Myelogram-Spine Computed Tomography

A myelogram is a specialized x-ray examination of the spinal cord, nerves, and other tissues within the spinal canal. The procedure involves injecting a contrast solution (a water-soluble dye) to help provide an outline of the spinal cord and nerve roots. The absence of this solution in a specific area, known as a filling defect, can indicate that the spinal cord or nerve root is being pinched or compressed.

The contrast dye is injected into the spinal canal via a lumbar puncture procedure. A lumbar puncture is performed by inserting a hollow needle into the subarachnoid space in the lumbar area (lower back) of the spinal column. The subarachnoid space is the canal in the spinal column that carries cerebrospinal fluid (CSF) between the brain and the spinal cord. CSF is a clear fluid that bathes the brain and spinal cord while protecting it, like a cushion, from exterior injury.

After the contrast dye is injected into the CSF, it appears on an x-ray screen allowing the radiologist to view the spinal cord, subarachnoid space, and other surrounding structures more clearly than with standard x-rays of the spine.

The radiologist may also use a **MDCT** scan when performing a myelogram. A CT or CAT scan is a diagnostic imaging procedure using a combination of x-rays and computer technology to produce cross-sectional images both horizontally and vertically across the body. These images, called slices, show detailed images of the spinal canal. CT scans provide more detail than standard x-rays. Together, myelograms and **MDCT** help physicians diagnose spine disorders and determine appropriate treatment.

How to Prepare

When you schedule your myelogram **M**ulti **D**etector **C**omputed **T**omography, you will be told when to arrive. Please arrive at the time and location given to you. You can expect to go home the same day, approximately two to four hours after the procedure is completed.

Prior to undergoing this procedure, a radiology nurse from Community Medical Center will call and ask you if you are on blood thinners. If so the nurse will arrange for a PT & PTT blood test to be taken.

Do not eat or drink anything after midnight the night before or morning of your myelogram-spine MDCT. If you are on any medications, you may take them with sips of water. If you are a diabetic, discuss your medication with your radiology nurse or physician.

Bring a loose-fitting outfit with you to the hospital. Wearing comfortable clothing while returning home will minimize any discomfort you experience.
You must arrange for a friend or family member to drive you home.

Reasons for the Procedure

A myelogram may be performed to assess the spinal cord, subarachnoid space, or other structures for abnormalities, particularly when another type of examination, such as a standard x-ray, is inconclusive. Myelograms may be used to evaluate many diseases, including, but not limited to, the following:

- herniated discs
- spinal cord or brain tumors
- ankylosing spondylosis - a disease that affects the spine, causing the bones to grow together
- bone spurs
- arthritic discs
- cysts - benign capsules that may be filled with fluid or solid matter
- tearing away or injury of spinal nerve roots
- arachnoiditis - inflammation of a delicate membrane in the brain

There may be other reasons for your physician to recommend a myelogram.

Risks of the Procedure

The amount of radiation used during a CT scan and x-ray is considered minimal; therefore, the risk for radiation exposure is very low.
If you are pregnant or suspect that you may be pregnant, you should notify your physician. Radiation exposure to the fetus may cause birth defects.
Because a contrast dye is used during the procedure, there is risk of allergic reaction to the substance. Patients who are allergic to or sensitive to medications, contrast dyes, local anesthesia, iodine, shellfish, or latex should notify their physician. Also, patients with kidney failure or other kidney problems should notify their physician.
Because this procedure involves a lumbar puncture, the following potential complications may occur:

- A small amount of CSF can leak from the needle insertion site. This can cause headaches after the procedure.
- There is a slight risk of infection because the needle breaks the skin’s surface, providing a possible portal of entry for bacteria.
- A temporary numbness to the legs or lower back pain may be experienced.
- There is a risk of bleeding in the spinal canal.

- Should there be increased pressure or swelling in the brain before the procedure, a myelogram can cause fluctuations in the CSF fluid levels, resulting in brain herniation. Herniation is a dangerous event where the brain stem or top of the spinal column is compressed by swelling of the brain.

- There may be other risks depending upon your specific medical condition. Be sure to discuss any concerns with your physician prior to the procedure.

Before the Procedure

- Your physician will explain the procedure to you and offer you the opportunity to ask any questions that you might have about the procedure.

- You will be asked to sign a consent form that gives your permission to do the procedure. Read the form carefully and ask questions if something is not clear.

- Generally, fasting is required prior to administering contrast dye. Your physician will instruct you prior to the procedure of any necessary fasting requirements.

- Notify the radiologist if you have ever had a reaction to any contrast dye, or if you are allergic to iodine or seafood.

- Notify the radiologist if you are pregnant or suspect that you may be pregnant.

- Notify the physician if you have a history of seizures or if you are taking any prescribed medications for seizures.

- Notify your physician if you have a history of bleeding disorders or if you are taking any anticoagulant (blood-thinning) medications, aspirin, or other medications that affect blood clotting. It may be necessary for you to stop these medications prior to the procedure.

- If the procedure is performed on an outpatient basis, you may be asked to remain in the hospital for several hours following the procedure. You should plan to have another person drive you home.

- Based upon your medical condition, your physician may request other specific preparation.