

Fluoroscopy Patient Prep Information



Cannon Memorial Hospital
Watauga Medical Center

Table Weight Limits for each facility		
	Cannon Memorial Hospital	Watauga Medical Center
MRI 1 (High Field)	350 lbs.	440 lbs.
MRI 2 (Open)		490 lbs.
CT 1 (VCTXT)		500 lbs.
CT 2		450 lbs.
CT Scan Table	450 lbs.	
Diagnostic x-ray room 1	300 lbs.	300 lbs.
Diagnostic x-ray room 2		300 lbs.
Diagnostic x-ray room 3		300 lbs.
Diagnostic ER x-ray		460 lbs.
Nuclear Medicine	400 lbs.	440 lbs.
Ultrasound		500 lbs.
Ultrasound Stretcher	500 lbs.	
Outpatient/Lab Center X-ray		460 lbs.
Dexa scan		350 lbs.
Dexa table	300 lbs.	

Scheduling / General information

- All Imaging exams must be scheduled with the scheduling department with exception to some diagnostic radiology exams.
- To schedule an appointment please contact our scheduling department at 828-268-9037 between the hours of 8:00am-5:00pm. If you reach the voicemail please leave a detailed message and someone will answer your call as soon as possible.
- On the day of your exam please arrive 15 minutes prior to your exam time to register at outpatient registration.
- To have an imaging exam done there must be a physicians order.
- According to the patient preps for certain exams, lab results should be available prior to the exam.

If you have any questions about your exam please call the Imaging Department

Watauga Medical Center: (828) 262-4153

Watauga Medical Outpatient Imaging/Lab Center:
(828) 266-2498

Cannon Memorial Hospital: (828) 737-7620

General description of each Imaging department

- **Radiography (“X-Ray”)** – Uses x-rays to create images.

X-rays created in an x-ray tube pass through a patient to reach the ‘image receptor’ (‘cassette’). The cassette is then inserted into a computed radiography ‘reader’ that converts the energy absorbed by that cassette into a visible image seen on a computer. Radiography best visualizes bones, lungs, and contrast-filled organs (i.e. GI tract, kidneys). Radiography can be used in conjunction with or to enhance another modality, i.e. injecting a joint with contrast before an MRI is obtained or injecting contrast into the spinal canal before a CT is obtained. The contrast media used is usually barium, iodine, or air, depending on the study being performed.

- **Computed Tomography (“CT”)** – Uses x-rays to create images.

Multiple x-rays of ‘slices’ or planes of the body are obtained and reconstructed by a computer to form an image. CT is frequently performed for patients with trauma, kidney stones, cardiac issues, suspected stroke or pulmonary embolism, or abdominal pain. Biopsies are also frequently performed using CT to guide the radiologist. The contrast media used can be orally-ingested barium, IV iodine, or rectally-induced air, depending on the area to be imaged. CT can be used to visualize bone or soft tissue.

- **Magnetic Resonance Imaging (“MRI”)** – Uses a strong magnetic field and radio waves to create images. The patient lies on a table within a strong magnetic field with a ‘coil’ placed over the body part of interest. The body emits ‘signals’ in response to changes in the magnetic fields, which are transmitted by the coil to a computer. The computer converts these signals to images of planes (‘slices’) of the body. Gadolinium is the most frequently used contrast agent used. MRI is best for visualization of soft tissues.

- **Ultrasound (“Sonography”)** – Uses sound waves to create images. High-frequency sound waves are sent through the patient’s body and the ‘echoes’ are converted by a computer into images. The patient may be asked to be NPO or have a full bladder so that these ‘echoes’ may be enhanced. Ultrasound is often used to guide biopsies of soft tissue organs. Ultrasound is used to visualize soft tissue structures.

- **Nuclear Medicine** – Uses ingested or injected radioactive materials to create images. The patient is given either an orally or intravenously administered radioisotope that targets a specific part of the body. The patient is then (after a specified period of time) placed under a ‘camera’ which detects the radiation emitted by the patient’s body. A computer then converts those detections to an image. Nuclear medicine is used to assess a specific system function and is not used to image anatomy.

- **Mammography** – Uses x-rays to create images of the breast. X-rays are produced in an x-ray tube, which pass through a patient’s breast to a detector. The detector absorbs the x-rays and converts them to an electrical signal which is then converted by a computer into an image. It is used as a screening exam for detection of breast cancer and also for diagnosis of breast lumps, microcalcifications, etc. It may also be used to guide placement of localization devices such as wires or needles in a breast prior to surgery, as well as to image breast tissue removed during surgery. Watauga Medical Center only offers mammography at Outpatient Imaging/Lab Center. Cannon Memorial does mammography at the hospital.

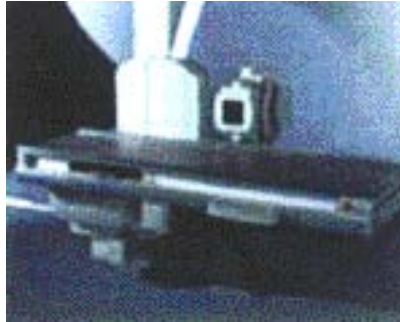
- **Bone Densitometry (“Dexa”)** – Uses x-rays to measure bone density. A ‘pencil-beam’ (tightly restricted x-ray beam) is used to scan the lower back and the hip. The beam passes through the body and a detector absorbs the energy of the x-ray beam. That energy is then converted to a non-diagnostic image and a numerical value, providing a calculation of bone density. That calculation is also compared to other age groups and to previous scans a patient may have had. This modality is only used to diagnose osteoporosis or osteopenia. There is not a preparation prior to this exam. Watauga Medical Center only offers Dexa scans at the Outpatient Imaging/Lab Center. Cannon Memorial offers Dexa scans at the hospital.

Fluroscopy Table of Contents

What is Lower GI Tract X-Ray Barium enema (Radiography)?	1
What is Upper GI Tract X-Ray (Radiography)?	5
What is an Intravenous Pyleogram (IVP)?	8
What is Voiding Cystourethrogram?	11
What is Arthrography?	13
What is Hysterosalpingography?	16
What is Myelography?	19

Lower Gastrointestinal (GI) Tract X-ray (Barium Enema “BE”)

- **What is Lower GI Tract X-ray (Radiography)?**
- **How should I prepare for the procedure?**
- **How does the procedure work?**
- **How is the procedure performed?**
- **What will I experience during and after the procedure?**
- **Who interprets the results and how do I get them?**
- **What are the limitations of a Lower GI Tract X-ray?**



What is Lower GI Tract X-ray - Barium enema (Radiography)?

Lower gastrointestinal (GI) tract radiography, also called a lower GI, is an x-ray examination of the large intestine, also known as the colon.

The lower GI uses a special form of x-ray called fluoroscopy and a contrast material called barium.

Fluoroscopy makes it possible to see internal organs in motion. When the lower gastrointestinal tract is filled with barium, the radiologist is able to view and assess the anatomy and function of the rectum, colon and part of the lower small intestine.

How should I prepare for the procedure?

Your physician will give you detailed instructions on how to prepare for your lower GI imaging.

The patient must hold very still and may be asked to keep from breathing for a few seconds while the x-ray picture is taken to reduce the possibility of a blurred image. The technologist will walk behind a wall or into the next room to activate the x-ray machine.

You should inform your physician of any medications you are taking and if you have any allergies, especially to contrast material. Also inform your doctor about recent illnesses or other medical conditions.

On the day before the procedure you will likely be asked not to eat, and to drink only clear liquids like juice, tea, black coffee, cola or broth, and to avoid dairy products. After midnight, you should not eat or drink anything. You may also be instructed to take a laxative and tablets the day before your exam. Just follow your doctor's instructions. You can take your usual prescribed oral medications with limited amounts of water.

You may be asked to remove some or all of your clothes and to wear a gown during the exam. You may also be asked to remove jewelry, eye glasses and any metal objects or clothing that might interfere with the x-ray images.

Women should always inform their physician or x-ray technologist if there is any possibility that they are pregnant. Many imaging tests are not performed during pregnancy because radiation can be harmful to the fetus. If an x-ray is necessary, precautions will be taken to minimize radiation exposure to the baby.

How is the procedure performed?

The lower GI exam is usually done on an outpatient basis and is often scheduled in the morning to reduce the patient's fasting time.

A radiology technologist and a radiologist, a physician specifically trained to supervise and interpret radiology examinations, guide the patient through the lower GI series.

The patient is positioned on the examination table and an x-ray film is taken to ensure the bowel is clean. The radiologist or technologist will then insert a small tube into the rectum and inflate a small balloon to hold the tube in place and begin to pump a mixture of barium and water into the colon. In some cases if the patient has a colostomy, the tube will be placed through the colostomy, so the patient may want to bring a replacement colostomy bag. Air may also be injected through the tube to help the barium thoroughly coat the lining of the colon. In some circumstances, the radiologist or referring physician may prefer a water and iodine solution rather than barium. Next, a series of x-ray images is taken.

The patient may be repositioned frequently on order to image the colon from several angles. Some equipment will allow patients to remain in the same position throughout the exam.

When the examination is complete, the patient will be asked to wait until the technologist determines that the images are of high enough quality for the radiologist to read.

Once the x-ray images are completed, most of the barium will be withdrawn through the tube. The patient will then expel the remaining barium and air in the restroom. In some cases, the additional x-ray images will be taken.

A lower GI study is usually completed within 30 to 60 minutes.

What will I experience during and after the procedure?

As the barium fills your colon, you will feel the need to move your bowel. You may feel abdominal pressure or even minor cramping. Most people tolerate the mild discomfort easily. The tip of the enema tube is specially designed to help you hold in the barium. If you are having trouble, let the technologist know.

During the imaging process, you will be asked to turn from side to side and to hold several different positions. At times, pressure may be applied to your abdomen. With air contrast studies of the bowel, the table may be turned into an upright position.

After the examination, you may take a laxative or enema to wash the barium out of your system if you choose. You can resume a regular diet and take orally administered medications unless told otherwise by your doctor. You may be able to return to a normal diet and activities immediately after the exam. You will be encouraged to drink additional water for 24 hours after the examination.

Your stools may appear white for a day or so as your body clears the metallic liquid from your system. Some people experience constipation after a barium enema. If you do not have a bowel movement for more than two days after your exam or are unable to pass gas rectally, call your physician promptly. You may need an enema or laxative to assist in eliminating the barium.

Who interprets the results and how do I get them?

A radiologist, a physician specifically trained to supervise and interpret radiology examinations, will analyze the images and send a signed report to your primary care or referring physician, who will share the results with you.

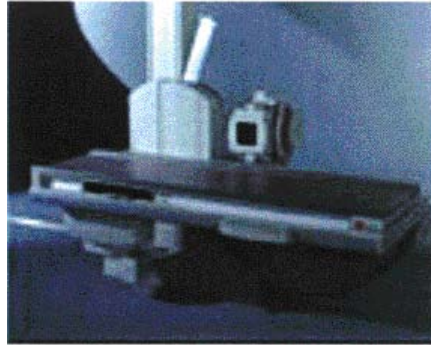
What are the limitations of a Lower GI Tract X-ray?

A barium enema is usually not indicated for someone who is in extreme abdominal pain or who has had a recent colonic biopsy. If perforation of the colon is suspected, the enema should be performed with iodinated solution or as policy states a two week interval should be observed before performing a barium enema in order to avoid complications related to potential perforation.

X-ray imaging is not usually indicated for pregnant women.

Upper Gastrointestinal (GI) Tract X-ray (Radiography)

- What is Upper GI Tract X-ray (Radiography)?
- How should I prepare for the procedure?
- How does the procedure work?
- How is the procedure performed?
- What will I experience during and after the procedure?
- Who interprets the results and how do I get them?



What is Upper GI Tract X-ray (Radiography)?

Upper gastrointestinal tract radiography, also called an upper GI, is an x-ray examination of the pharynx, esophagus, stomach and first part of the small intestine (also known as the duodenum) that uses a special form of x-ray called fluoroscopy and a contrast material called barium.

An x-ray examination that evaluates only the pharynx and esophagus is called a barium swallow. In some cases if aspiration into the lungs is suspected a video barium swallow will be scheduled. In these cases speech pathology will be present to watch and record the patient eating food and thick liquids mixed with barium. Unlike the other barium studies there is not a preparation for this study.

If there are symptoms in the lower abdomen sometimes a small bowel follow thru will be ordered. To coat the lining of the entire small bowel will usually take about 32 ounces of barium. This study takes 1-3 hours depending on how fast the barium can be digested.

In addition to drinking barium, some patients are also given crystals to further improve the images. This procedure is called an air-contrast or double-contrast upper GI.

How should I prepare for the procedure?

Your physician will give you detailed instructions on how to prepare for your upper GI.

You should inform your physician of any medications you are taking and if you have any allergies, especially to contrast material. Also inform your doctor about recent illnesses or other medical conditions.

Women should always inform their physician or x-ray technologist if there is any possibility that they are pregnant. Many imaging tests are not performed during pregnancy because radiation can be harmful to the fetus. If an x-ray is necessary, precautions will be taken to minimize radiation exposure to the baby.

To ensure the best possible image quality, your stomach must be empty of food. Therefore, you will likely be asked not to eat or drink anything (including any medications taken by mouth, especially antacids) and to refrain from chewing gum and smoking after midnight on the day of the examination.

You may be asked to remove some or all of your clothes and to wear a gown during the exam. You may also be asked to remove jewelry, eye glasses and any metal objects or clothing that might interfere with the x-ray images.

How is the procedure performed?

This examination is usually performed on an outpatient basis and is often scheduled in the morning to reduce the patient's fasting time.

A radiologic technologist and a radiologist, a physician specifically trained to supervise and interpret radiology examinations, guide the patient through the upper GI series.



As the patient drinks the liquid barium, which resembles a light-colored milkshake, the radiologist will watch the barium pass through the patient's digestive tract on a fluoroscope, a device that projects radiographic images in a movie-like sequence onto a monitor. The exam table will be positioned at different angles and the patient's abdomen may be compressed to help spread the barium. Once the upper gastrointestinal tract is adequately coated with the barium, still x-ray images will be taken and stored for further review.

The patient must hold very still and may be asked to keep from breathing for a few seconds while the x-ray picture is taken to reduce the possibility of a blurred image. The technologist will walk behind a wall or into the next room to activate the x-ray machine.

For a double-contrast upper GI, the patient will swallow baking soda crystals that create gas in the stomach while additional x-rays are taken.

When the examination is complete, the patient will be asked to wait until the technologist determines that images are of high enough quality for the radiologist to read.

This exam usually is completed within 20 minutes.

What will I experience during and after the procedure?

Some patients find the thick and chalky consistency of the barium unpleasant and difficult to swallow. The liquid barium has a chalky taste that may be masked somewhat by added flavors such as strawberry or chocolate.

Being tilted on the examination table and having pressure applied to the abdomen can be unpleasant. The examination may make you feel bloated and nauseated.

If you receive gas producing crystals you may feel the need to belch. However, the radiologist or technologist will tell you to try to hold the gas in (by swallowing your saliva if necessary) to enhance the detail in the x-ray images.

After the examination, you can resume a regular diet and take orally administered medications unless told otherwise by your doctor.

The barium may color your stools gray or white for 48 to 72 hours after the procedure. Sometimes the barium can cause temporary constipation, which is usually treated by an over-the-counter laxative. Drinking large quantities of fluids for several days following the test can also help. If you are unable to have a bowel movement or if your bowel habits undergo any significant changes following the exam, you should contact your physician.

Who interprets the results and how do I get them?

A radiologist, a physician specifically trained to supervise and interpret radiology examinations, will analyze the images and send a signed report to your primary care or referring physician, who will share the results with you.

Radiography - Intravenous Pyelogram

- **What is an Intravenous Pyelogram (IVP)?**
- **How should I prepare for the procedure?**
- **How does the procedure work?**
- **How is the procedure performed?**
- **What will I experience during and after the procedure?**
- **Who interprets the results and how do I get them**

What is an Intravenous Pyelogram (IVP)?

An intravenous pyelogram (IVP) is an x-ray examination of the kidneys, ureters and urinary bladder that uses contrast material.

When a contrast material is injected into the patient's arm, it travels through the blood stream and collects in the kidneys and urinary tract, turning these areas bright white. An IVP allows the radiologist to view and assess the anatomy and function of the kidneys and lower urinary tract.

How should I prepare for the procedure?

Your doctor will give you detailed instructions on how to prepare for your IVP study.

You will likely be instructed not to eat or drink after midnight on the night before your exam. You may also be asked to take a mild laxative the evening before the procedure.

You should inform your physician of any medications you are taking and if you have any allergies, especially to contrast material. Also inform your doctor about recent illnesses or other medical conditions.

You may be asked to remove some or all of your clothes and to wear a gown during the exam. You may also be asked to remove jewelry, eye glasses and any metal objects or clothing that might interfere with the x-ray images.

Women should always inform their physician or x-ray technologist if there is any possibility that they are pregnant. Many imaging tests are not performed during pregnancy because radiation can be harmful to patients the fetus. If an x-ray is necessary, precautions will be taken to minimize radiation exposure to the baby.

How does the procedure work?

In the IVP exam, iodine injected through a vein in the arm collects in the kidneys, ureters and bladder, giving these areas a bright white and sharply defined appearance on the x-ray images.

How is the procedure performed?

This examination is usually done on an outpatient basis.

The patient is positioned on the table and still x-ray images are taken. The contrast material is then injected, usually in a vein in the patient's arm, followed by additional still images.

The patient must hold very still and may be asked to keep from breathing for a few seconds while the x-ray picture is taken to reduce the possibility of a blurred image. The technologist will walk behind a wall or into the next room to activate the x-ray machine.

As the contrast material is processed by the kidneys a series of images is taken to determine the actual size of the kidneys and to capture the

Fluoroscopy 9

urinary tract in action as it begins to empty. The technologist may apply a compression band around the body to better visualize the urinary structures leading from the kidney.

When the examination is complete, the patient will be asked to wait until the technologist determines that the images are of high enough quality for the radiologist to read.

An IVP study is usually completed within an hour. However, because some kidneys empty at a slower rate the exam may last up to four hours.

What will I experience during and after the procedure?

The IVP is a painless procedure.

You will feel a minor sting as the iodine is injected into your arm. Some experience a flush of warmth, a mild itching sensation and a metallic taste in their mouth as the iodine begins to circulate throughout their body. These common side effects usually disappear within a minute or two and are harmless. Itching that persists or is accompanied by hives, can be easily treated with medication. In rare cases, a patient may become short of breath or experience swelling in the throat or other parts of the body. These can be indications of a more serious reaction to the contrast material that should be treated promptly. Tell the radiologist immediately if you experience these symptoms.

During the imaging process, you may be asked to turn from side to side and to hold several different positions to enable the radiologist to capture views from several angles. Near the end of the exam, you may be asked to empty your bladder so that an additional x-ray can be taken of your urinary bladder after it empties.

The contrast material used for IVP studies will not discolor your urine or cause any discomfort when you urinate. If you experience such symptoms after your IVP exam, you should let your doctor know immediately.

Who interprets the results and how do I get them?

A radiologist, a physician specifically trained to supervise and interpret radiology examinations, will analyze the images and send a signed report to your primary care or referring physician, who will share the results with you.

Fluoroscopy 10

Pediatric Voiding Cystourethrogram

- **What is a Voiding Cystourethrogram?**
- **How should I prepare my child for the procedure?**
- **How is the procedure performed?**
- **What will my child experience during and after the procedure?**
- **Who interprets the results and how do I get them?**



What is a Voiding Cystourethrogram?

A pediatric voiding cystourethrogram (VCUG) is an x-ray examination of a child's bladder and lower urinary tract that uses a special form of x-ray called fluoroscopy and a contrast material.

How should I prepare my child for the procedure?

You should inform your physician of any medications your child is taking and if he or she has any allergies, especially to contrast materials. Also inform your doctor about recent illnesses or other medical conditions.

Because a voiding cystourethrogram (VCUG) is an x-ray procedure, metal objects can affect the image, so avoid dressing your child in clothing with snaps or zippers. Replace metal diaper pins with adhesive tape. No other special preparation is required. An older child may be asked to wear a gown during the exam and to remove jewelry and eye glasses.

Sedation is rarely needed.

How is the procedure performed?

This examination is usually done on an outpatient basis.

The technologist begins by positioning the child on the table. Infants and young children may be wrapped tightly in a blanket or other restraint to help them lie still during the imaging.

Several x-rays are taken of the bladder. Then, after cleaning the genital area, a catheter is inserted through the urethra, a tube that carries urine from the bladder out of the body, into the bladder, which is filled with a water-soluble contrast material. The catheter is then withdrawn.

The radiologist and/or the technologist will watch the fluoroscopic monitor while the bladder is filling to see if any of the liquid goes backward into one or both ureters. Several x-ray images of the bladder and urethra are then taken as the child empties his or her bladder. A final x-ray is taken when the child has voided completely.

The patient must hold very still and may be asked to keep from breathing for a few seconds while the x-ray picture is taken to reduce the possibility of a blurred image. The technologist will walk behind a wall or into the next room to activate the x-ray machine.

When the examination is complete, the patient will be asked to wait until the technologist determines that the images are of high enough quality for the radiologist to read.

A voiding cystourethrogram is usually completed within 30 minutes.

What will my child experience during and after the procedure?

A voiding cystourethrogram is painless, though young children can be frightened when they are tightly wrapped and unable to move. The antiseptic used to clean and prepare for the insertion of the catheter may feel cold. Some children may experience mild discomfort when the catheter is inserted and the bladder is filled with the liquid contrast material.

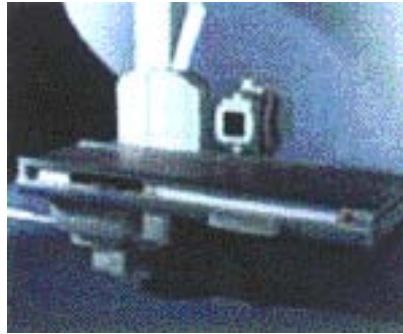
A parent is sometimes allowed to stay in the room to comfort the child but will be required to wear a lead apron to prevent radiation exposure.

Who interprets the results and how do we get them?

A radiologist, a physician specifically trained to supervise and interpret radiology examinations, will analyze the images and send a signed report to your primary care or referring physician, who will share the results with you.

Arthrography (Joint x-ray)

- **What is Arthrography?**
- **What are some common uses of the procedure?**
- **How should I prepare for the procedure?**
- **How is the procedure performed?**
- **What will I experience during and after the procedure?**
- **Who interprets the results and how do I get them?**
- **What are the limitations of Arthrography?**



What is a Arthrography?

Arthrography is the x-ray examination of a joint that uses a special form of x-ray called fluoroscopy and a contrast material containing iodine. In most cases, the arthrogram is followed by a magnetic resonance imaging (MRI) scan to better define abnormalities.

How should I prepare for the procedure?

No special preparation is necessary before arthrography. Food and fluid intake do not need to be restricted.

You should inform your physician of any medications you are taking and if you have any allergies, especially to contrast material. Also inform your doctor about recent illnesses or other medical conditions.

You may be asked to remove some or all of your clothes and to wear a gown during the exam. You may also be asked to remove jewelry, eye glasses and any metal objects or clothing that might interfere with the x-ray images.

Women should always inform their physician or x-ray technologist if there is any possibility that they are pregnant. Many imaging tests are not performed during pregnancy because radiation can be harmful to the fetus. If an x-ray is necessary, precautions will be taken to minimize radiation exposure to the baby.

How is the procedure performed?

This examination is usually done on an outpatient basis.

The patient is positioned on the examination table and x-rays are taken of the joint to be compared later with the arthrograms.

Next, the skin around the joint is cleansed with antiseptic and a local anesthetic is injected into the area. A needle with an aspiration syringe is then inserted into the joint space. The radiologist, a physician specifically trained to supervise and interpret radiology examinations, will use the syringe to drain the joint fluid, which may be sent to a laboratory for analysis. Next, the contrast material and—sometimes—air are injected into the joint space and the needle is removed to prevent the contrast material and/or air from escaping. The patient will be asked to move the affected joint to distribute the contrast material throughout the space. Still images are then obtained with the joint in various positions.

The examination is usually completed within 30 minutes.

What will I experience during and after the procedure?

Your joint area will be numbed so you do not feel anything related to the arthrographic procedure. Initially, you may experience a slight pinprick and momentary burning as the anesthesia is injected into the joint area. You may feel a fullness as the joint is filled and hear gurgling when the joint is moved.

After the examination, you may experience swelling and discomfort or hear a crackling noise in the joint. You may apply ice to the joint to reduce swelling if it is bothersome. A mild over-the-counter analgesic can be taken for pain. These symptoms usually disappear after 48 hours. Contact your doctor if they persist after two days.

Vigorous exercise is not recommended for 12 hours after the exam.

Who interprets the results and how do I get them?

A radiologist, a physician specifically trained to supervise and interpret radiology examinations, will analyze the images and send a signed report to your primary care or referring physician, who will share the results with you.

What are the limitations of Arthrography?

The limitations of conventional arthrography include:

- *Partial tears of the rotator cuff may not be detected.*
- *Although tears of the ligaments and menisci will be detected within the joint, other injuries will not be detected including bruising of the bone and ligaments outside the joint. MRI may be obtained after arthrography to better evaluate these types of injuries.*

Hysterosalpingography

- **What is Hysterosalpingography?**
- **How should I prepare for the procedure?**
- **How is the procedure performed?**
- **What will I experience during and after the procedure?**
- **Who interprets the results and how do I get them?**



What is Hysterosalpingography?

Hysterosalpingography, also called uterosalpingography, is an x-ray examination of a woman's uterus and fallopian tubes that uses a special form of x-ray called fluoroscopy and a contrast material.

How should I prepare for the procedure?

The hysterosalpingography procedure is best performed one week after menstruation but before ovulation to make certain that you are not pregnant during the exam.

This procedure should not be performed if you have an active inflammatory condition. You should notify your physician or technologist if you have a chronic pelvic infection or an untreated sexually transmitted disease at the time of the procedure.

Prior to the procedure, you may be given a mild sedative or over-the-counter medication to minimize any potential discomfort. Some physicians prescribe an antibiotic prior to and/or after the procedure.

You should inform your physician of any medications you are taking and if you have any allergies, especially to contrast material. Also inform your doctor about recent illnesses or other medical conditions.

You may be asked to remove some or all of your clothes and to wear a gown during the exam. You may also be asked to remove jewelry, eye glasses and any metal objects or clothing that might interfere with the x-ray images.

Women should always inform their physician or x-ray technologist if there is any possibility that they are pregnant. Many imaging tests are not performed during pregnancy because radiation can be harmful to the fetus. If an x-ray is necessary, precautions will be taken to minimize radiation exposure to the baby.

How is the procedure performed?

This examination is usually done on an outpatient basis.

The patient is positioned on her back on the exam table, with her knees pulled to her chest or her feet held up with stirrups. A speculum is inserted into the vagina and the catheter is then inserted into the cervix. The speculum is removed and the patient is carefully situated underneath the fluoroscopy device. The contrast material then begins to fill the uterine cavity through the catheter and fluoroscopic images are taken.

In some cases, if certain abnormalities are encountered, the patient will be asked to rest and wait up to 30 minutes so that a delayed image can be obtained. This delayed image may provide clues to a patient's condition that the original images with contrast material do not. When the procedure is complete, the catheter will be removed and the patient will be allowed to sit up.

When the examination is complete, the patient will be asked to wait until the technologist determines that the images are of high enough quality for the radiologist to read.

The hysterosalpingogram is usually completed within 30 minutes.

What will I experience during and after the procedure?

This exam should cause only minor discomfort.

There may be slight discomfort when the catheter is placed and the contrast material is injected, but it should not last long. There may also be slight irritation of the peritoneum, causing generalized lower abdominal pain, but this should also be minimal and not long lasting.

Who interprets the results and how do I get them?

A radiologist, a physician specifically trained to supervise and interpret radiology examinations, will analyze the images and send a signed report to your primary care or referring physician, who will share the results with you.

Myelography

What is Myelography?

- How should I prepare for the procedure?
- How is the procedure performed?
- What will I experience during and after the procedure?
- Who interprets the results and how do I get them?



What is Myelography?

Myelography is an imaging examination that shows the passage of contrast material in the space around the spinal cord (the subarachnoid space) using a real-time form of x-ray (radiography) called fluoroscopy, in which organs can be seen over many seconds (rather than in the static image called an x-ray or radiograph).

In most cases, the myelogram is followed by a computed tomography (CT) scan to better define abnormalities.

How should I prepare for the procedure?

Your physician will give you detailed instructions on how to prepare for your myelogram.

You should inform your physician of any medications you are taking and if you have any allergies, especially to contrast material. Also inform your doctor about recent illnesses or other medical conditions.

Specifically, the physician needs to know if (1) you are taking medications that need to be stopped a few days before the procedure and (2) if you have a history of contrast reaction to the contrast material used for the myelogram.

Some drugs should be stopped one or two days before myelography. They include certain antipsychotic medications, antidepressants, blood thinners, and drugs - especially metformin - that are used to treat diabetes. However, the most important medication that must be stopped is blood thinners (anticoagulants). If you are taking blood thinners, you should speak with your physician about alternative methods of maintaining anticoagulation while you are undergoing a myelogram. Blood work will be needed if the patient is on blood thinners. You also need to fast after midnight until your exam is complete.

You may be asked to remove some or all of your clothes and to wear a gown during the exam. You may also be asked to remove jewelry, eye glasses and any metal objects or clothing that might interfere with the x-ray images.

Women should always inform their physician or x-ray technologist if there is any possibility that they are pregnant. Many imaging tests are not performed during pregnancy because radiation can be harmful to the fetus. If an x-ray is necessary, precautions will be taken to minimize radiation exposure to the baby.

Unless you are to spend the night in the hospital, you should arrange to have a relative or friend take you home.

How is the procedure performed?

This examination is usually done on an outpatient basis.

As the patient lies face-down on the examination table, the radiologist will use the fluoroscope, which projects radiographic images in a movie-like sequence onto a monitor to visualize the spine and determine the best place to inject the contrast material.

The contrast material is usually injected into the lower lumbar spine, because it is considered easier and safer. Occasionally, if it is deemed safer or more useful, the contrast material will be injected into the upper cervical spine.

At the site of the injection, the skin will be cleaned and numbed with a local anesthetic. Depending on the location of the puncture, the patient will be positioned on their side, on their abdomen, or in a sitting position as the needle is inserted. In some cases, patients will be placed in a sitting position. If needed, a small amount of cerebrospinal fluid will be withdrawn for laboratory studies. The contrast material is then injected and withdrawn for laboratory studies. The contrast material is then

injected and the x-ray table is slowly tilted so that contrast material will run up and down the spine and surround the nerve roots that are next to the spinal cord.

The radiologist will monitor the flow of contrast with fluoroscopy, focusing on the area of the patient's symptoms. At this point, additional x-ray images will be taken by the technologist; it is important to remain still to reduce the possibility of blurred images.

A computed tomography (CT) scan is frequently performed immediately after myelography while contrast material is still present in the spinal canal. This combination of imaging studies is known as CT myelography.

A myelography examination is usually completed within 30 to 60 minutes. A CT scan will add another 30-60 minutes to the total examination time.

What will I experience during and after the procedure?

You will feel a brief sting when local anesthetic is injected, and slight pressure as the spinal needle is inserted. Positioning the needle can occasionally cause a sharp pain.

During the exam, you will be asked to lay as still as possible while the table is tilted at different angles. A foot rest and straps or supports will keep you from sliding out of position. You may find the face-down position uncomfortable or that it causes you difficulty breathing deeply or swallowing. However, you should not have to maintain this position for very long.

Rarely, headache, flushing, or nausea may follow contrast injection. Seizures are possible, but also are rare.

We will have patients stay in a recovery area resting with the head elevated at a 30° to 45° angle for as long as four hours. You may be encouraged to take fluids at this time to help eliminate contrast material from your body and to prevent headache.

Following your myelogram, you should refrain from strenuous physical activity and from bending over for one to two days.

You should notify your health professional if you experience fever higher than 100.4° F, excessive nausea or vomiting, severe headache for more than 24 hours, neck stiffness, or numbness in your legs. You should also

report if you have trouble urinating or moving your bowels.

Who interprets the results and how do I get them?

A radiologist, a physician specifically trained to supervise and interpret radiology examinations, will analyze the images and send a signed report to your primary care or referring physician, who will share the results with you.