



## PLAIN RADIOGRAPHY

- Plain radiography is an appropriate first line investigation for those with severe pain, and significant functional impairment. [1](#)
- An audit of GP referrals for knee radiographs, showed that with less severe symptoms of degenerative change, radiography does not alter management. [2](#)
- Certain radiographic features may help to distinguish metastases from other conditions and aid in identification of the primary tumour. Overall plain radiographs have poor sensitivity for detection of bone metastases. [3,4](#)

- Normal plain radiographs do not reliably exclude osteomyelitis as 30-50% loss of bone density is required before a radiograph becomes abnormal. [5](#)

## ISOTOPE BONE SCAN

- Imaging modality of choice in detecting bone metastases. [3,4](#)
- In a patient with foci of increased uptake and a known primary tumour, the scan strongly suggests metastases. [3](#)
- Advantages: allows total body survey. [3,4](#)
- Limitations: [3,4](#)
  - Radiographic correlation may be required in some patients with positive bone scan because of non specificity of findings on radioisotope imaging.
  - Some metastases may not show increased uptake on bone scan, particularly those that are lytic, for example kidney, thyroid and melanoma.
  - In certain malignancies particularly with lytic bone metastases FDG PET is more sensitive than bone scan.

## REFERENCES

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2. Morgan B, Mullick S, Harper WM, Finlay DB. An audit of knee radiographs performed for general practitioners. *British Journal of Radiology* 1997;70:256-60.
3. Rybak LD, Rosenthal DI. Radiological imaging for the diagnosis of bone metastases. *Q J Nucl Med* 2001;45:53-64. (Review article)
4. Schaffer DL, Pendergrass HP. Comparison of enzyme, clinical, radiographic, and radiographic methods of detecting bone metastases from carcinoma of the prostate. *Radiology* 1976;121:431-4. (Level III evidence) .
5. Tehranzadeh J, Wong E, Wang F, et al. Imaging of osteomyelitis in the mature skeleton. *Radiologic Clinics of North America* 2001;39(2):223-50. (Review article)

### Website

For more information go to [www.imagingpathways.health.wa.gov.au](http://www.imagingpathways.health.wa.gov.au)

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