



PLAIN RADIOGRAPHY

- Will show a suspected fracture in the majority of cases.
- May miss some fractures, particularly those that are non-displaced or in patients with osteoporosis. [1](#)
- Overall the incidence of radiographically occult fractures is estimated to be approximately 2-9%. [1-4](#)
- If clinical suspicion remains high despite normal or equivocal radiographs further imaging should be pursued. [5](#)

MAGNETIC RESONANCE IMAGING

- Several prospective studies have shown MRI to have a sensitivity and specificity of 100% in the diagnosis of occult hip fractures. [4,6-9](#)

- Fractures produce an immediate change in the appearance of marrow so should be readily apparent on MRI irrespective of how soon it is done after an injury. [10](#)
- MRI can also detect other causes of pain such as soft tissue injuries and occult pelvic fractures. [11,16](#)

COMPUTED TOMOGRAPHY

- Widely available and generally considered effective at diagnosing the occult hip fracture.
- May miss small impacted fractures or undisplaced fractures that run parallel to the axial plane. [12](#)

BONE SCAN

- Considered to be highly sensitive for the detection of occult hip fractures, particularly when three-phase technique is used. [8,13](#)
- Bone scan has a reported sensitivity of 93% and specificity of 95% for the detection of occult hip fractures. [13,14](#)
- There is some debate over the optimal time for doing a bone scan with one study showing it to be accurate within 24 hours of injury but there is a perception that for optimum results it should be delayed for up to 72 hours. [4](#)
- Bone scans may be negative in the first 24-48 hours in elderly patients with slow bone turnover or osteoporosis.
- False positive bone scans have been reported with synovitis, arthritis and degenerative changes sometimes mimicking fractures. [15](#)
- Even when an occult fracture is diagnosed on bone scan, further imaging may be required to determine the best treatment option. [15](#)

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Website

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