Orthopaedic Pathology
Introduction

Nomenclature:
1° bone tumours broadly classified:
   (1) Malignant (sarcomas)
   (2) Benign tumours
   (3) Lesions that simulate bone tumours

NOTE: Vast majority of bone tumours are metastatic from elsewhere
Overall incidence of 1\textdegree\ bone tumours in UK is \sim 400\ pa

Vast range of behavior from Benign/latent – High-grade malignant
Presentation

- Pain
- Swelling
- Loss of function
- Pathological #
- Incidental X-ray finding
Initial Management (1° & 2°)

- Full Hx & Exam
- INV:
  - FBC
  - U&E
  - LFT
  - ESR
  - Bone profile
  - PSA
  - Imaging including CXR, cross sectional studies, mammography, bone scans
  - Biopsy (careful re: site of Bx)
# Classification of 1° bone tumours

<table>
<thead>
<tr>
<th>Histology Type</th>
<th>Benign</th>
<th>Malignant</th>
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<tbody>
<tr>
<td>Haematopoietic</td>
<td></td>
<td>Myeloma Lymphoma</td>
</tr>
<tr>
<td>Chondrogenic</td>
<td>Chondroma</td>
<td>Chondrosarcoma</td>
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<tr>
<td>Osteogenic</td>
<td>Osteoid osteoma</td>
<td>Osteosarcoma</td>
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<tr>
<td>Unknown origin</td>
<td>Giant cell tumour</td>
<td>Ewing’s tumour</td>
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</table>
Malignancies that commonly metastasize to bone:

- Breast
- Lung
- Prostate
- Kidney
- Thyroid
- Skin (melanoma)
Imaging 1 – plain radiograph
Imaging 2 – Bone scan
Surgical treatment options

- Aims:
  - Relief of pain
  - Maintenance of mobility/function
  - Facilitation of nursing care
  - Prophylaxis to prevent #
Surgical options 1

- Amputation
  - Historical favourite
  - Most common indications:
    - Involvement of neurovasc structures (pointless preserving insensate/avascular limb)
    - Recurrent disease
    - Disease in pelvis or shoulder girdle
Treatment options 2

- **Limb salvage**
  - Consider margins and limb reconstruction
  - Reconstruction may include allograft, autograft or massive endoprostheses
  - e.g. opposite: cost = £265,000!!
Treatment options 3

- Prophylactic fixation
- Indications:
  - Lesions involving $\geq$ cortical circumference
  - Defects $\geq$ 2.5 cm across