



MAGNETIC RESONANCE IMAGING

- The imaging modality of choice for the investigation of suspected spinal cord or cauda equina compression.
- T1- and T2- weighted sagittal images are generally used with axial images also obtained through identified regions of interest. [1](#)
- T1- images alone have been shown to miss approximately 13% of metastases. [2](#)
- Gadolinium may be administered to assist in the detection of intradural or leptomeningeal metastases. [1,3](#)



- Advantages of MRI:
 - Non invasive.
 - It can identify bone lesions without epidural extension; intramedullary metastases and sometimes leptomeningeal disease.
 - Excellent soft tissue contrast resolution.
 - The entire spine can be imaged and multiple sites of compression identified. [4-6](#)
 - A number of studies, some more than a decade old have shown MRI to be at least as sensitive as myelography for detecting compressive lesions. [7-10](#)

PLAIN RADIOGRAPHY

- Has a limited role in the evaluation of suspected spinal cord compression but may show bony changes that help determine the level of cord compression.
- Historically was used to help determine which patients were at such low risk of cord compression that they did not require myelography.
- Has a false negative rate of approximately 10-17% so should not be relied upon to change management. [12](#)

COMPUTED TOMOGRAPHY

- If MRI is contraindicated CT may be of use if there is a well defined clinical level of compression.

MYELOGRAPHY

- If MRI is not available or contraindicated myelography and post myelogram computed tomography are generally the preferred imaging modalities. [1](#)
- Involves the intrathecal administration of contrast medium followed by computed tomography at the level of thecal sac impingement. [11](#)
- Limitations: [1](#)
 - Invasive procedure.
 - Associated small risk of exacerbating the neurological deficit.
 - Contraindicated in the presence of brain masses, thrombocytopenia and coagulopathy.

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Website

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