

Evidence Discussion (MS-16)

Post-Operative Joint Replacement Surgery

- The American College of Radiology (ACR) recommends plain x-rays as the initial study for routine follow up of asymptomatic patients and for symptomatic patients who have undergone joint replacement surgery. [1-3] Plain x-rays can identify fractures or show signs of loosening, wear, osteolysis or infection. When plain x-rays are negative or inconclusive and there is a suspicion for aseptic loosening or fracture, advanced imaging can help to identify these conditions. [1-3]
- The first line of preoperative evaluation for a suspected prosthetic joint infection should be plain x-rays, blood tests and joint aspiration with synovial fluid laboratory analysis. [4] Although both false-positive and false-negative results may occur, joint aspiration with synovial fluid analysis remains the most useful test for confirming the presence or absence of infection and identifying the causative organism. [5, 6] If there is a negative or inconclusive joint aspiration and infection is still suspected, advanced imaging can provide additional information. [1-3]
- For patients with negative or non-diagnostic x-rays for whom there is suspicion of a soft tissue abnormality (e.g. tendinitis, tendinopathy, bursitis, arthrofibrosis), a course of conservative care will allow many patients to improve. [7] If there is failure to improve, advanced imaging would be appropriate. However, if there is concern for a rotator cuff tear in a patient who underwent shoulder replacement surgery, conservative care would not be necessary. [2]
- Patients with metal on metal hip replacements are at risk for adverse local tissue reactions (ALTRs) including metallosis, pseudotumor and generalized synovitis that can result in tissue damage. [8] After initial x-rays, advanced imaging is recommended for symptomatic patients. [3, 9, 10]

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