Radiology (70010-79999)

- Radiology: Branch of medicine that uses radiant energy to diagnose & treat patients
Radiology Subsections

- Diagnostic Radiology
- Diagnostic Ultrasound
- Radiologic Guidance
- Breast Mammography
- Bone/Joint Studies
- Radiation Oncology
- Nuclear Medicine
Radiographic Procedures

- **Fluoroscopy** - an x-ray procedure that allows the visualization of internal organs in motion.

**Magnetic Resonance Imaging (MRI)**

- **MRI** – is a radiology technique that uses magnetism, radio waves, and a computer to produce images of the body structure.
**Tomography**

- Tomography used to view single plane of body

**Biometry**

- Biometry: The application of statistical methods to biological facts.
**Planes of Body**

**Sections** of the body are often referred to as *anatomical planes* (flat surfaces).

- These planes are *imaginary lines* – vertical or horizontal – drawn through an upright body.

**Three Types of Planes**

1. The **transverse plane** divides the body into top and bottom
2. The **frontal plane** divides the body into front and back
3. The **sagittal plane** divides the body into left and right
Position & Projection

- **Position:** Way in which patient placed.
  - An **Example** of Position is Prone, which *means the patient is lying on his/her anterior (front)*, but the sides of entrance and exit of the x-ray beam are not specified.

- **Projection:** Path x-ray beam travels.
  - An **Example** of a Projection is anteoposterior, which *denotes that the x-ray beam enters the patient’s body at the front (anterior) and exits from the back (posterior).*
Body Positions

A. Prone (ventral decubitus)
B. Supine (dorsal decubitus)
C. Right lateral recumbent
D. Left lateral recumbent
E. Ventral decubitus
F. Dorsal decubitus

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Body Positions

H
Left anterior oblique (LAO)

I
Right anterior oblique (RAO)

J
Left posterior oblique (LPO)

K
Right posterior oblique (RPO)
Component Coding

- Three Component Terms
  - Professional
  - Technical
  - Global
Professional Component

- Physician portion of service, includes:
  - Supervision of technician
  - Interpretation of results, including written report

Technical Component

- Technologist’s services
- Equipment, film, & supplies

Global Procedure

- Both professional & technical portions of radiology service
Component Modifiers

- If only Professional Component of radiology service provided: *Use -26*

- If only Technical Component of radiology service provided: *Use TC*
Global Procedure

- If both Professional & Technical components of radiology service is provided
  - Use no modifier
Example: Chest X-Ray

- **Professional Component**
  - 71030-26, Supervision & final report

- **Technical Component**
  - 71030-TC, Technician, supplies, equipment

- **Global Procedure:** 71030
Overview of Radiology Subsections
Diagnostic Radiology (70010-76499)

- Most standard radiographic procedures
- Codes often divided on whether **Contrast Material** used
- Codes further divided on number of views
Contrast Material

- Statement “with contrast” implies injection built into code

- Notes indicate codes for components

Example: 75801, Lymphangiography; see 38790 (Injection procedure)
Interventional Radiologist

- Interventional Radiologist - is a physician who is skilled in both the surgical procedure and the radiology portion of an interventional radiologic service.

- **EXAMPLE:** total procedure for cystography with contrast.
  - Report 74430, X-ray portion
  - Plus 51600 for injection procedure
  - Plus 99070 for supply of contrast material
Overview of Radiology Subsections
Diagnostic Radiology
(70010-76499)

- Used to
  - Diagnose Disease
  - Monitor Disease Process, Progression or Remission
  - Therapeutic Procedures or Guidance
Diagnostic Procedure Include
(70010-76499)

- X-ray
- Computerized Axial Tomography (CAT or CT Scan)
- Magnetic Resonance Imaging (MRI)
- Angiography
Computerized Axial Tomography (CAT/CT)

- Pictures of structures within the body created by a computer that takes the data from multiple X-ray images and turns them into pictures.

Magnetic Resonance Imaging

- An MRI (or magnetic resonance imaging) scan is a radiology technique that uses magnetism, radio waves, and a computer to produce images of body structures.
Angiography

- Used to view vessel obstructions
- Dye injected into vessel
- Radiologist uses angiography to diagnose vascular conditions

**Examples**
- Malformations
- Strokes
- Myocardial infarctions
Overview of Radiology Subsections

Diagnostic Radiology (70010-76499)

PERFORMANCE EXERCISE

- What is the Code for a diagnostic mammography, bilateral
  
  77056

- What is the code for the supervision and interpretation of an aortography, thoracic, by serialography?
  
  75605
Diagnostic Ultrasound
(76506-76999)

- Uses high-frequency sound waves to image anatomic structures and detect the cause of illness and disease.

- Codes for ultrasound procedures are found in three locations:
  1. Radiology Section, *Diagnostic Ultrasound subsection, 76506-76999*
  2. Medicine Section, *Non-Invasive Vascular Diagnostic Studies subsection 93875-93990*
  3. Medicine Section, *Echocardiography 93303-93350*
Ultrasound Modes & Scans

There are four different types of ultrasound listed in the CPT manual:

- A-mode
- M-mode
- B-scan
- Real-time Scan
A-Mode

- A – is the amplitude of sound return (echo)

- Technique used to map structure outline

- Displays one-dimensional image reflecting the time it takes the sound wave to reach a structure and reflect back.
M-Mode

- **M mode** - The M stands for *motion*
- Technique used to display *movement of structure*
- Displays one-dimensional image

B-Scan

- **B** = brightness
- Technique used to display *movement of tissues & organs*
- Known as *Gray Scale ultrasound*
- Displays two-dimensional image
Real-Time Scan

- Technique used to display both *structure & motion of tissues & organs* that indicates the *size, shape, and movement* of the tissue or organ.

- Displays two-dimensional image
Overview of Radiology Subsections

Diagnostic Ultrasound (76506-76999)

PERFORMANCE EXERCISE

- An ultrasound of the chest and mediastinum, real time
  
  76604

- A repeat uterine ultrasound in real time with image documentation of a 32-week pregnant female
  
  76816
Radiation Oncology
(77261-77799)

- Therapeutic use of radiation
- Codes both professional & technical services
- Subheading divided based on treatment
Clinical Treatment Planning - Reflects professional services by physician.

- Choice of treatment method
- Determination of number of treatment ports
- Selection of treatment devices
- Other necessary procedures
Three Levels of Planning

The three levels of treatment plan for patients receiving radiation are:

- **Simple:** 1 treatment area, 1 port or 1 set of parallel ports.
- **Intermediate:** 3 or more ports, 2 separate treatment areas, multiple blocking.
- **Complex:** Complex blocking, custom shielding blocks, tangential ports, special wedges, 3+ treatment areas, special beams.
Overview of Radiology Subsections

Radiation Oncology/
(77261-77799)

PERFORMANCE EXERCISE

- Complex therapeutic radiology simulation-aided field setting
  - 77290

- Therapeutic radiology treatment planning; simple
  - 77261
Medical Radiation, Physics, Dosimetry, Treatment Devices, & Special Services (77300-77370, 77399)

- Medical Radiation, Physics, Dosimetry, Treatment Devices, and Special Services *deals with the decision making of the physician as to the type of treatment, dose, and development of treatment course.*

- **Dosimetry** – *is the calculation of the radiation dose and placement.*
Overview of Radiology Subsections

Radiation Oncology/ (77300-77370, 77399)

PERFORMANCE EXERCISE

- Design and construct of a bite block, intermediate

  77333

- Calculation of an isodose for brachytherapy, single plane, two sources, simple.

  77261
Radiation Treatment Delivery (77401-77421)

- These codes are used to report the actual delivery of the radiation.

- Radiation treatment is delivered in units called, “Mega Electron Volt (MeV)”.
Radiation Treatment Delivery (77401-77421)

- A Mega Electron Volt is a unit of energy that is deposited in the patient’s tissue and is measured in:
  - Gray (1 Gray = 100 Rads; 1 Centigray [cGy] = 1 Rad).
  - A Rad is a radiation absorbed dose.
To code Radiation Treatment Delivery services, you need to know the amount of radiation delivered and the number of:

- **Areas treated** (single, 2, 3 or more)
- **Ports involved** (single, 3 or more, tangential)
- **Blocks used** (none, multiple, custom)
Overview of Radiology Subsections
Radiation Treatment Delivery (77401-77423)

PERFORMANCE EXERCISE

- For two separate areas, using three or more ports with multiple blocks at MeV
  - 77407

- For three or more separate areas using custom blocks, wedges, rotation beams, up to 5 MeV
  - 77412
Radiation treatment management reflects the Professional (physician) portion of services includes:

- Review of port films
- Review of dosimetry, dose delivery, treatment parameters
- Treatment setup
- Patient examination for medical E/M

**PERFORMANCE**

Five radiation treatments

77427
Clinical Brachytherapy
(77750-77799)

- Brachytherapy – is the placement of radioactive material directly into or surrounding the site of tumor. The placement maybe:
  - Intracavitary (within body cavity); or
  - Interstitial (within tissues).

**PERFORMANCE**

- A simple application of a radioactive source, interstitial.

77776
Clinical Brachytherapy
(77750-77799)

- The terms, “source” and “ribbon” are used in the Clinical Brachytherapy codes.

- A **Source** is a container holdings radioactive element that can be inserted directly into the body where it delivers the radiation dose over time.

- **Source** can be in various forms, such as:
  - *Seeds, ribbons, or capsules* and are placed in a cavity.
Clinical Brachytherapy
(77750-77799)

- **Ribbons:** are seeds embedded on tape.

- The **Ribbon** is cut to the desired length to control the amount of radiation the patient receives.
Clinical Brachytherapy
(77750-77799)

Clinical Brachytherapy Codes - Divided on the Basis of the number of sources or ribbons used in an application:

• Simple: 1-4
• Intermediate: 5-10
• Complex: 11 or more
Clinical Brachytherapy
PERFORMANCE
(77750-77799)

- A simple application of a radioactive source, intracavitary.

- Surface application of radiation source
Nuclear Medicine (78000-79999)

- Placement of radionuclides within the body and the monitoring of emissions from the radioactive elements.

- Used both for diagnosis & treatment

  Example: Stress test
Nuclear Medicine
78000-79999

Codes divided primarily on organ system.

• Except "Therapeutic," for radiopharmaceutical therapies
Nuclear Medicine
PERFORMANCE
(78000-78099)

- Adrenal imaging, cortex and/or medulla
  78075

- Thyroid carcinoma metastases imaging; limited area (e.g., neck and chest only)
  78015
The END