Bone & Joint Infection
Skeletal Infections

- Osteomyelitis
- Septic Arthritis

- Pathology
- Presentation
- Treatment
Osteomyelitis - bacterial infection of bone

- Classified by chronicity:
  - Acute
  - Subacute
  - Chronic

- Same disease process in each
Clinical Cases

- 15 month old toddler
  - Sore throat, drowsy, irritable, leg is limp

- 20 year old man
  - Tibial # 3/12 ago, leg red and painful

- 80 year old man
  - Shrapnel wound in war, leg discharges occasionally
Think about:

- Portal of entry
- Effect on bone
- Clinical presentation
- Chronicity
Child

- Anatomical considerations
Organisms

- Staphylococcus
- Streptococcus
- E coli in neonates
- Salmonella in sickle cell disease
- Haemophilus influenzae in child <4yo
Bone Reaction

- Inflammation
- Abscess
- Bone death
- Periosteal elevation
Bone Reaction

dead and dying bone (sequestrum)
bone abscess
periosteum
involucrum
pus
cortex
medullary cavity
Clinical Presentation

- Local inflammation
- Pain
- Localised tenderness
- Restricted movement (pseudoparalysis)
- Systemic illness
Beware:

- The very young
- The very old
- Those on steroids
Direct infection – adults

- Penetrating trauma
- Fracture fixation
- Implant surgery
Investigation

- **Haematology** – wbc, ESR
- **Biochemistry** – Ca$^{++}$, CRP
- **Microbiology** – Blood cultures, swabs
- **Radiology** – X-ray, Bone scan, CT scan, MRI
Treatment

- Supportive measures
- Splinting
- Antibiotics
  - Discuss with microbiologist
- Surgery
  - Drainage, sequestrectomy
Clinical Cases

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Septic Arthritis

- Direct penetration
- Spread from bone
Presentation

- Inflammation
- Pain
- No movement
Pathology

- Often staphylococcal
- Enzymes destroy cartilage
Investigation

- As for osteomyelitis
- Aspiration
Treatment

- Support
- Splint
- Antibiotics
- Drainage / irrigation
Osteomyelitis & Septic Arthritis

- Uncommon but potentially very serious
- Suspect
- Examine and investigate
- Treat early
- Team approach