Screening for bone metastasis with known primary malignancy

- Langerhans cell histiocytosis
  - Skeletal survey/ Bone scan/ PET/CT
  - Positive
    - Risk of complications e.g. fracture, spinal cord compression
    - Positive
      - Consider prophylactic interventions
    - Negative
      - Symptom control
  - Negative
- Plasmacytoma / multiple myeloma
  - Skeletal survey/ MRI/ PET/CT
  - Positive
    - Consider PET/CT or MRI if high clinical suspicion
  - Negative
- Others
  - Bone scan
  - Positive
    - Risk of complications e.g. fracture, spinal cord compression
  - Negative
    - Consider PET/CT or MRI if high clinical suspicion
REMARKS

1 Plain radiograph
   1.1 Plain radiograph should be taken selectively corresponding to scintigraphically positive osseous region.
   1.2 Skeletal survey should only be performed in Langerhans cell histiocytosis, plasmacytoma and multiple myeloma.

2 Nuclear medicine
   2.1 Bone scan is a sensitive, cheap and widely available imaging modality for detection of skeletal metastasis.
   2.2 False negative bone scan results may occur in cases of Langerhans cell histiocytosis, plasmacytoma, multiple myeloma and renal cell carcinoma.
   2.3 PET/CT is valuable in evaluating multiple myeloma and Langerhans cell histiocytosis.

3 CT
   3.1 CT is useful in defining the degree of bone destruction and therefore should only be used in specific situations.

4 MRI
   4.1 MRI is useful in specific situations such as marrow based lesions.

REFERENCES