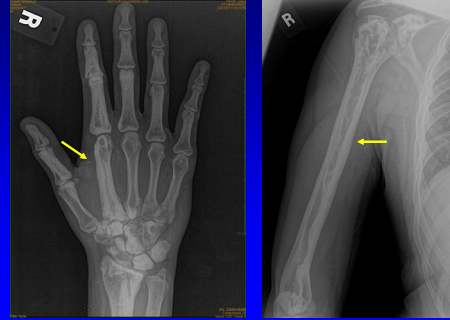
230

Multiple Myeloma



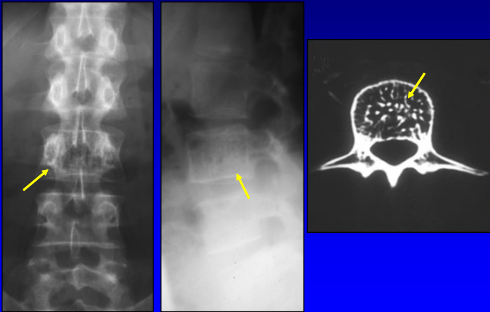
231

Melorheostosis



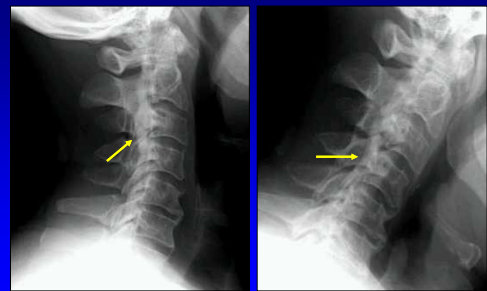
242

Hemangioma



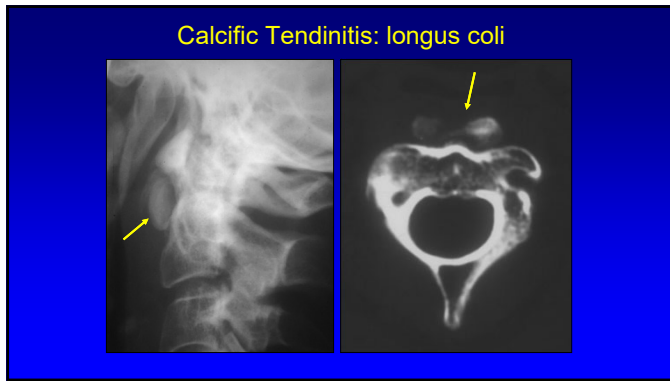
245

Ossification Posterior Longitudinal Ligament

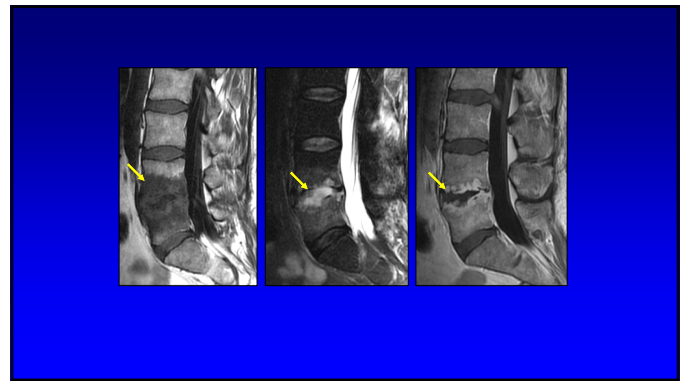


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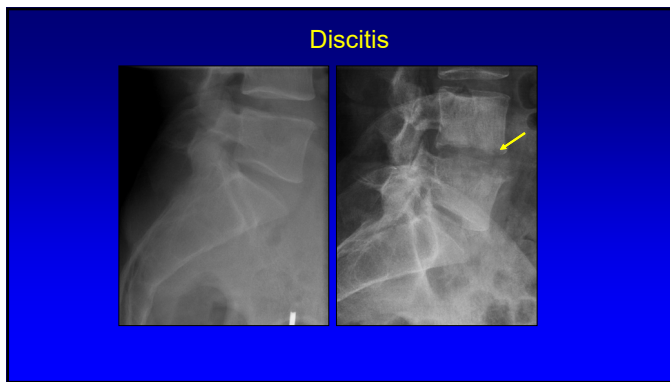




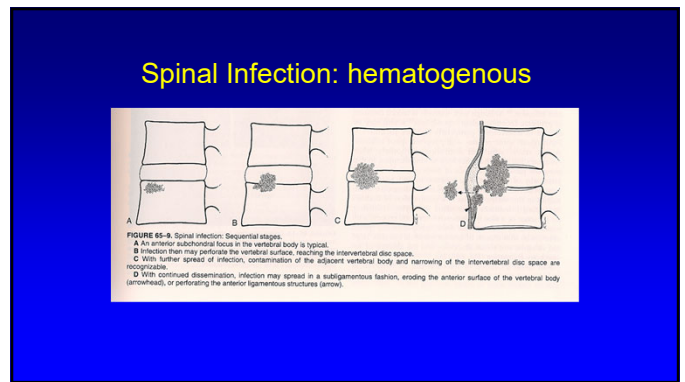
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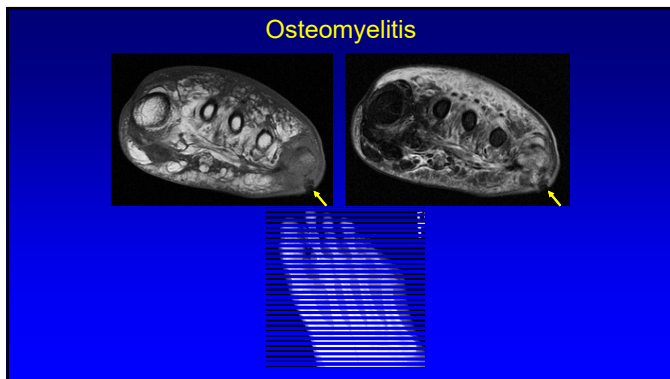
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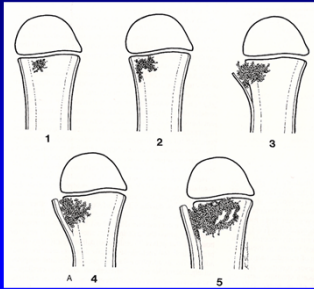
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### Osteomyelitis

- Hematogenous:
  - Adults: usually causes septic arthritis
    - Especially: SCJ, ACJ, SIJ
  - Children: osteomyelitis
- Contiguous source
  - Foot ulcer in diabetic
- Direct implantation
- Post-operative

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### Osteomyelitis: hematogenous (child)



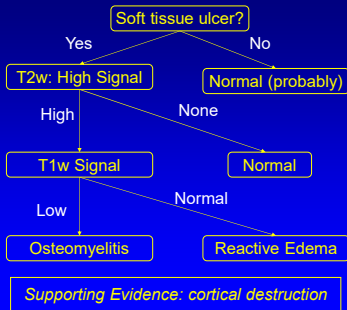
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### Osteomyelitis: contiguous

- High signal: T2w or IR
- Low signal: T1w
- **Adjacent to ulcer**
- Cortical destruction: check radiographs
- Location: heel, toes, distal 1<sup>st</sup> / 5<sup>th</sup> MT
- Gadolinium enhancement

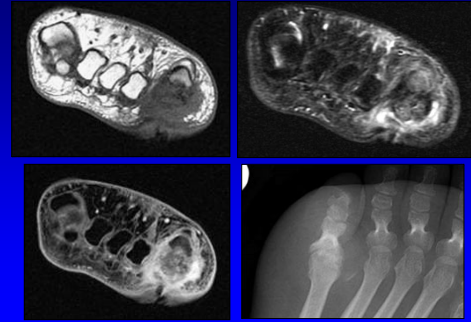
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### Osteomyelitis: adult



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### Osteomyelitis

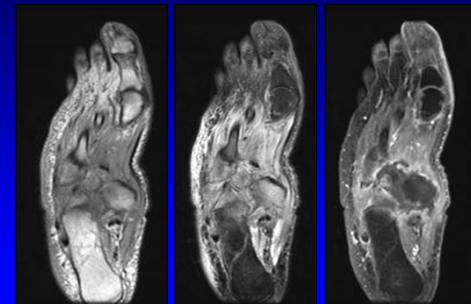


260

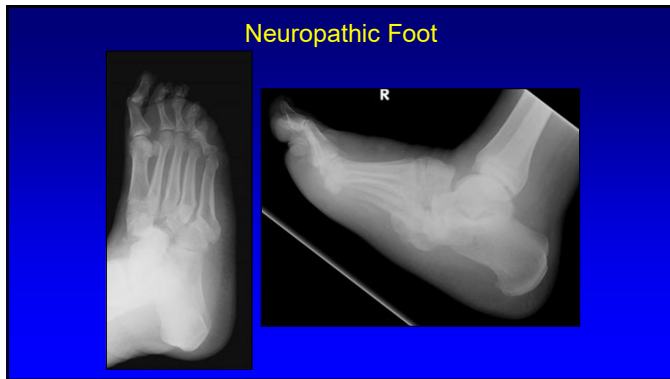
### Osteomyelitis

- Radiographs:
  - May be negative up to 14 days
  - Early: cortical indistinctness
  - Later: bone destruction
- Periostitis:
  - **Not common** in acute osteomyelitis (**adult**)
  - Children: present after 5 days
  - Important sign of chronic osteomyelitis

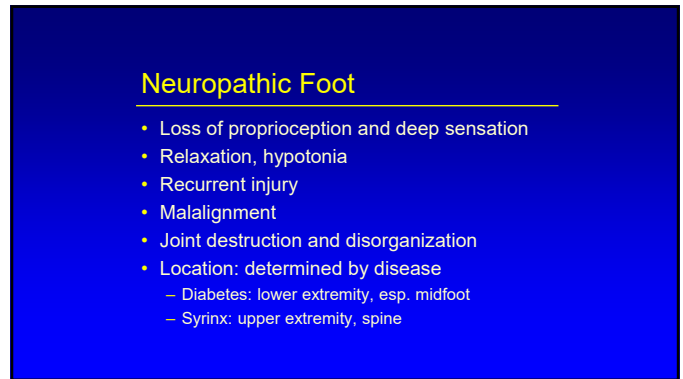
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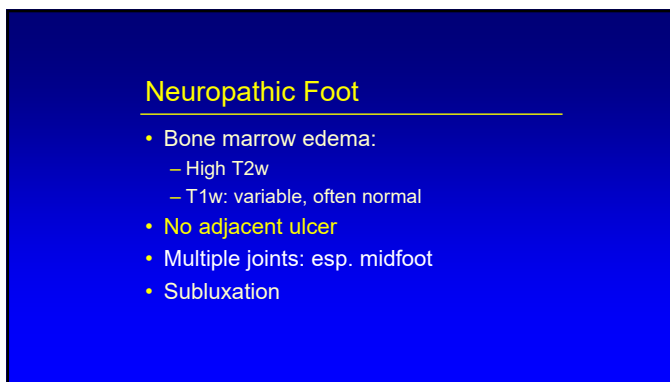
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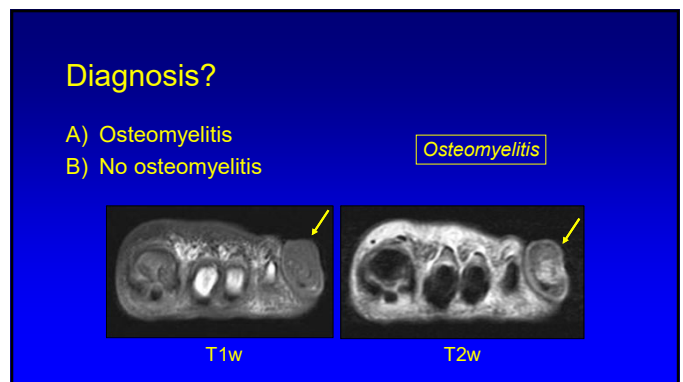
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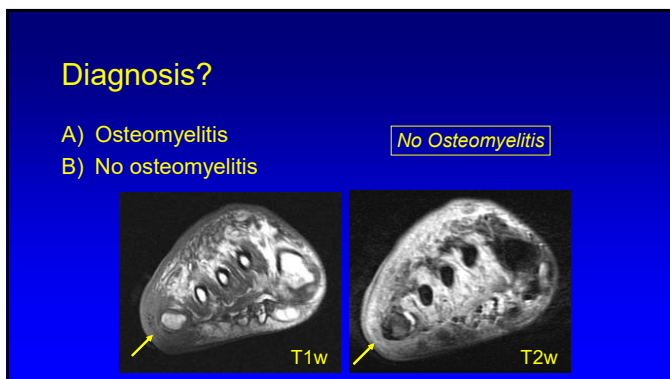
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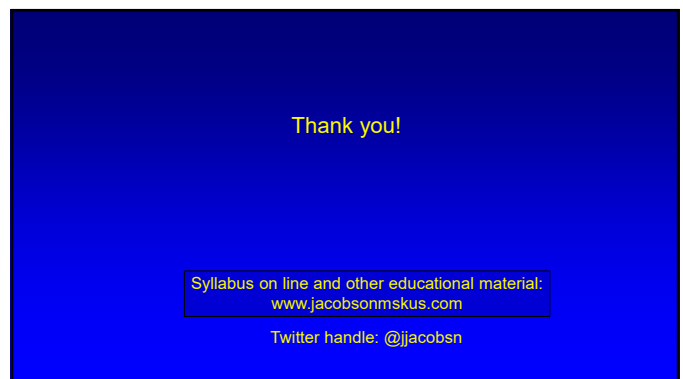
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