Radiology and Diagnostic Imaging Terms

The following is a list of some common radiology and diagnostic imaging terms. This Glossary may help you understand what your physician has explained and may help you understand your medical records.

X-ray (radiograph or plain film)

X-rays or lights with high energy are shined through a body part. These rays are then broadcast either onto film or to a receiver if the system is digital. Different tissues absorb different amounts of radiation depending upon density. For example, bone absorbs more radiation than does muscle or skin. Therefore, bone will appear white or light and less dense tissues such as muscle, colon, lung, etc. will appear dark. A simple example is an x-ray to diagnosis a fracture. The solid bone will appear white and the fracture will appear dark because more radiation will slide through the fracture site.

Magnetic Resonance Imaging

Magnetic Resonance Imaging or MRI takes advantage of the magnetic properties of hydrogen atoms in the body. An MRI machine uses magnets and radio waves. Sometimes contrast is used to enhance MRI. MRI is useful for evaluating central nervous system issues, issues in the chest and abdomen, musculoskeletal systems and contrast enhanced MRI is helpful in evaluating infection, brain issues, tumors, etc.

Ultrasound

Ultrasound uses sound waves to produce images. A component called a transducer generates high frequency sound which is broadcast through the skin and the body. It returns to a receiver and the data are combined to produce an image. Ultrasound is often used for evaluating unborn children, and issues with organs such as kidneys, gallbladders and livers.

Computed Tomography

Computed tomography is also known as CAT Scan or C-T Scan. CAT Scans evaluate body parts by generating cross-section views of specific body parts. Sometimes radiologists will use intravenous iodinated contrast materials to evaluate specific organs. Contrast may also be injected into specific body parts to assist in obtaining cross-section images. Generally, contrast is safe. However, there are occasionally allergic type reactions. Often, reactions require no treatment. However, reactions can be life-threatening, such as anaphylaxis.

Fluoroscopy

Fluoroscopy utilizes a continuous beam of x-ray radiation to generate a moving picture image which is viewed on a computer monitor. Fluoroscopy can assist in evaluating issues with moving joints, gastrointestinal issues, lung or diaphragm abnormalities or swallowing issues. Fluoroscopy is also used during the placement of needles to make sure that needles are located in the appropriate anatomical position.

Myelogram

A myelogram is used to evaluate the discs between a patient’s vertebrae. A needle is used to inject contrast fluid into the thecal sac. The thecal sac houses the nerve roots. The needle is placed in the spine with the assistance of fluoroscopy (see “fluoroscopy” in radiology/diagnostic imaging terms). X-rays are then taken to assist in diagnosing pathology associated with one or more discs and/or degenerative changes in the patient’s spine.

Angiogram

An Angiogram is used to visualize issues affecting a patient’s blood vessels. Contrast fluid is injected into an artery and x-rays are then taken of the injected vessel. Angiography is also used in combination with Magnetic Resonance Imaging (MRI) or Computerized Tomography (CT). Occasionally, contrast fluid is not needed. Certain angiography techniques also utilize Doppler Ultrasound (Doppler Duplex Ultrasound).

Diskogram

When a Diskogram is performed, a needle is placed into an intervertebral disk under fluoroscopic guidance. Iodine contrast material is injected. Radiographs or X-rays are obtained. The patient is also involved by confirming whether or not there is a sensation associated with the injection. CT imaging is also used in certain diskogram procedures.

Arthrogram

In an Arthrogram test, a needle is placed into a patient’s joint. Iodine contrast is injected. X-rays are obtained. An arthrogram may help a doctor discover a ligament tear or cartilage pathology. An arthrogram is often effective to assist in evaluating the internal characteristics of a patient’s joint. An arthrogram may be combined with Computerized Tomography (CT) to assist in certain cases where a plain film arthrogram does not give complete enough visualization of the issue affecting the patient’s joint. Arthrograms can be used in conjunction with Magnetic Resonance Imaging (MRI).

Bone Scan

A Bone Scan can also be called Bone Scintigraphy. With this test, a radioactive dye is injected into the bone being studied. Radiographic images are taken of the bone which reveals how the dye travels through the bone. Normal bone function and formation is revealed as is abnormal bone function and formation.