

Lakeview Community Wellness Center Orthopaedic Connection

Imaging Techniques: Course 301

By Thomas J. Haverbush, M.D.
Orthopaedic Surgeon

Transforming patient information into patient understanding.

As we come to the conclusion of our mini course in Imaging Techniques that I use in Orthopaedic Surgery, there are four more areas to cover. Arthrography, bone scan, PET scan and ultrasound. I hope you have picked up a lot of useful information from our three week course.

What is Arthrography?

Quite simply it is an x-ray study in which a contrast fluid (or dye as patients often refer to it) is injected into a joint. This makes the joint show up more clearly on the x-ray.

I do arthrograms frequently in the office. The contrast fluid I use is Optiray. All of the contrast agents have iodine in some form to aid visualization of the joint.

One of the most common arthrograms is of the shoulder. It can demonstrate tearing of the rotator cuff.

Arthrograms can also be done by using CT or MRI. These studies are more complicated and expensive than plain x-ray arthrograms.

Bone Scan

It is a very helpful nuclear medicine imaging study, which I use quite often. It is also sometimes called bone scintigraphy. A small amount of a radioisotope (usually technetium 99) is injected into the blood stream. It is absorbed by the bone. Between 3 to 6 hours after the injection the patient is placed in a special x-ray scanner (not MRI or CT) that detects the amount of isotope that has been absorbed into the bones. In effect it shows blood flow and metabolic activity within the bone. The radioactive material is picked up by the area of the bone that is trying to repair itself.

I use it to detect hidden fractures, tumors in bone and stress fractures.

Ultrasound

An ultrasound study is a painless, noninvasive, radiation free procedure used to visualize body structures and study blood flow. In Orthopaedic Surgery I use it to study tendons, muscles, joints and vessels. Ultrasound refers to acoustic energy with a wave frequency above the audible range of human hearing.

Obstetrics ultrasound studies are much more well known to the public than Orthopaedic uses.

PET Scan

A PET scan is a type of nuclear medicine imaging study. It is a unique test because it helps us see how organs and tissues inside the body are actually functioning. It is not just a picture of the anatomy like other tests are. The patient is injected intravenously with a radioactive tracer and then placed in a PET scanner similar to a CT unit. There are also combined PET/CT scanners that look similar to both PET and CT scanners.

In Orthopaedics a PET scan would be ordered to detect cancer or determine whether cancer has spread in the body.

By the way PET stands for Positron Emission Tomography.

Whew. We are finished with Imaging Studies. Good thing. It was getting a bit heavy there at the end. I'll try to lighten up next week. I promise.

Please remember that anyone can make an appointment to see Dr. Haverbush at his office in Alma, at 315 Warwick Dr., across from Gratiot Medical Center. Call 989-463-6092 to make an appointment.

And don't forget every article I have written for Lakeview Area News is on my Website, www.orthopodsurgeon.com. Check it out. I specialize in you.

Be well.

Dr. Haverbush