# Septic Arthritis

## Definition of septic arthritis
- Infection of the joint space.
- Can rapidly destroy a joint over hours to days, so a high index of suspicion is required.

## Presentation of septic arthritis
- Single hot, red, swollen, agonisingly painful joint
  - Often held immobile
- In older people and RA, picture sometimes less obvious, so have a low index of suspicion
- 20% of septic arthritis affects more than one joint
- May be systemically septic

## Causes of septic arthritis
- There may or may not be a history of trauma to the joint
- Frequent pathogens:
  - Staph aureus
  - Streptococci
  - Neisseria gonorrhoeae
    - Suspect in young, sexually active adults, but actually not very common
  - Haemophilus (in kids, but rare due to vaccination)
  - The elderly and people with chronically inflamed joints (e.g. RA) are prone to infection with unusual organisms.
- NB. Lyme disease (Borellia burgdorferi) can cause an inflammatory arthritis
  - Look for the typical 6cm bullseye lesion of erythema migrans.

## Investigations in septic arthritis
- **Bloods**
  - WBC raised unless highly immunosuppressed
  - High CRP and ESR
    - Note both can be normal, particularly in immunosuppressed
- Blood cultures often also positive
- Aspirate joint and send the fluid for URGENT microscopy and culture, including culture techniques for gonococci and anaerobes – the fluid is often frankly purulent though. Check for crystals as well.
  - Gram stain positive in only 50%
  - Synovial fluid growth positive in 90%
  - MUST be done prior to starting antibiotics
- Swabs from skin wounds and the throat, sputum and urine can all be collected for culture and might indicate the source/organism responsible.
- X-ray as a baseline investigation

## Treatment of septic arthritis
- **Empirical antibiotic treatment**
  - Depends on local guidelines but if no risk factors for atypical organisms then use flucloxacillin 2g qds IV
  - Vancomycin IV if risk of MRSA
  - Elderly/frail/recurrent UTIs/recent abdominal surgery (risk of gram neg): 2nd or 3rd gen
cephalosporin e.g. cefuroxime
  ○ Change antibiotics if organism later found to be resistant

- Often need prolonged antibiotic course
  ○ Minimum 6 weeks (usually 2/52 IV then 4/52 PO)
- Refer all infected prosthetic joints to orthopaedics
- Septic joints should be aspirated to dryness & may need arthroscopic washout
  ○ Prosthetic joints often need removal
- In all cases, early physio should be given once the infection is under control, to prevent joint stiffness and muscle wasting.

Prognosis in septic arthritis
- Case fatality of 11%
- Worse if complicated by osteomyelitis
- Secondary osteoarthritis can occur