



Knee OA with septic arthritis

- Peri-articular osteopenia

**Also osteomyelitis of the femur

- Subtle periosteal reaction in femoral diaphysis



R

Figure 1

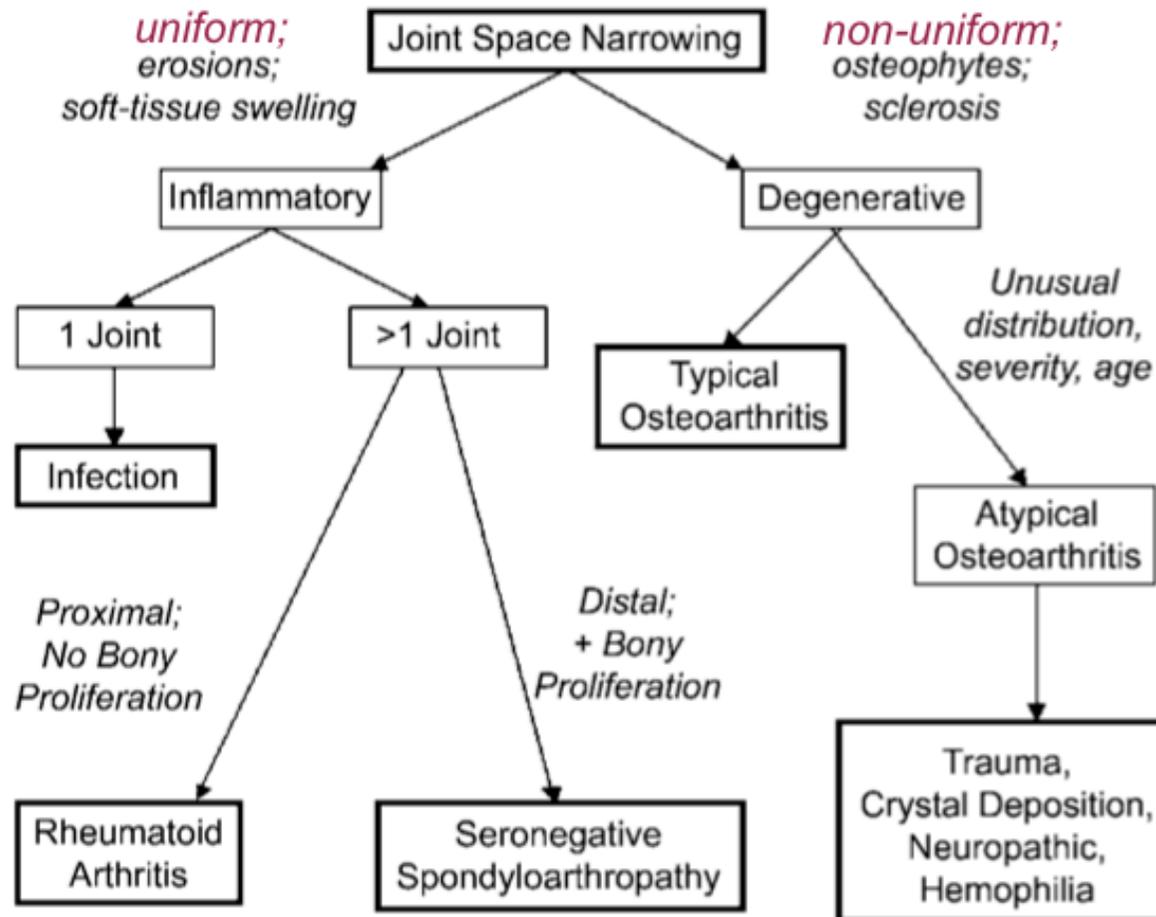


Figure 1: Flow chart shows approach to radiographic evaluation of arthritis. Algorithm begins with joint space narrowing and initially uses differentiation between inflammatory and degenerative findings to reach the final diagnosis.

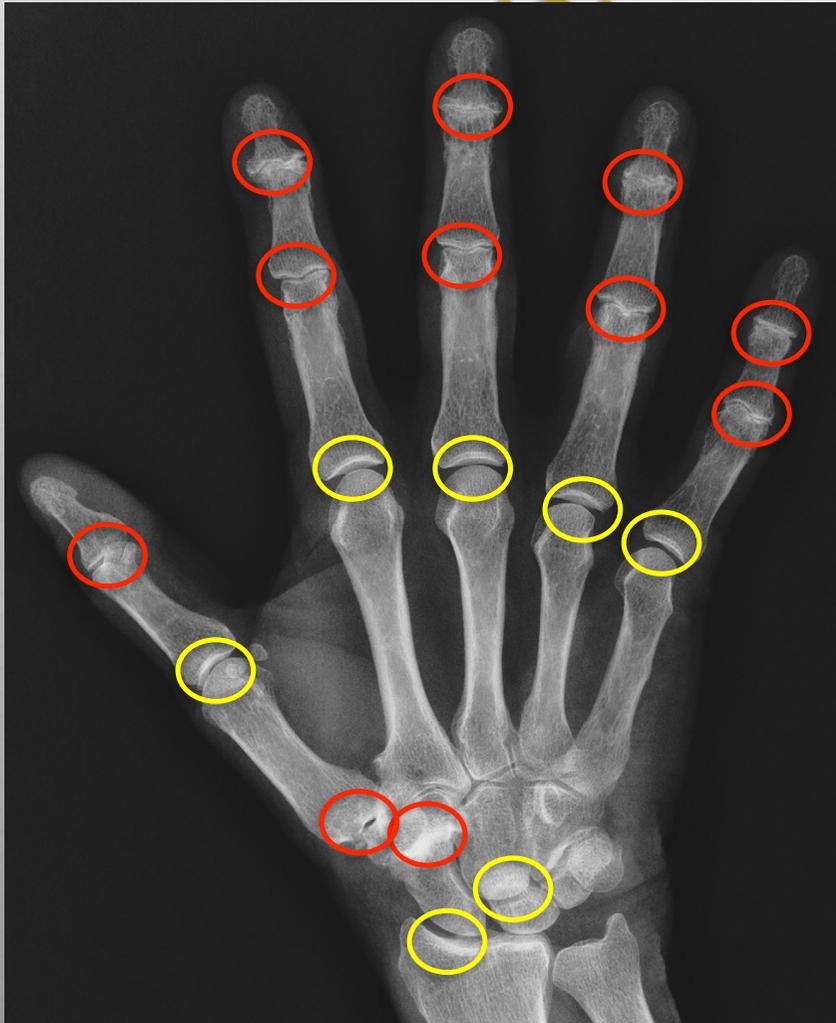
Modified from Jacobson JA, Girish G, Jiang Y, Resnick D. Radiographic evaluation of arthritis: inflammatory conditions. *Radiology*. 2008;248(2):378-89

Osteoarthritis



- non-uniform joint space narrowing
- subchondral sclerosis
- osteophyte formation (arrows)

Osteoarthritis



- ✦ 1st CMC joint; STT joint
scaphoid trapezoid trapezium
- ✦ Interphalangeal joint;
sparing MCP joint
- ✦ **Erosive OA** same
distribution – seagull or
gull-wing deformities
- + **CPPD** – atypical
distribution for OA –
MCPJ, radioscaphoid and
the capitate-lunate joint
(stair-step pattern) +/-
chondrocalcinosis.
Hook-like osteophytes at 2/3rd MC head

CPPD



1. radioscaphoid joint

2. capitate-lunate joint

✧ narrowing

✧ subchondral sclerosis

Figure 1

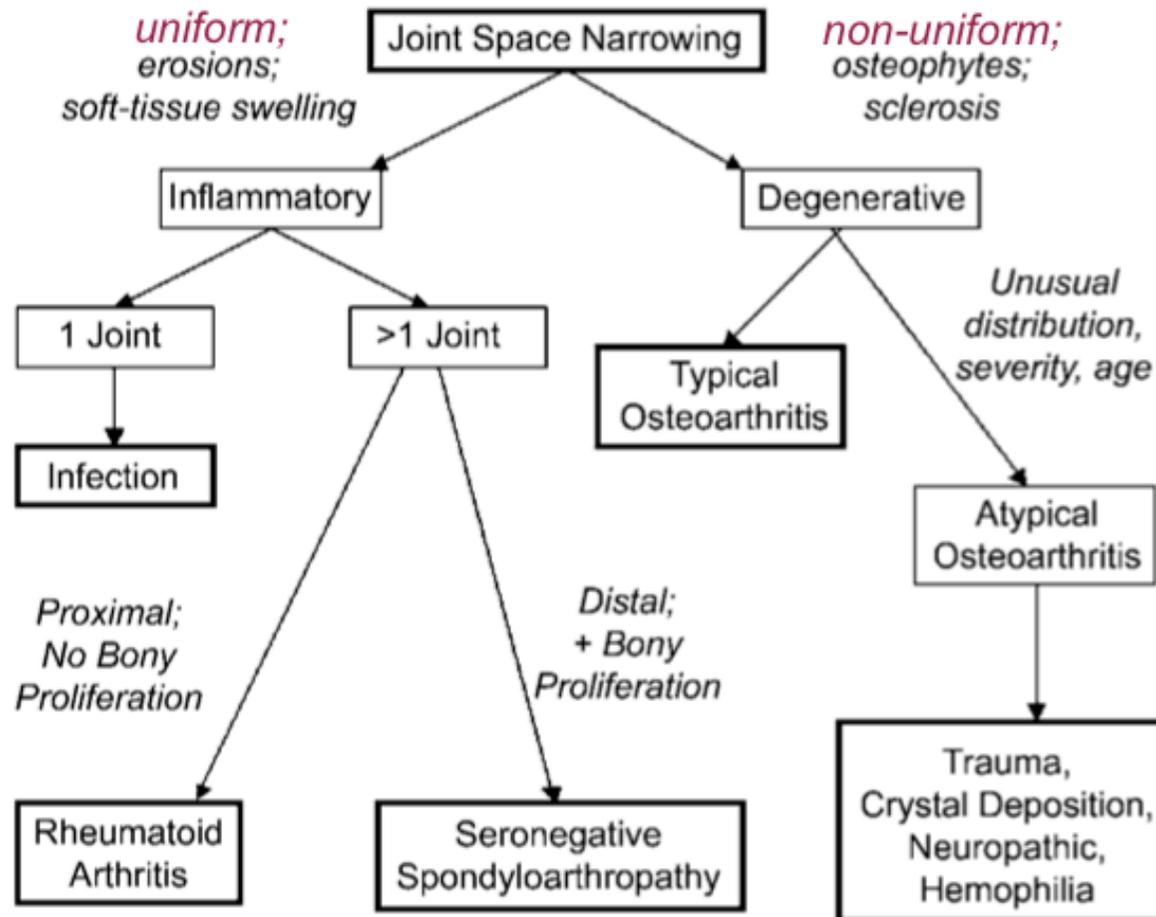


Figure 1: Flow chart shows approach to radiographic evaluation of arthritis. Algorithm begins with joint space narrowing and initially uses differentiation between inflammatory and degenerative findings to reach the final diagnosis.

Modified from Jacobson JA, Girish G, Jiang Y, Resnick D. Radiographic evaluation of arthritis: inflammatory conditions. *Radiology*. 2008;248(2):378-89





Early Rheumatoid Arthritis

Soft tissue change:	Symmetrical swelling around MCP joints and wrist
Subluxations:	None
Mineralization:	Juxta-articular osteoporosis
Calcification:	None
Joint spaces:	Maintained
Erosions:	Early aggressive (arrows)
Bone production:	None
Distribution:	PIPs, MCPs, and pancarpal



Late Rheumatoid Arthritis

Soft tissue change:	Atrophy
Subluxations:	MCP joints (proximal phalanges subluxed ulnarly and palmarly)
Mineralization:	Diffuse osteoporosis
Calcification:	None
Joint spaces:	Uniform loss—PIPs, MCPs, and pancarpal
Erosions:	Large aggressive
Bone production:	None
Distribution:	PIPs, MCPs, and pancarpal



Sausage-finger

Pencil-in-cup



Psoarthritis

Soft tissue change:	Fusiform digit swelling—first, second, and fourth digits
Subluxations:	None
Mineralization:	Normal
Calcification:	None
Joint spaces:	Destroyed fourth DIP, first MCP-IP, and second DIP
Erosions:	Large, aggressive; pencil-in-cup erosion of fourth DIP and IP joint of thumb
Bone production:	Solid periosteal new bone formation fourth and fifth proximal phalanges (<i>arrows</i>); fluffy new bone around thumb
Distribution:	MCPs, PIPs, and DIPs, but in a 1st, 2nd and 4th ray distribution. The 3rd and 5th ray are minimally involved.



Osteoarthritis

Soft tissue change:	Distortion around DIPs
Subluxations:	Laterally at second DIPs
Mineralization:	Normal
Calcification:	None
Joint spaces:	Nonuniform loss—best seen at second DIPs
Erosions:	None
Bone production:	Osteophytes at DIPs and PIPs; subchondral sclerosis—greater multangular, distal navicular, and base of first metacarpal
Distribution:	DIPs, PIPs; first carpometacarpal joint and greater multangular-navicular joint

