

ABCDEFGHIJKLMNOPQRSTUVWXYZ  
**GLOSSARY**

**A**

**Abscess**

A localized collection of pus in any part of the body, usually surrounded by inflamed tissue.

**Anesthetic**

An agent that causes loss of sensation with or without the loss of consciousness.

**Angiography, Angiogram**

Technique that shows blood vessels on an X-ray. It is done by injecting X-ray dye (contrast) into the blood vessel. An angiogram is a picture of one or more blood vessels which are filled with X-ray dye. Angiography usually refers to arteries; venography is the study of veins using X-ray dye.

**Arteriogram**

An X-ray of an artery after the injection of dye.

**Aspirate, aspiration**

Withdrawal of a fluid from the body by suction, usually through a needle or syringe.

**Arthrography, Arthrogram**

The visualization of a joint by X-ray after the injection of dye into the joint.

**B**

**Barium**

This is a chalky liquid which outlines various parts of the digestive tract on an X-ray. It can be drunk in flavored form to study the esophagus, stomach and small intestine. It can be used as an enema to study the large bowel. It is inert and is not absorbed by the body.

### Biopsy

The removal and examination of a piece of tissue taken from the body for diagnostic purposes.

## C

### Colon

The large intestine.

### Computerized tomography

Also known as CT scan or CAT scan (for Computer Assisted Tomography). This technique uses X-rays to generate computerized images (pictures) of all parts of the body. The technique can create pictures in 2D and 3D.

### Conscious sedation

Intravenous medication used to help relax you during a procedure, without putting you to sleep. Usually associated with procedures which are anxiety-producing for the patient.

### Contrast or contrast media

A radiopaque substance used during an X-ray exam (or some MRI exams) to provide visual contrast in the pictures of different tissues and organs. Can be given orally or intravenously (by injection).

### Coronary angiography

Study of the blood vessels which supply the muscle of the heart (coronary arteries). By threading a long narrow flexible catheter through an accessible blood vessel (usually in the groin or arm), the individual coronary arteries are injected with a small quantity of X-ray dye, which helps radiologists look for blockages (stenoses). Cardiac catheterization refers to the technique of performing coronary angiography, whereby catheters are threaded into the heart and coronary arteries.

### Cyst

A sac or vesicle in the body.

## D

### **Doppler**

An ultrasound method of examining blood vessels. No X-rays are involved.

### **Dye (contrast)**

A radiopaque substance used during an X-ray exam to provide contrast in the different tissues and organs. "Dye" usually refers to the contrast media given intravenously.

## **E**

### **Echocardiography**

A painless study using ultrasonic waves to visualize structural and functional abnormalities of the heart.

## **F**

### **Fallopian tube**

A pair of slender ducts through which ova pass from the ovaries to the uterus in the female reproductive system of humans and higher mammals.

## **G**

### **Gallbladder series**

A series of X-rays of the gallbladder, taken after the gallbladder has been outlined with a special X-ray dye. The dye is taken by mouth the night prior to the study.

### **Gamma camera**

A photographic instrument (which does not emit radiation) used to produce a nuclear medicine image.

## **H**

### **Histologic**

Pertaining to the study of microscopic structures of tissue.

## **I**

### **Infuse**

To introduce a solution into the body through a vein.

### **I.V.**

Intravenous. Literally, means through a vein. "An IV" (pronounced "eye-vee") often refers to a particular kind of injection apparatus: a bottle of fluid is held up on a small pole, and gravity causes the fluid to flow down through a flexible tube, through a needle, and into the patient's vein.

### **In vitro**

Procedure done in test tube.

### **In vivo**

Procedure that uses trace amounts of radiopharmaceutical that are given directly to a patient; majority of nuclear medicine procedures are in vivo.

## **J**

## **K**

## **L**

## **M**

### **Magnetic resonance imaging (MRI)**

This technique uses radio waves and a strong magnetic field to generate images of the body in 2D and 3D.

### **Mammography, Mammogram**

A mammogram is an X-ray of the breast. It is used to detect breast cancer and other abnormalities of the breast.

### **Myelogram**

An X-ray of the spinal cord after the injection of a radiopaque substance into the subarachnoid space.

## **N**

### **NSAID**

Non-Steroidal Anti-Inflammatory Drugs, such as aspirin, Motrin®, Indocin®, and other pain-killers. These are distinct from cortisone, which is an antiinflammatory steroid.

### **Nuclear medicine**

Dozens of different examinations are performed in the Nuclear Medicine Department. The patient gets an intravenous injection of a minute trace of radioactive material which attaches to a certain type of molecule. The type of radioactive tracer and the type of molecule vary, depending on which part of the body is to be examined.

## O

## P

### PET (positron emission tomography)

In nuclear medicine, it produces 3-D computer-reconstructed images measuring and determining the biochemistry or physiology in a specific organ, tumor or other metabolically active site.

### Planar

In nuclear medicine, it provides a two-dimensional view of the organ being imaged.

### Pyelogram, IV Urogram, IVP

An X-ray of the pelvis, showing the kidney and associated structures, after injection of a radiopaque dye.

## Q

## R

### RAD

An acronym for Radiation Absorbed Dose. A unit which measures radiation in terms of the absorbed dose. For radiologic procedures it is equivalent to the REM (see below), and the two units are used interchangeably.

### Radiation Therapy

Here, large doses of X-rays are used to treat cancer by killing cancer cells. This treatment is *not* usually part of a radiology department, and treatment is given by physicians who are specialized in this field (radiation oncologists).

### Radioimmunoassay (RIA)

A special type of in vitro procedure that combines the use of radiochemicals and antibodies to measure the levels of hormones, vitamins and drugs in a patient's blood.

### Radiologic technologist

A person trained in the technique of producing an image with the use of X-rays.

### Radiologist

A physician who interprets X-ray images to diagnose disease. In addition to interpreting the original kinds of X-ray films, today's radiologists use a variety of other modalities such as MRI, ultrasound and nuclear medicine.

### Radiology

The study of images of the human body.

### Radiopaque

Anything that does not allow the penetration of X-rays.

### Radiopharmaceutical (also tracer or radionuclide)

Basic radioactively tagged compound necessary to produce a nuclear medicine image.

### REM

An acronym for Roentgen Equivalent Man. A unit which measures radiation in terms of the energy involved (the same as RAD), weighted by a factor related to the type of radiation. For the types of radiation used in radiologic procedures this factor is equal to one, so the REM is equivalent to the RAD.

### Roentgen, Wilhelm Conrad

Scientist who discovered X-rays in 1895. Received Nobel prize in 1901.

## S

### Scan

Term used to describe the computerized images (pictures) generated by CT, MRI, ultrasound and nuclear medicine studies. These might be referred to as a "CT scan," "MR scan," "thyroid scan," "bone scan," and so forth.

### SPECT

An acronym for Single Photon Emission Computed Tomography. A nuclear medicine procedure in which the gamma camera rotates around the patient and takes pictures from many angles, which a computer then uses to form a tomographic (cross-sectional) image. The calculation process is similar to that in X-ray Computed Tomography (CT) and in Positron Emission computed Tomography (PET).

### Stereotactic

The technique of viewing objects from two slightly different angles to give a perception of depth.

## T

### Titration, titrate

Adjusting the concentration of a solution (such as an injectable drug) so that the smallest possible amount (or lowest concentration) of the active ingredient is used that will achieve the desired effect.

### Tomography

From the Greek words "to cut or section" (tomos) and "to write" (graphein), in nuclear medicine, it is a method of separating interference from the area of interest by imaging a cut section of the object.

### Transducer

An instrument which converts electrical energy into mechanical energy. Also acts as a transmitter and receiver of ultrasound information.

## U

### Ultrasound

This technique uses sound waves to make pictures of the body organs. Since no ionizing radiation (X-rays) are used, it is ideal for looking at pregnant women and their fetuses, but also has many other uses. It is often used for the neck, abdomen, pelvis and soft tissues including blood vessels in the arms and legs.

### Upper GI Series

An X-ray exam of the upper part of the digestive tract.

## V

### Vascular

Referring to a person's system of blood vessels: arteries, veins and capillaries.

**W**

**X**

**X-Ray**

A diagnostic test which uses invisible electromagnetic energy beams to produce images of internal tissues, bones and organs onto film.

**Y**

**Z**