**Chapter Eight**

# RADIOLOGY SECTION

Radiology is a medical specialty that utilizes images and radioactive materials to diagnose and treat diseases. Radiology procedures are reported in code series 70010-79999.

The radiology section is separated into four key subsection categories:

- 70010-76499 Diagnostic radiology
- 76506-76999 Diagnostic ultrasound
- 77261-77799 Radiology oncology
- 78012-79999 Nuclear medicine

Radiology procedures have a professional and technical component. A code description may or may not include separate technical and professional designations. If the code description does not designate a code as technical or professional, it is considered a "global" code, meaning the professional and technical codes are both included within the procedure code description.

If different providers perform the technical and professional component of a global code, the modifier -26 professional component and –TC technical component should be appended to the global code to differentiate between the two providers and the portion of the test they were responsible for performing.

The **professional component** is the portion of the procedure that describes the service provided by the physician (interpretation and report). When the physician provides the supervision and interpretation only (the equipment is provided by other source), the modifier –26 is appended to the CPT procedure code when reporting the service.

The **technical component** is the portion of the procedure describing the equipment used to complete the procedure (machine, technician, etc). When a physician utilizes his own equipment to perform the radiological procedure, but a radiologist off site reads the film, the modifier TC is appended to the CPT procedure code when reporting the services of the physician who provided the equipment.

When a physician performs a radiological procedure utilizing his own equipment and interprets the film himself, the **global** CPT code would be utilized to report the procedure with no modifier added as the global description of the code includes both the professional and technical component services.

Some radiological procedures describe the supervision and interpretation portion of other procedures performed. For example, code 74742 is the radiological supervision and interpretation of the procedure 58345-transcervical introduction of fallopian tube catheter for diagnosis and/or re-establishing patency (any method), with or without hysterosalpingography. Subsection guidelines refer the coder to the appropriate surgical code when needed.

Other procedures where the S&I codes may be reported separately include vascular catheterizations, tube insertions, myelograms, cystograms, CT and ultrasound guidance

procedures. Be sure to check bundling edits quarterly for any changes to separate reporting of radiology codes from other procedures performed.

**Modifiers** utilized in the radiology section include 22, 26, 32, 52, 53, 59, 76, 77, and 99.

Procedures (i.e., radiology services, Dopplers, surgeries, etc.) for which services performed are significantly less than usually required may be billed with the **52 modifier.**

Some of the radiology code descriptions do not include a defined code for less than two views for the images. When a single view is performed for these images, the 52 modifier would be used with the multiple view code to appropriately describe the procedure performed.

In the **Consolidated Appropriation Act of 2016**, CMS implemented reimbursement cuts beginning in 2017 to the *technical* component for x-rays performed with older technology. Additional cuts were implemented in 2018 and more are set to take effect in 2023. The cuts by technology, year implemented and the payment reductions are shown in the table below.

**Table 1. Reimbursement Reductions for Older X-ray Technology**

| X-ray Technology | Year Implemented | Reimbursement Reduction |
|---|---|---|
| Analog | 2017 | 20% |
| Computed radiography | 2018 | 7% |
| | 2023 | 10% |
| Digital radiography | None | None |

To track the use and reporting of these x-ray technologies, CMS introduced **modifier FX** in 2017 to indicate an x-ray was taken using film (analog), and **modifier FY** was introduced in 2018 to indicate an x-ray was taken using computed radiography. Because there is no reduction in payment for digital radiology, there is no modifier created when a digital x-ray is performed.

Radiology codes are defined by the type of image being produced and the anatomical area where the images are being produced.

Imaging techniques in the radiology section include:

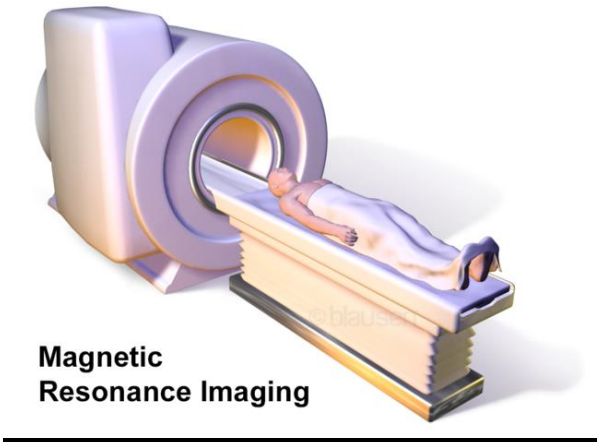
- Radiography X-ray
- Magnetic resonance imaging (MRI)
- Magnetic resonance angiography (MRA)
- Computerized tomography (CT scan)
- Ultrasound

**X-ray** radiography**,** also known as *general radiology*, is used to produce medical images and is the oldest and most frequently used form of medical imaging. X-ray images are produced when electrons of high energy strike a heavy metal target. X-rays are designated in the procedure description as "**radiologic exam**". X-rays are used primarily to view bones, joints and the chest.

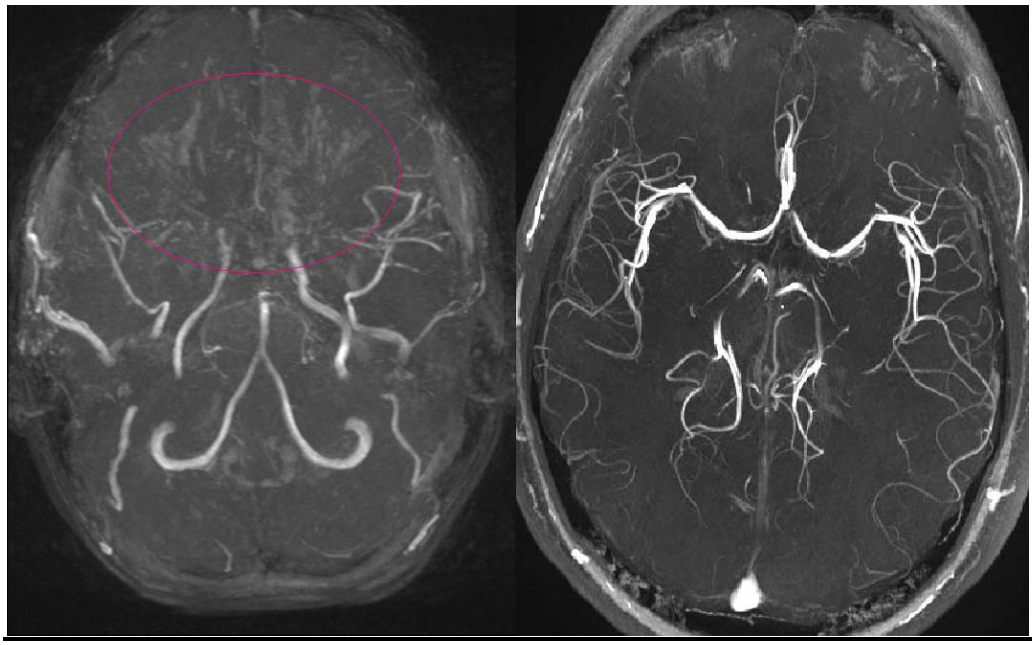
**Magnetic resonance imaging** (MRI) uses a magnetic field to produce images. MRI's are used to produce more detailed images of the internal structures of the body such as the brain, muscles and heart.

MRI's are designated as such within the CPT code description. Other images that utilize magnetic fields to produce images include nuclear magnetic resonance imaging (NMRI), and magnetic resonance tomography (MRT) procedures.

MRI procedures may be performed using contrast material to better enhance the image. The CPT codes for MRI procedures performed with or without contrast are reportable.

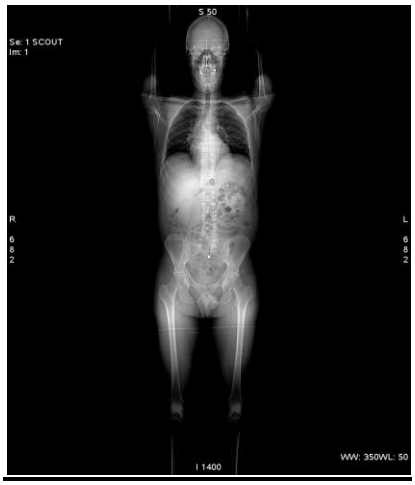


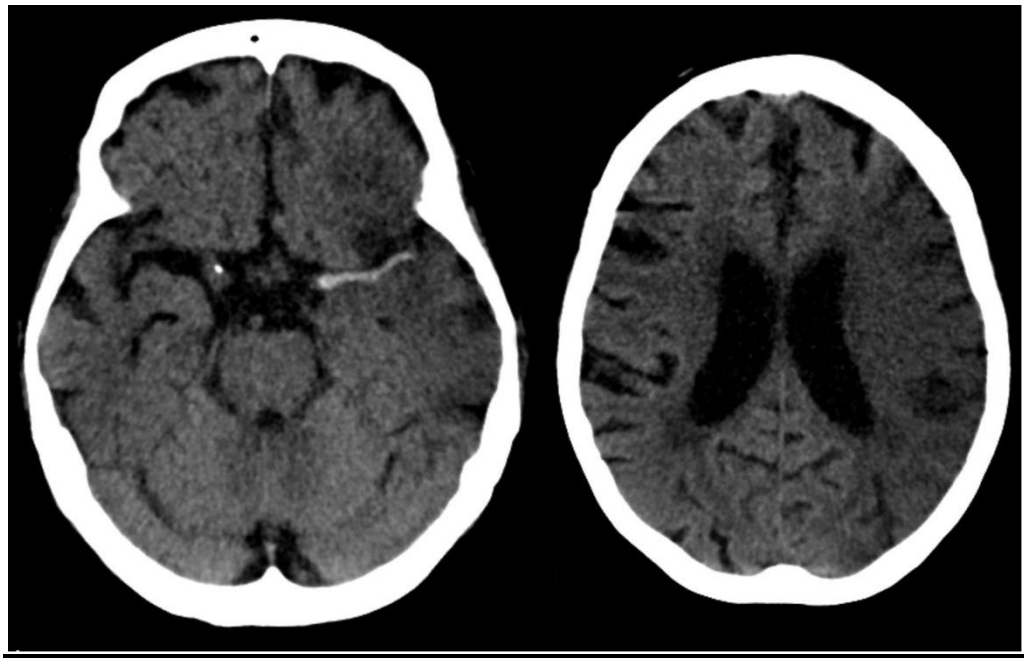

**Magnetic resonance angiography** (MRA) uses a magnetic field and pulses of radio wave energy to provide pictures of blood vessels inside the body. MRA is most frequently used to view blood vessels going to the brain, kidneys and legs.



**Computerized tomography (CT) or computed axial tomography (CAT) scan** utilizes computer processed x-rays to "slice" and "dice" producing cross-sectional images for detailed views of the interior organs of the chest, stomach, pelvis, arms or legs.

It takes detailed pictures of body organs, such as the liver, pancreas, intestines, kidneys, bladder, adrenal glands, lungs, and heart. It can also study blood vessels, bones, and the spinal cord.

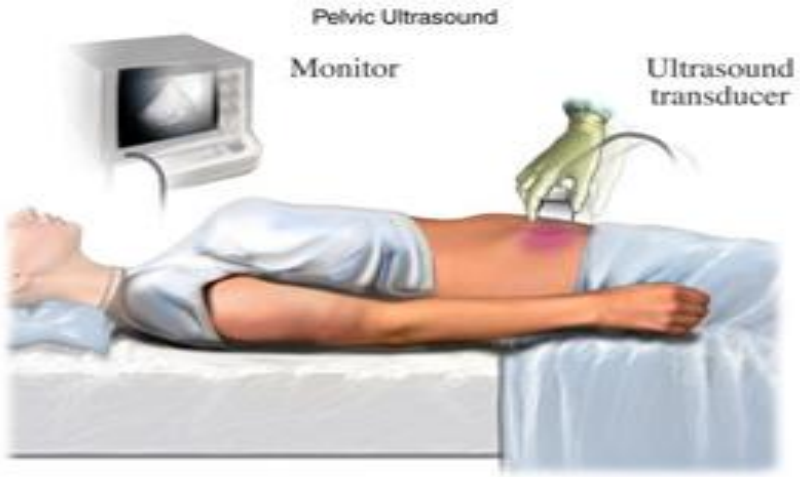




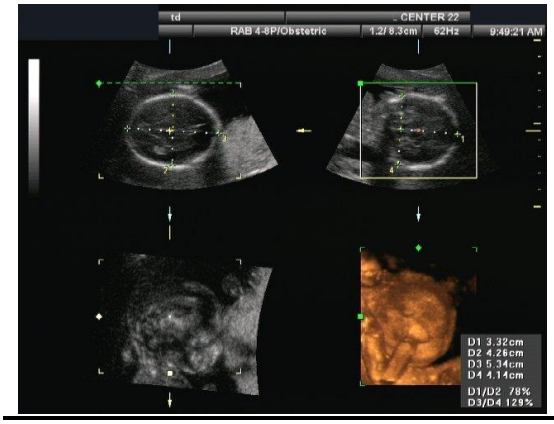
**Ultrasound** uses high frequency sound waves, beyond the human capability to hear, to produce live moving and still images for view. Ultrasound devices are used to detect objects and measure distance in medical imaging.

Ultrasound imaging techniques are used to visualize muscles, tendons, and many internal organs, to capture their size, structure and any pathological lesions with real time tomographic images. High power ultrasounds can also be used to break up stony deposits or tissue, accelerate the effect of drugs in a targeted area, assist in the measurement of the elastic properties of tissue and sort cells or small particles for research.

Ultrasounds are useful in the detection of pelvic abnormalities and can involve techniques known as abdominal (transabdominal) ultrasound, vaginal (transvaginal or endovaginal) ultrasound in women, and also rectal (transrectal) ultrasound in men. Ultrasound equipment includes a monitor and a transducer as shown below.



Images of fetal ultrasound image (bottom left) and an ultrasound image of the gallbladder (bottom right) are illustrated below.





**Nuclear medicine** is used to diagnose and treat disease utilizing radioisotopes. Radioactive isotopes are useful in a number of ways. One example is Cobalt-60 which is a radioisotope that is utilized as a radiation source to halt the development of cancer. Various other types of radioactive isotopes are used as tracers for diagnostic testing and are used to research metabolic processes related to various living organisms. Radiopharmaceuticals and drugs are reported separately from the diagnostic tests. A subspecialty of radiology, nuclear medicine studies include bone scans, thyroid scans, liver-spleen scans, kidney (renal) scans and PET scans.

**Nuclear Medicine Scans (78012-78999)**

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|---|
| **Thyroid Scan**<br>This test evaluates the function of the gland in addition to evaluating a nodule felt by the patient's doctor. It can also be used to evaluate a patient who has a history of thyroid cancer. |
| **Bone Scan**<br>For patients with a known cancer, bone scans are used to look for cancer which has spread to the bones. This test is also helpful to look for a cause of bone pain, such as infection in the bone (osteomyelitis), fracture or arthritis. |
| **Kidney (Renal) Scan**<br>A renal scan is used to test how well the kidneys are working. It can be used to look for scarring of the kidneys. |
| **PET Scan**<br>A PET scan gives an overview of metabolic activity in the body. It is used in the diagnosis and staging of cancers. |

Certain radiology procedure codes have **supervision requirements** that must be met. It is important to understand that licensing rules for states and payer rules for insurance carriers are different. Supervision rules and guidelines for radiology technicians will vary from state to state. Be sure to check state licensure requirements when utilizing radiology technicians to perform certain procedures.

**Medicare supervision requirements** for payment affect all radiology technicians, regardless of state rules. CMS defines "general," "direct," and "personal" supervision requirements in the Medicare Benefit Policy Manual, chapter 15, section 80:

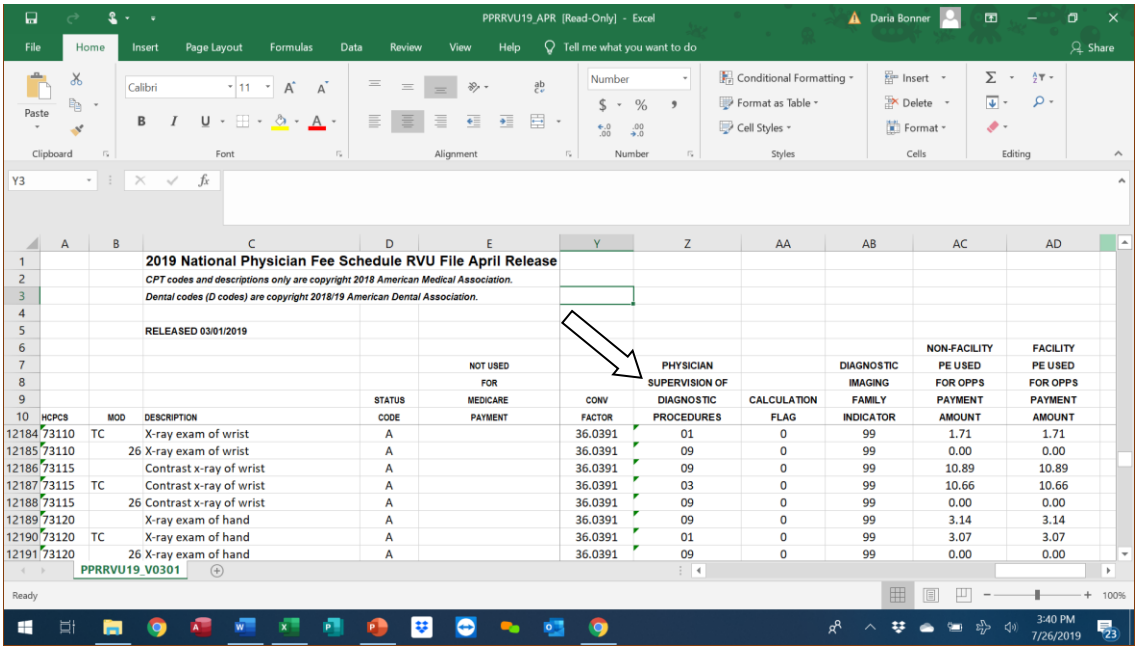
***General Supervision*** *means the procedure is furnished under the physician's overall direction and control, but the physician's presence is not required during the performance of the procedure. Under general supervision, the training of the non-physician personnel who actually performs the diagnostic procedure and the maintenance of the necessary equipment and supplies are the continuing responsibility of the physician.*

***Direct Supervision*** *(in the office setting) means the physician must be present in the office suite and immediately available to furnish assistance and direction throughout the performance of the procedure (for example, the physician must not be performing another procedure that cannot be interrupted, and must not be so physically far away that he or she could not provide timely assistance). However, this does not require that the physician must be present in the room when the procedure is performed.*

***Personal Supervision*** *means a physician must be in attendance in the room during the performance of the procedure.*

The supervision criteria for each radiology procedure performed is listed annually in the Medicare Physician Fee Schedule (MPFS). A sample of the 2019 MPFS supervision requirements is shown below.

**Sample 2019 National PFS April Release**




| | HCPCS | MOD | DESCRIPTION | STATUS CODE | NOT USED FOR MEDICARE PAYMENT | CONV FACTOR | PHYSICIAN SUPERVISION OF DIAGNOSTIC PROCEDURES | CALCULATION FLAG | DIAGNOSTIC IMAGING FAMILY INDICATOR | NON-FACILITY PE USED FOR OPPS PAYMENT AMOUNT | FACILITY PE USED FOR OPPS PAYMENT AMOUNT |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 12184 | 73110 | TC | X-ray exam of wrist | A | | 36.0391 | 01 | 0 | 99 | 1.71 | 1.71 |
| 12185 | 73110 | 26 | X-ray exam of wrist | A | | 36.0391 | 09 | 0 | 99 | 0.00 | 0.00 |
| 12186 | 73115 | | Contrast x-ray of wrist | A | | 36.0391 | 09 | 0 | 99 | 10.89 | 10.89 |
| 12187 | 73115 | TC | Contrast x-ray of wrist | A | | 36.0391 | 03 | 0 | 99 | 10.66 | 10.66 |
| 12188 | 73115 | 26 | Contrast x-ray of wrist | A | | 36.0391 | 09 | 0 | 99 | 0.00 | 0.00 |
| 12189 | 73120 | | X-ray exam of hand | A | | 36.0391 | 09 | 0 | 99 | 3.14 | 3.14 |
| 12190 | 73120 | TC | X-ray exam of hand | A | | 36.0391 | 01 | 0 | 99 | 3.07 | 3.07 |
| 12191 | 73120 | 26 | X-ray exam of hand | A | | 36.0391 | 09 | 0 | 99 | 0.00 | 0.00 |

Note that the supervision category is listed as a two-digit number under the header Physician Supervision of Diagnostic Procedures by CPT code. Their meaning is defined as follows:

01 = Procedure must be performed under the general supervision of a physician.
02 = Procedure must be performed under the direct supervision of a physician.
03 = Procedure must be performed under the personal supervision of physician.

09 = Concept does not apply.

Radiation Oncology

Treatment delivery is reported using the following CPT codes:

- Brachytherapy: 77761-77763, 77767-77768, 77770-77772, 77778, 0394T-0395T, 77789, 77750 and 77790.
- Conventional external beam radiation treatment delivery: 77401-77416 and G6003-G6014.
- Intensity Modulated Radiation Therapy (IMRT): 77385-77386 and G6015-G6016.
- Intraoperative Radiation Therapy (IORT): 77424-77425.

 For more information related to coding and billing for radiology procedures, visit the American College of Radiology at http://www.acr.org.

## Radiology
## Bilateral Mammogram

**Description:** Bilateral Mammogram, (abnormal) additional views requested (Medical Transcription Sample Report)

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**EXAM:** Mammographic screening FFDM

**HISTORY:** 40-year-old female who is on oral contraceptive pills. She has no present symptomatic complaints. No prior history of breast surgery nor family history of breast CA.

**TECHNIQUE:** Standard CC and MLO views of the breasts.

**COMPARISON:** This is the patient's baseline study.

**FINDINGS:** The breasts are composed of moderately to significantly dense fibroglandular tissue. The overlying skin is unremarkable.

There are a tiny cluster of calcifications in the right breast, near the central position associated with 11:30 on a clock.

There are benign-appearing calcifications in both breasts as well as unremarkable axillary lymph nodes.

There are no spiculated masses or architectural distortion.

**IMPRESSION:** Tiny cluster of calcifications at the 11:30 position of the right breast. Recommend additional views; spot magnification in the MLO and CC views of the right breast.

BIRADS Classification 0 - Incomplete

**MAMMOGRAPHY INFORMATION:**
1. A certain percentage of cancers, probably 10% to 15%, will not be identified by mammography.
2. Lack of radiographic evidence of malignancy should not delay a biopsy if a clinically suspicious mass is present.
3. These images were obtained with FDA-approved digital mammography equipment, and iCAD Second Look Software Version 7.2 was utilized.

## Brain MRI - Pituitary Adenoma

**Description:** Brain CT and MRI - suprasellar mass (pituitary adenoma)
(Medical Transcription Sample Report)

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**CC:** Orthostatic lightheadedness.

**HX:** This 76 y/o male complained of several months of generalized weakness and malaise, and a two-week history of progressively worsening orthostatic dizziness. The dizziness worsened when moving into upright positions. In addition, he complained of intermittent throbbing holocranial headaches, which did not worsen with positional change, for the past several weeks. He had lost 40 pounds over the past year and denied any recent fever, SOB, cough, vomiting, diarrhea, hemoptysis, melena, hematochezia, bright red blood per rectum, polyuria, night sweats, visual changes, or syncopal episodes.

He had a 100+ pack-year history of tobacco use and continued to smoke 1 to 2 packs per day. He has a history of sinusitis.

**EXAM:** BP 98/80 mmHg and pulse 64 BPM (supine); BP 70/palpable mmHG and pulse 84BPM (standing). RR 12, Afebrile. Appeared fatigued.

CN: unremarkable.

Motor and Sensory exam: unremarkable.

Coord: Slowed but otherwise unremarkable movements.

Reflexes: 2/2 and symmetric throughout all 4 extremities. Plantar responses were flexor, bilaterally.

The rest of the neurologic and general physical exam was unremarkable.

**LAB:** Na 121 meq/L, K 4.2 meq/L, Cl 90 meq/L, CO2 20meq/L, BUN 12mg/DL, CR 1.0mg/DL, Glucose 99mg/DL, ESR 30mm/hr, CBC WNL with nl WBC differential, Urinalysis: SG 1.016 and otherwise WNL, TSH 2.8 IU/ML, FT4 0.9ng/DL, Urine Osmolality 246 MOSM/Kg (low), Urine Na 35 meq/L,

**COURSE:** The patient was initially hydrated with IV normal saline and his orthostatic hypotension resolved, but returned within 24-48hrs. Further laboratory studies revealed: Aldosterone (serum)<2ng/DL (low), 30 minute Cortrosyn Stimulation test: pre 6.9ug/DL (borderline low), post 18.5ug/DL (normal stimulation rise), Prolactin 15.5ng/ML (no baseline given), FSH and LH were within normal limits for males. Testosterone 33ng/DL (wnl). Sinus XR series (done for history of headache) showed an abnormal sellar region with enlarged sella tursica and destruction of the posterior clinoids. There was also an abnormal calcification seen in the middle of the sellar region. A left maxillary sinus opacity with air-fluid level was seen. Goldman visual field testing was unremarkable. Brain CT and MRI revealed suprasellar mass most consistent with pituitary adenoma. He was treated with Fludrocortisone 0.05 mg BID and within 24hrs, despite discontinuation of IV fluids, remained hemodynamically stable and free of symptoms of orthostatic hypotension. His presumed pituitary adenoma continues to be managed with Fludrocortisone as of this writing.