AUCKLAND RADIOLOGY GROUP

SCAN OFFICIAL NEWSLETTER

June 2008

Investigation of Low Back Pain

Who should you investigate?

1. Persisting or increasing back and/or radicular pain
2. Back tenderness or neurological symptoms following acute trauma
3. Back pain with fever and/or elevated ESR
4. Back pain in a patient with history of malignancy

Plain Films

Plain films are still a good starting point, but these have limited value. They are useful for detecting fractures, spondylosis, spondylolisthesis and developmental anomalies.

Oblique views are not recommended in young adults because the little, if any, additional information does not justify the added radiation dose.

Scintigraphy

Scintigraphy is useful in patients with a history of malignancy, to detect metastatic bone disease. You should request a **whole body scan**.

It is the investigation of choice for detecting stress fractures in young athletes. You should request a **SPECT scan** of the lumbar spine.

Fig 1. Lateral digital radiograph of lumbar spine demonstrates multiple compression deformities, bilateral pars interarticularis defects at L5 with spondylolisthesis and disc narrowing.

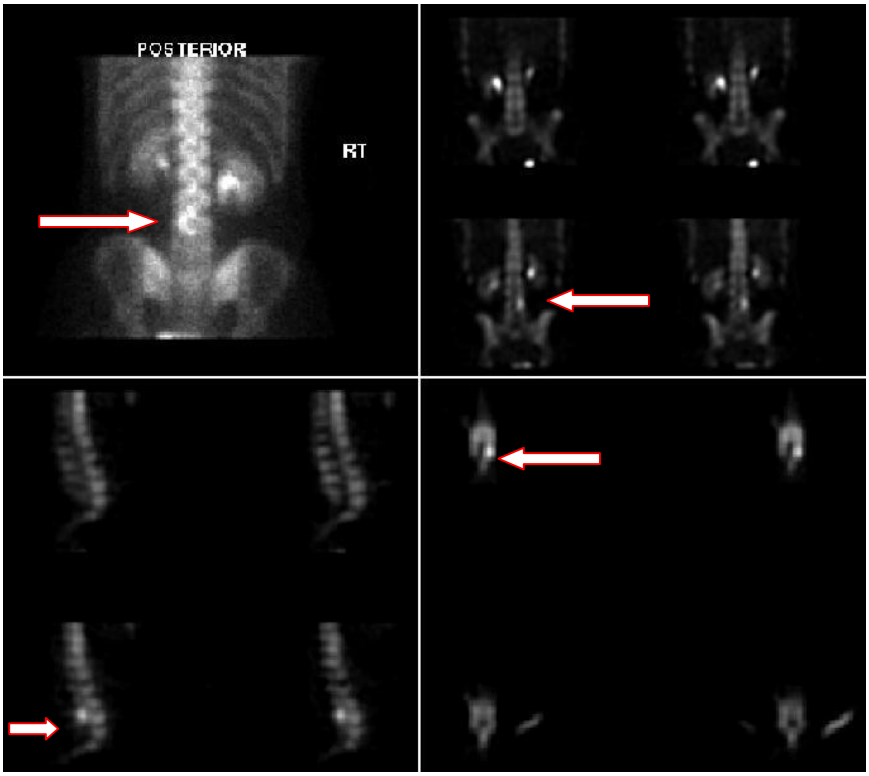

Fig 2. Scintigraphy with SPECT reconstructions in three planes. Young fast bowler with back pain. Increased radiopharmaceutical uptake in stress injury of left pars interarticularis of L4.

Computerised Tomography

CT is the investigation of choice for assessing displaced fractures and identifying pars interarticularis defects and stress fractures.

It is an alternative to MR in patients who for various reasons cannot have an MR scan to assess disc herniation, spondylolisthesis, facet joint osteoarthrosis, spinal canal and foraminal narrowing.

Fig 3. Sagittal CT image of lumbar spine demonstrates a fracture through the L4 pars interarticularis.

Magnetic Resonance Imaging

MR imaging is recommended for investigating low back and/or radicular pain, when it is thought to be due to disc herniation, infection, malignancy, occult or pathological fracture.

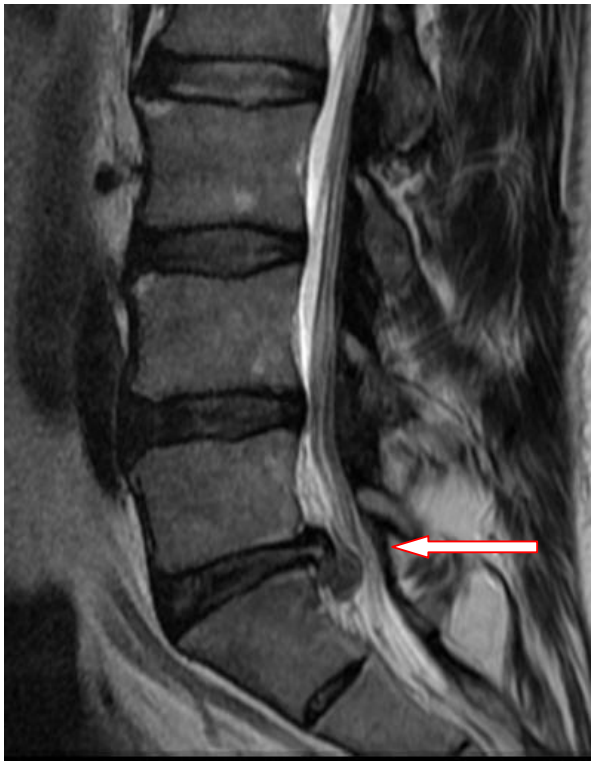

Fig 4. Sagittal T2 weighted MR image of lumbar spine demonstrates a disc herniation of the L5/S1 disc displacing the cauda equina.

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