

Evidence Discussion (MS-8)

Gout/Calcium Pyrophosphate Deposition Disease (CPPD)/ Pseudogout/Chondrocalcinosis

The American College of Radiology (ACR) Appropriateness Criteria for Chronic Extremity Joint Pain-Suspected Inflammatory Arthritis, Crystalline Arthritis, or Erosive Osteoarthritis (revised 2022) recommends plain radiography as the initial imaging study for chronic extremity joint pain where crystalline arthritis is suspected.¹ X-rays may contain sufficient findings for the diagnosis of gout or calcium pyrophosphate deposition disease (CPPD). Plain x-rays may also rule out or rule in alternative causes of pain such as arthritis, infection or trauma.

Advanced imaging is typically not required for the evaluation of patients with suspected crystalline arthropathy, as a definitive diagnosis can be made based on the presence of monosodium urate crystals or calcium pyrophosphate crystals on synovial fluid microscopy.² However, advanced imaging can be helpful in the evaluation of tophi when neoplasm or infection are included in the differential diagnosis.^{3,4}

References

1. Subhas N, Wu F, Fox MG, et al. Expert Panel on Musculoskeletal Imaging. ACR Appropriateness Criteria® Chronic Extremity Joint Pain-Suspected Inflammatory Arthritis, Crystalline Arthritis, or Erosive Osteoarthritis. *American College of Radiology (ACR)*; Revised 2022.
2. Eggebeen AT. Gout: an update. *Am Fam Physician*. 2007;76(6):801-808.
3. McQueen FM, Doyle A, Reeves Q, Gao A. Bone erosions in patients with chronic gouty arthropathy are associated with tophi but not bone oedema or synovitis: new insights from a 3 T MRI study. *Rheumatology*. 2014;53(1):95-103.
4. McQueen FM, Doyle A, Dalbeth N. Imaging in gout--what can we learn from MRI, CT, DECT and US? *Arthritis Res Ther*. 2011;13(6):246.