



PLAN RADIOGRAPHY

- Usually the most appropriate initial imaging modality for the investigation the older child with hip pain or history of trauma. [1](#)
- Slipped capital femoral epiphysis (SCFE) is usually posteromedial, and is best appreciated on lateral views. [15](#)
- Assessment of both hips is important because bilateral disease may be present and allows for comparison between sides.

- In children who can localise a region of tenderness the radiographs should visualise the joint above and below the point of maximal tenderness. [1](#)
- Plain radiographs are frequently normal in the early stages of osteomyelitis and are less sensitive compared to ultrasonography for detection of hip joint effusions. [16](#)
- Clinical decision rules have been proposed that attempt to reduce the ordering of unnecessary radiographs. [4](#)

RADIONUCLIDE BONE SCAN

- Has a high sensitivity and specificity for the detection of osteomyelitis. [5-7](#)
- Particularly useful for identifying infections around the pelvis and spine. [8](#)
- Cannot reliably differentiate between transient synovitis and septic arthritis. [20](#)
- Limitations:
 - False negative scans with some tumours. [8](#)
 - The need for sedation for some children. [2](#)
 - Low sensitivity for septic arthritis. [1](#)

ULTRASOUND

- Is generally the preferred first line imaging modality for the investigation of hip symptoms in the young child (<8 years) in the absence of trauma. [1,14](#)
- Sensitive for detection of a hip joint effusion and if necessary can guide aspiration if infection is suspected. [9-11](#)
- Unable to reliably predict the nature of the effusion. [16,17](#)
- Septic arthritis is unlikely in the absence of a sonographically detected joint effusion. [16](#)
- Advantages:
 - Non-invasive.
 - Requires no sedation.
 - Widely available.
 - Inexpensive.

COMPUTED TOMOGRAPHY

- Useful in selective clinical circumstances including: [1](#)
 - Imaging of suspected cortical abnormalities
 - Confirming the presence of central nidus in cases of osteoid osteoma
- More widely available and less expensive than MRI but does involve exposure to radiation

MAGNETIC RESONANCE IMAGING

- May be useful in selective clinical circumstances.
- Is the most effective imaging modality for: [1](#)
 - Bone marrow
 - Joints
 - Cartilage
 - Soft tissues
- The imaging modality of choice if symptoms are believed secondary to spinal pathology such as vertebral osteomyelitis or other deep sites of infection. [13](#)
- More reliable for the early diagnosis of Perthes disease compared to plain radiography but is limited by cost and availability. [19](#)

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Website

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