



SNS COLLEGE OF ALLIED HEALTH SCIENCES
SNS Kalvi Nagar, Coimbatore - 35
Affiliated to Dr MGR Medical University, Chennai



DEPARTMENT OF RADIOGRAPHY AND IMAGING TECHNOLOGY

COURSE NAME : CONTRAST AND SPECIAL RADIOGRAPHY PROCEDURES

II YEAR

UNIT : 4

TOPIC : MYELOGRAM

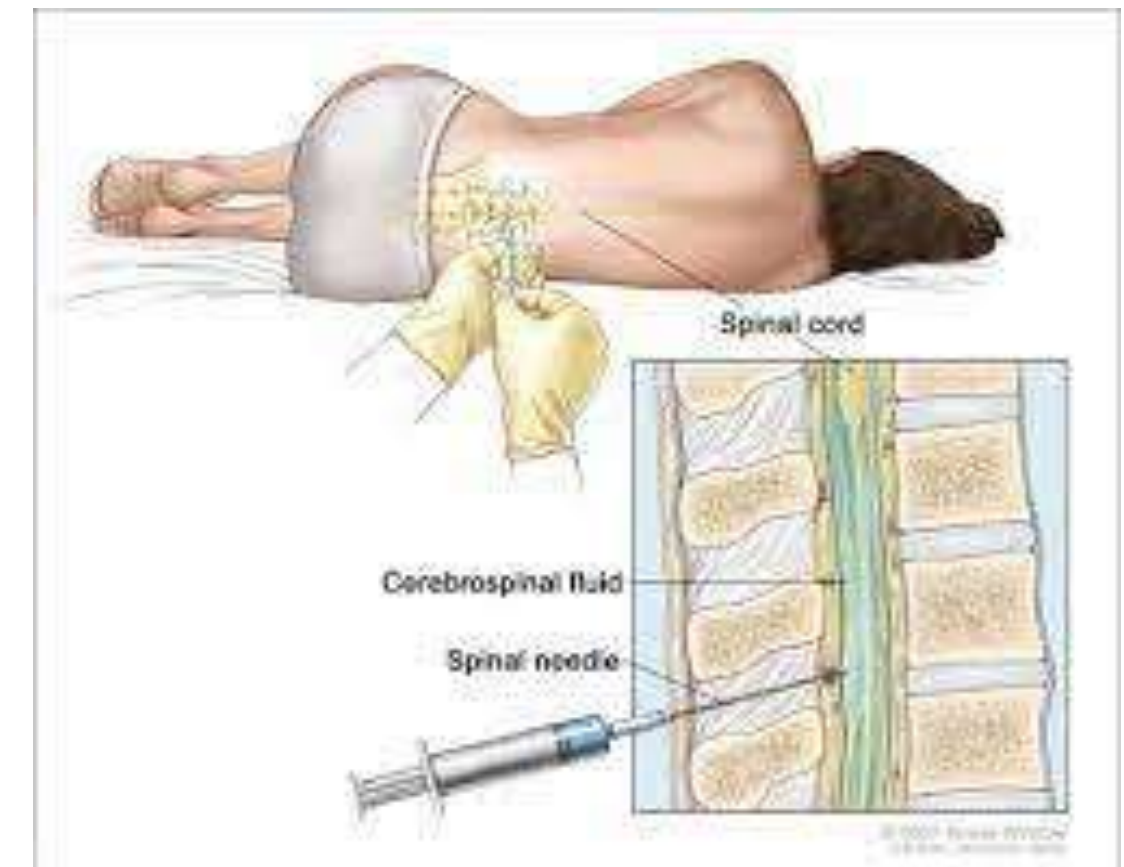


INTRODUCTION



A myelogram is a radiographic study combining the use of a contrast medium with a fluoroscopy to evaluate abnormalities of the spinal cord and its nerve root branches.

Usually completed within 30 to 60 minutes.





INDICATIONS



- Suspected mass lesion
- Disc lesion
- Congenital lesion
- Spinal canal stenosis
- Degenerative diseases
- Injury – fractures
- Localized lesion at any level of spinal cord
- Urinary bladder and bowel disturbances
- Back pain radiating to the limbs





CONTRAINDICATIONS



- Raised intracranial tension.
- Iodine sensitivity.
- Recent lumbar puncture (upto 7 days).
- Local sepsis.
- Clotting disorders or patient on anticoagulants.
- Traumatic lumbar puncture.
- Pregnancy.



PREPARATION



- 4 hours fasting prior to procedure.
- Informed consent from the patient.
- Plenty of oral fluids on the previous day.
- Preparation of site of LP.
- Xylocaine sensitivity test.
- Remove metal objects or clothing that might interfere with the X-ray image





CONTRAST MEDIUM



Non ionic,water soluble iodine based media.

Eg.,Iohexol – Omnipaque;Iopamidol – Iopamiro.

DOSES:

Adults

- | | |
|-----------------------------------|---------|
| 1.Lumbar – Omnipaque 180mg I/ml | 10-15ml |
| - Iopamiro 200mg I/ml | 10-15ml |
| 2.Thoracic – Omnipaque 240mg I/ml | 10ml |
| - Iopamiro 300mg I/ml | 10ml |
| 3.Cervical – Omnipaque 300mg I/ml | 10ml |
| - Iopamiro 300mg I/ml | 10ml |





Contd.,

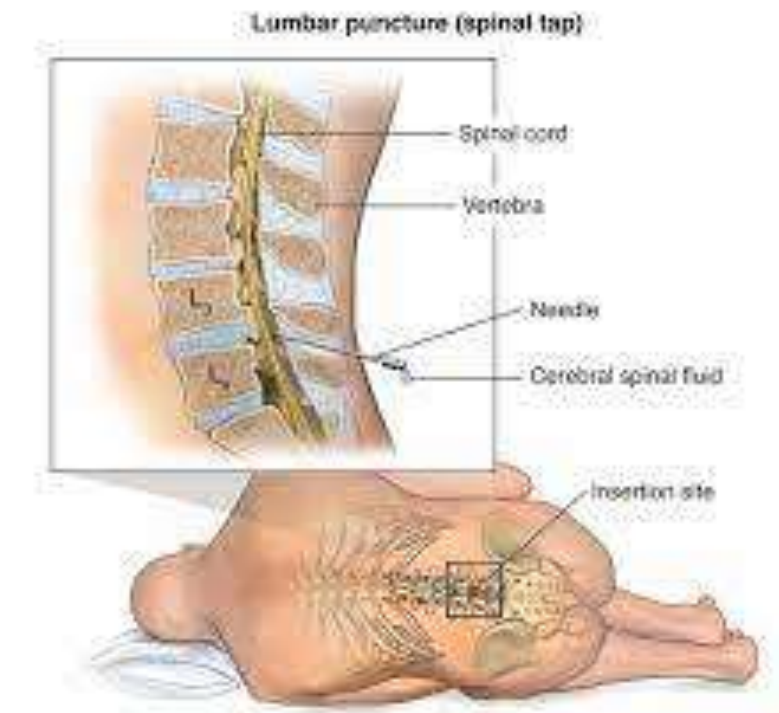


Children (all levels)

- | | |
|--|--------|
| 1. Less than 2 yrs. - Omnipaque 180mg I/ml | 2-6ml |
| 2. Between 2-6 yrs. - Omnipaque 180mg I/ml | 4-8ml |
| 3. More than 6 yrs. - Omnipaque 180mg I/ml | 6-12ml |

PUNCTURE POSITIONS

- **Body position for lumbar puncture:**
 - Prone position.
 - Left lateral position, with spine flexed to widen the interspinous space
- **Body position for cervical puncture:**
 - Erect position.
 - Prone position, with the head flexed to open the interspinous space





PROCEDURE

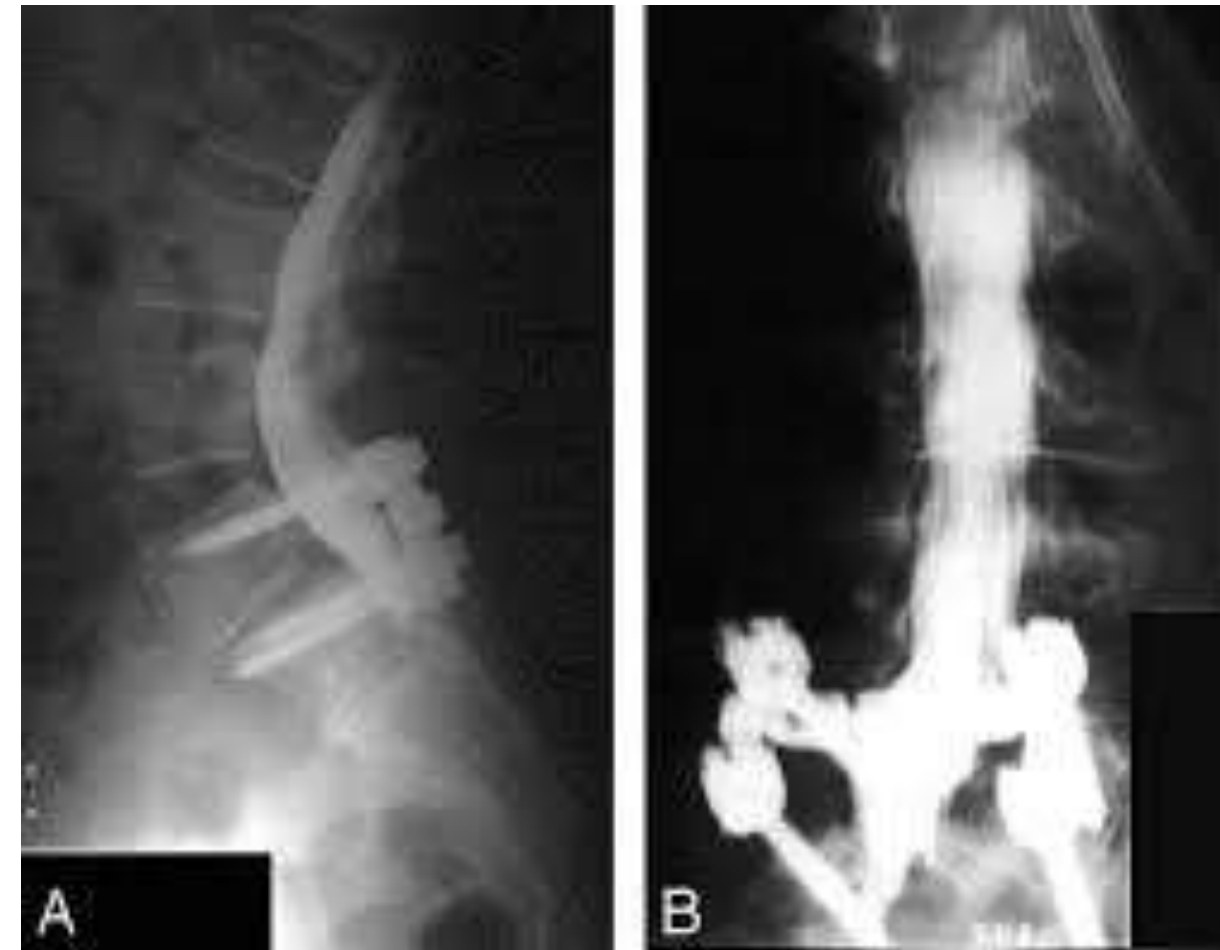
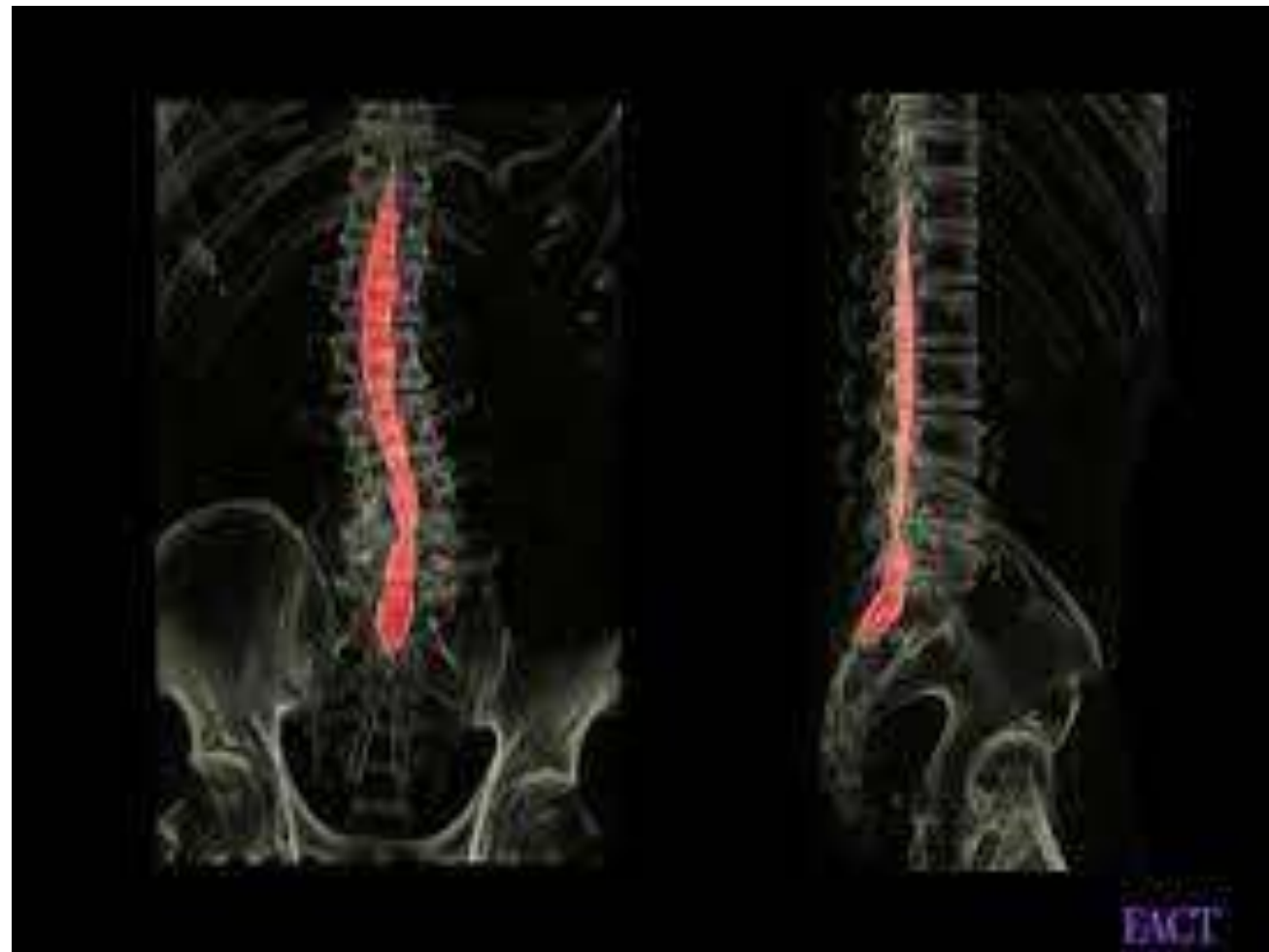


The radiologist and technologist will be in the room with you the whole time. They will ask you to lie on your stomach or side, on a tilting table, before beginning the procedure, which consists of:

- Cleaning your lower back with an antiseptic and giving you a local anesthetic.
- Once the area becomes numb, the radiologist will introduce a needle into your spinal canal and then inject a contrast material into the fluid-filled sac containing your spinal cord and nerve roots. This injection can sometimes create a sense of pressure, but this is generally resolved relatively quickly as you move around after the procedure. The needle will be removed once the radiologist has injected enough contrast material.
- Tilting the table slightly to ensure that the contrast material flows to the particular area of interest in your spine (the radiologist may also ask you to tilt or move your head).
- Taking limited preliminary X-rays of your spine once the contrast is in place, followed by a more complete CT scan of the region in your spine that your doctor believes is responsible for causing your symptoms.



IMAGES OF CONTRAST MEDIUM





IMAGING TECHNIQUE



- After injection, the table is tilted slowly to allow the CM to reach different levels in the spinal canal.
- Under fluoroscopy, spot films are taken by the radiologist in different positions.
- The table tilt is adjusted to concentrate the CM in the interested area.
- Conventional x-ray images is taken by the technologist as requested.
- After study the patient is put in supine position.



AFTER CARE



Patient should be on bed with his head elevated by 10-15 degree for 8 hours to minimize the concentration of contrast in the cranial cavity. Subsequently the patient should rest for 24 hours except for going to the toilet.

- * Observe for any delayed contrast reaction or meningeal irritation.
- * Provide plenty of oral fluids to reduce the incidence of headache.
- * No diet restriction is needed after the procedure.



COMPLICATIONS



Due to Procedure

- 1.CSF leak from site of puncture leading to spinal headache.
- 2.Hypotension.
- 3.Subdural,extradural or intramedullary injection of contrast.
- 4.Meningitis due to poor aseptic precautions.

Due to Contrast Media

- 1.Headache,nausea,vomitting and dizziness.
- 2.Transient increase in lumbar or sciatic pain in patients with sciatica due to irritation of nerve roots.
- 3.Confusion,hallucination,disturbance in hearing and vision.



Contd.,



Due to Anaesthesia

1.If infiltrated too deeply it may result in spinal or epidural anaesthesia.







THANK YOU