

Acute Management of Peri-prosthetic Joint Infection

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Background and justification

Peri-prosthetic joint infection (PJI) can present with life threatening sepsis and immediate recognition and resuscitation is essential. Recommendations on antibiotic prescribing, orthopaedic referral and assessment are outlined in this document. Advice on definitive management is determined by the relevant specialist society.

Inclusions:

All patients with suspected, acute peri-prosthetic joint infection.

Exclusions:

Chronic peri-prosthetic joint infection in a stable patient.

Standards for Practice

1. Guidance on who to contact and how to respond to a patient with suspected PJI should be readily available to Primary Care providers and Emergency department practitioners, and be included in discharge documentation.
2. A pathway should be available for patients presenting to an orthopaedic department with suspected PJI.
3. A patient presenting with evidence of sepsis:
 - 3.1. must have the "sepsis six" protocol* initiated immediately and the on-call orthopaedic team should be informed.
 - 3.2. should have blood cultures taken urgently and commence parenteral antibiotics after this according to agreed local protocols.
 - 3.3. requires emergent drainage and should have surgery performed by a suitably experienced surgical team as soon as is safe. In an acutely unwell patient this should be within 6 hours unless there are specific reasons that this is not possible. When debridement is indicated, 5 samples should be taken for microbiological culture using separate sterile instruments and a no touch technique for each. In all chronic infections, and when the diagnosis is in doubt in acute infections, 2 samples should be taken for histological analysis
4. A patient who is not septic should not be given antibiotics until appropriate deep tissue samples have been taken.
5. As part of a comprehensive orthopaedic assessment, the documented record should include:
 - 5.1. timing of index arthroplasty, imperfect wound healing, any subsequent non MSK or systemic infection and recent antibiotic administration.
 - 5.2. a general assessment for additional sources of infection including a cardiovascular assessment for endocarditis.
6. Initial investigations should include Full Blood Count, CRP, renal function, and plain radiographs.**
7. Consultant orthopaedic review of the systemically well / stable patient should occur within 48 hours of presentation and the planned next step for management determined and recorded with onward referral as appropriate.
8. Sub-specialty guidelines should inform the definitive management of PJI.

*<https://sepsistrust.org/wp-content/uploads/2022/06/Sepsis-Manual-Sixth-Edition.pdf>

**Inflammatory markers within normal reference ranges do not exclude PJI, especially in the presence of disease or medication mediated immunosuppression.