



# Radiology Associates<sub>LLP</sub>

This resource book is presented to provide you and your staff with basic information regarding:

Insurances, precertification requirements, services offered, as well as guidelines, fees, and education information.

This does not intend to be all encompassing, and some information does have limitations as well and expirations. Radiology Associates intends to keep you abreast of the newest and most up-to-date fees, guidelines, and regulations as we can.

Please contact us if you have any further questions or we can be of further service to you.

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# Radiology Associates<sup>LLP</sup>

## Mammogram Payment Guidelines

### Medicare

Age 35–39 Baseline Mammogram

Age 40+ Mammogram every year (one full year must have elapsed following the last mammogram)

### Medicaid (See Medicaid Guide)

Age 35-39 Baseline Mammogram (Superior Health Plan: one exam between ages 35-39)

Age 40+ Mammogram every year (must be one full year)

### Tricare (Champus) (See Attached)

Age 39+ Mammogram every year

Age 35 High Risk and annually thereafter

Note: For women at high risk (family history of breast cancer in a first degree relative), baseline mammogram is payable at age 35 and then annually.

### Humana & Humana Gold

Age 35-39 Baseline Mammogram

Age 40+ Mammogram every year (must be one full year)

### BlueCross/BlueShield

Age 35 Baseline Mammogram

Age 40+ Mammogram every calendar year

(Patient could come in on December 31, 2004 and come again January 1, 2005; BlueCross/BlueShield will pay for one mammogram every calendar year.)

\*\*\* No age limit for wellness Mammogram (based on medical necessity).\*\*\*

### United Healthcare

Age 35–39 Baseline Mammogram

Age 40+ Mammogram every year (eleven full months must have elapsed following the month of the last mammogram)

## **Mammogram Payment Guidelines (Cont'd.)**

Note: Count months between mammograms beginning the month after the date of the examination. For example, screening mammogram received January 20, 2004; begin counting next month (February 2004) until 11 months have elapsed. Payment can be made for another screening mammogram beginning January 1, 2005.

### **Aetna**

Age 40+ Mammogram every year (eleven full months must have elapsed following the month of the last mammogram)

Under 40 Annual screening. If deems to be high risk, see Primary Care Physician.

**\*\* HAVE PATIENT SIGN WAIVER OF LIABILITY\*\***

### **Cigna**

Age 40+ Mammogram every year (eleven full months must have elapsed following the month of the last mammogram)

Age 25+ when ANY of the following criteria are met:

- History of prior high-dose thoracic irradiation (e.g., prior therapeutic radiation therapy)
- A strong family history or genetic predisposition for breast cancer including ANY of the following:
  - The individual has a known BRCA mutation
  - A first-degree relative of BRCA carrier, but untested
  - A five-year risk of invasive breast carcinoma risk  $\geq 1.7\%$  or a lifetime risk  $> 20\%$  as defined by BRCAPRO (i.e., Duke model) or other models that are largely dependent on family history (e.g., Gail, Claus, or Tyrer-Cusick models)
  - Personal history of or first-degree relative with Li-Graumeni syndrome, Cowden syndrome or Bannayan-Riley-Rubalcaba syndrome
- Personal history of breast cancer (including surveillance of the contralateral breast)

### **Meritain Health**

Age 40+ Mammogram every year (one per calendar year)

### **Wellmed**

Age 35–39 Baseline Mammogram

Age 40+ Mammogram every year (one full year must have elapsed following the last mammogram)

## **Mammogram Payment Guidelines (Cont'd.)**

### **Mail Handlers**

Age 40+ Mammogram every year (one per calendar year)

### **PHCS**

Age 40+ Mammogram every year (one per calendar year)



## **COMPREHENSIVE LIST OF SERVICES**

## **BIOPSY (BX) EXAMS**

Abdominal Soft Tissue  
Axillary Lymph Node  
Breast Cyst Aspiration  
Breast Guided  
Stereo Breast  
MRI Guided Biopsy  
Galactogram/Ductogram  
Pre-Op Needle Wire Localization  
Thyroid Fine Needle Aspiration  
Mass Locator Biopsy – clip placement around a breast mass

*Any additional services may be addressed to our Radiologists*

## CT/CTA EXAMS & DEXA

### CT

Abdomen  
Abdomen/Pelvis  
Urogram  
Bone Density  
Chest  
Chest/Abdomen/Pelvis  
Chest/Abdomen  
Chest/Pelvis  
Extremities – Lower & Upper  
Brain (Head)  
Maxillofacial – Limited & Complete  
Neck/Brain  
Neck/Chest/Abdomen/Pelvis  
Neck/Chest  
Neck Soft Tissue \*If DX is pain, CT Cervical Spine should be ordered\*  
Orbit (Eyes)  
Pelvis  
Sinus – Limited & Complete  
Spine – Lumbar SP, Thoracic SP, Cervical SP  
Virtual Colonoscopy

### CTA

Abdomen – Aorta Only  
Abdomen/Renal Artery  
Chest  
Head  
Extremities – Lower & Upper  
Neck Soft Tissue  
Pelvis  
Pulmonary Embolism (Scheduled as CTA Chest)  
Coronary Artery Calcification Score – NOT covered by insurance, self pay exam

### DEXA

Bone Mineral Density

*Any additional services may be addressed to our Radiologists*

## MRI/MRA EXAMS

**\*Under no circumstances should a patient who has a pacemaker have an MRI\***

### MRI

Abdomen – (Liver, Pancreas, Kidneys)  
Abd/Urogram  
Arm  
Bone Marrow  
Brachial Plexus  
Brain  
Brain w/MRA Brain  
Breast  
Spine – Cervical, Thoracic, Lumbar  
Chest  
Clavicle  
CP or MRCP – (MRI ABD w/Reconstructions)  
Foot  
Fetal  
Heart – (Cardiac)  
Hip – Bilateral Hips  
Joints – (Shoulder, Knee, Elbow, Ankle, Finger & Hand)  
Leg  
Liver  
Neck Soft Tissue \*If DX is pain, CT Cervical Spine should be ordered\*  
Orbit, Face & Neck  
Pelvis  
Sacrum/Coccyx  
Scapula  
SI Joints  
Spectroscopy  
Toe  
Thigh  
TMJ Joints  
Wrist  
Venogram

### MRA

Abdomen  
Brain  
Brain/Neck Soft Tissue  
Chest  
Lower Extremities – A.K.A. MRA w/Run-Offs  
Neck Soft Tissue  
Pelvis  
Upper Extremities  
***Any additional services may be addressed to our Radiologists***



## NUCLEAR MEDICINE

Whole Body Bone Scan  
3-Phase Bone Scan  
Spectroscopy Bone Scan  
Gallium Scan  
Gastric Emptying Scan  
Hemangioma Liver Spect Scan  
Hepatobiliary Scan  
Hepatobiliary Scan w/Ejection Fraction, Kinevac or CCK injection – A.K.A.Hida or Papida Scan  
Liver/Spleen Scan  
Liver/Spleen Spect Scan  
Muga Scan – A.K.A. Cardiac Blood Pool, Gated Blood Pool  
Octreoscan  
Parathyroid Scan  
Renal Scan W/ or W/O Lasix A.K.A. Mag 3  
I-131 Whole Body Scan  
Thyroid Uptake and Scan  
Thyroid Scan Only  
White Blood Cell Scan(WBC) A.K.A. Ceretec Scan  
Indium-111 WBC/Tc99m Sulfur Colloid Bone Marrow Scan  
I-123 MIBG Scan

*Any additional services may be addressed to our Radiologists*

## ULTRASOUND EXAMS

Abdomen  
Abdomen Soft Tissue  
Aorta  
Breast  
Chest Soft Tissue  
Extremity – (Non Vascular)  
Extremity Soft Tissue  
GallBladder  
Kidney  
Kidney w/Doppler Kidney  
Liver  
Liver w/Doppler Liver  
Neck/Soft Tissue for Head  
OB Complete  
Pancreas  
Pelvis or Pelvis Non-OB – (trans-abdominal)  
Transvaginal Non-OB Vaginal  
Pelvic Soft Tissue – (Pelvic Wall or Peritoneum)  
Renal w/Pre & Post Void Bladder  
Bladder w/Pre & Post Void  
Scrotum w/Doppler Scrotum  
Spleen  
Transplanted Kidney  
Transvaginal OB  
Thyroid  
Urinary Bladder

*Any additional services may be addressed to our Radiologists*

## **FLUOROSCOPY**

Barium Swallow A.K.A. Esophagram (Radiology Associates DOES NOT do Modified BS)  
Cystogram  
Fistula Study  
Fluoro Sniff Test  
Intravenous Pyelogram (IVP)  
Arthrogram/Arthrocentesis – (Arthro Aspiration Injection / Cortisone Injection) of the shoulder or Wrist (alone or w/MRI to follow). Arthro of the Knee must have MRI to follow, cannot be done w/out the MRI  
Barium Enema (BE)  
Small Bowel Series A.K.A. Small Bowel Follow Through  
T-Tube Cholangiogram  
Upper GI (UGI)  
Urogram A.K.A. Pyelogram w/KUB  
Urethrocytography Void (VGUG)  
Loopogram  
Myelogram – Csp, Tsp or Lsp w/CT to follow (can be done on more than 1 area, CT will follow)  
Retrograde Urethrogram A.K.A. Urethrocytography Retro

*Any additional services may be addressed to our Radiologists*

## OTHER EXAMS

Sonohysterogram A.K.A. Saline Hysterogram  
Arthrocentesis – (Arthro Aspiration Injection / Cortisone Injection)  
Hysterosalpingiogram  
Virtual Colonoscopy  
Endovenous Laser Therapy

*Any additional services may be addressed to our Radiologists*

# Referring Physician Exam Reference Guide for Nuclear Medicine and P.E.T.

## Whole Body Bone Scanning

### 1. Scheduling Notes

May be scheduled Monday through Friday, as early as 8 AM and as late as 1 PM. The patient will arrive for an initial appointment (requires approximately 15 minutes) to have history documented and to receive injection of the radiopharmaceutical. A scan (requires 30 to 60 minutes) will be performed 3 hours after the initial appointment.

### 2. Patient Preparation

No patient preparation.

### 3. Common Indications

Hx of cancer, bone pain, back pain, bone lesion, increase in alkaline phosphatase, trauma to bone, bone abnormality on imaging exam.

### 4. Procedure Description

Whole Body Bone Scanning is a sensitive method for evaluating bone physiology. A radiopharmaceutical (Technetium 99m Methylene Diphosphonate (Tc-99m MDP)) is injected intravenously into a peripheral vein in the arm. The patient is asked to return three hours after the injection. The delay allows time for the radiopharmaceutical to be taken up within the bone. Uptake is dependent upon blood flow and bone activity (osteoblastic activity). Hydration during the uptake phase increases the quality of the images. Upon returning, the patient will be asked to void, remove metallic objects, and then be scanned from head to toe, front and back. Depending on the findings, additional images will be taken to better localize/clarify uptake.

### 5. Interpretation

Images are reviewed for abnormal uptake (hot spot) of the radiopharmaceutical. Analysis of the images will be aided by a detailed history and the availability of previously acquired bone scans, xrays, CT scans, MRI scans, and/or PET scans.

## **Bone SPECT Scan (Bone 3D imaging)**

### **1. Scheduling Notes**

May be scheduled Monday through Friday, as early as 8 AM and as late as 1 PM. The patient will arrive for an initial appointment (requires approximately 15 minutes) to have history documented and to receive injection of the radiopharmaceutical. A scan (requires 30 minutes) will be performed 3 hours after the initial appointment. Bone SPECT is commonly performed immediately after whole body bone scanning.

### **2. Patient Preparation**

No patient preparation.

### **3. Common Indications**

Hx of cancer, bone pain, back pain, bone lesion, increase in alkaline phosphatase, trauma to the bone, bone abnormality on imaging exam.

### **4. Procedure Description**

Bone SPECT (Single Photon Emission Computed Tomography) Scan is more sensitive than whole body bone scanning when evaluating the back and pelvis. A radiopharmaceutical (Technetium 99m Methylene Diphosphonate (Tc-99m MDP)) is injected intravenously into a peripheral vein in the arm. The patient is asked to return three hours after the injection. The delay allows time for the radiopharmaceutical to be taken up within the bone. Uptake is dependent upon blood flow and bone activity (osteoblastic activity). Hydration during the uptake phase increases the quality of the images. Upon returning, the patient will be asked to void, remove metallic objects, and then be scanned, focusing on the specific area of interest. Commonly, Bone SPECT imaging is performed after a whole body bone scan to better localize/clarify uptake in the back and/or pelvis.

### **5. Interpretation**

Images are reviewed for abnormal uptake (hot spot) of the radiopharmaceutical in axial, sagittal, and coronal planes. Analysis of the images will be aided by a detailed history and the availability of previously acquired bone scans, xrays, CT scans, MRI scans, and/or PET scans. The radiologist may elect to fuse the bone SPECT to a CT or MRI of the same area using fusion software to increase specificity.

### **3 Phase Bone Scan**

#### **1. Scheduling Notes**

May be scheduled Monday through Friday, as early as 8 AM and as late as 1 PM. The patient will arrive for an initial appointment (requires approximately 30 minutes) to have history documented, to receive injection of the radiopharmaceutical while images are being taken of the area of interest. A scan (requires 30 minutes) will be performed 3 hours after the initial appointment.

#### **2. Patient Preparation**

No patient preparation.

#### **3. Common Indications**

Osteomyelitis, Septic Joint, RSD, Stress Fracture.

#### **4. Procedure Description**

3 Phase Bone Scan is a sensitive method for the evaluation of osteomyelitis, reflex symphathetic dystrosophy, and stress fractures. The camera is positioned such that the area of interest is in the field of view. A radiopharmaceutical (Technetium 99m Methylene Diphosphonate (Tc-99m MDP)) is injected intravenously into a peripheral vein in the arm while images are being made (blood flow). Immediately after acquisition of the blood flow images, images are taken to follow the distribution of the radiopharmaceutical into the soft tissues (blood pool). The patient is asked to return three hours after the injection. The delay allows time for the radiopharmaceutical to be taken up within the bone. Uptake is dependent upon blood flow and bone activity (osteoblastic activity). Hydration during the break increases the quality of the images. Upon returning, the patient will be asked to void, remove metallic objects, and then be scanned, focusing on the specific area of interest (bone uptake).

#### **5. Interpretation**

Images are reviewed for abnormal uptake (hot spot) of the radiopharmaceutical in the three phases. Analysis of the images will be aided by a detailed history and the availability of previously acquired bone scans, xrays, CT scans, and MRI scans.

## **Hepatobiliary Scan with/without Kinevac**

(Papida Scan, Hida Scan, Biliary Scan, Gall Bladder Ejection Fraction)

### **1. Scheduling Notes**

May be scheduled Monday through Friday, as early as 8 AM and as late as 2 PM. Priority is to schedule in the morning since the patient will be without anything by mouth. The patient will have a single appointment (requires approximately 2 hours) to have history documented, to receive injection of the radiopharmaceutical, and have images made.

### **2. Patient Preparation**

Nothing by mouth for at least 6 hours but not more than 24 hours.

No opioid pain medicines.

### **3. Common Indications**

RUQ, Epigastric, Abdominal Pain, Acute Cholecystitis, Chronic Cholecystitis, Sphincter of Oddi Dysfunction, Bile Leak, Abnormal Gall Bladder Ultrasound, Cholelithiasis.

### **4. Procedure Description**

Hepatobiliary scanning is used to evaluate the flow of bile through the biliary system by injecting a radiopharmaceutical which is initially removed from circulation by the hepatocytes. Continuous imaging for one hour tracks the bile flow from the liver to the gall bladder to the small bowel. After gallbladder visualization, an injection of Kinevac (Cholecystikinin analog) is given to contract the gall bladder. Images are taken during the Kinevac injection to record the contraction. When finished, a calculation is performed to quantitate the degree of contraction (gall bladder ejection fraction). If the gall bladder does not visualize, delayed imaging up to four hours may be needed to document acute versus chronic cholecystitis.

### **5. Interpretation**

The images are reviewed as static images or as movies. The radiologist evaluates the clearance of radiopharmaceutical from the blood by the liver cells, uniformity of uptake within the liver, passage through the liver cells to the bile ducts, filling of the gall bladder, emptying into the small bowel, and the degree of gall bladder contraction after Kinevac injection. Comparison to previous gall bladder ultrasounds and CT scans are performed if images are available.



## **Gastric Emptying Scan**

### **1. Scheduling Notes**

May be scheduled Monday through Friday, as early as 8 AM and as late as 2 PM. Priority is to schedule in the morning since the patient will be without anything by mouth. The patient will have a single appointment (requires approximately 2 hours) to have history documented, to receive injection of the radiopharmaceutical, and have images made.

### **2. Patient Preparation**

Nothing by mouth for at least 6 hours.

### **3. Common Indications**

Gastroparesis, dumping syndrome.

### **4. Procedure Description**

Gastric emptying scans are used to evaluate gastric motility. An egg mixture is made by injecting Tc99m Sulfur Colloid into scrambled eggs than cooking it. The patient eats the egg and images are made for 90 minutes. A time activity curve is generated to represent the amount of egg in the stomach over the 90 minutes. Calculations are performed to determine emptying time and retention of the egg mixture.

### **5. Interpretation**

The Radiologist analyzes the images and time activity curve to determine if the egg mixture is being moved from the stomach in a timely manner.

## **Thyroid Scan with Uptake**

### **1. Scheduling Notes**

Initial appointment may be scheduled Monday through Thursday as early as 8 AM and as late as 12 PM to have history documented and to receive the radiopharmaceutical (Iodine-123). This appointment requires approximately 15 minutes. A second appointment is scheduled 4 hours later requiring 45 minutes or less. The third appointment is completed 24 hours after dosing requiring approximately 10 minutes.

### **2. Patient Preparation**

Nothing by mouth 1 hour before exam.  
Off T4 meds such as Synthroid for 6 weeks.  
Off T3 meds such as Cytomel for 2 weeks.  
Off antithyroid meds for 2 weeks.  
Off multivitamins for 6 weeks.  
No IV contrast agents for 6 weeks.  
Discontinue seafoods until exam is complete.

### **3. Common Indications**

Evaluate thyroid function, Thyroid cancer, Ectopic thyroid tissue, Thyroiditis, Hyperthyroid, Goiter, Thyroid nodule, Abnormal thyroid labs, Thyroid therapy planning.

### **4. Procedure Description**

Iodine-123 is organified by thyroid tissue and is used to evaluate uptake by the thyroid gland. I-123 is administered orally at the initial appointment. When the patient returns 4 hours later, a device is used to measure the amount of I-123 taken up by the thyroid gland and images are made. 24 hours after dosing, the patient returns for another measurement to assess the amount of I-123 in the thyroid. The 4 and 24 hour measurements are used to calculate the rate at which the I-123 is being taken up by the thyroid tissue to determine if the patient is hypo-, eu-, or hyperthyroid. The preparation is very important since thyroid medicines and iodinated substances may interfere with the localization of I-123.

### **5. Interpretation**

Images are reviewed for uniform uptake, both hot and cold areas, within the thyroid gland. The uptake measurements are compared to a range of normals. Analysis of the images will be aided by a detailed history, T4, T3, and TSH values, and the availability of previously acquired I-123 thyroid uptake and scan, Ultrasound, CT, MRI, and/or PET scans.

## **Iodine 131 Whole Body Scan**

### **1. Scheduling Notes**

Initial appointment may be scheduled Monday, Tuesday, or Friday mid-morning to mid-afternoon to have history documented and to receive the dose of radiopharmaceutical (I-131). This appointment requires approximately 30 minutes. The scan is performed 72 hours after dosing and requires approximately 1 hour.

### **2. Patient Preparation**

Patient should be encouraged to hydrate.

Discontinue T4 thyroid replacement hormone for 6 weeks.

Discontinue T3 (cytomel) thyroid replacement hormone for 2 weeks.

Prefer low iodine diet 3-10 days prior to dosing.

Discontinue iodine containing medications & contrast per attached list.

Current (within 2 days of I-131 administration) Serum TSH level (scan is most sensitive when TSH is  $> 30 \mu\text{U/ml}$ )

Menstrating females need a recent (-) serum beta HCG pregnancy test.

### **3. Common Indications**

Evaluate for presence and location of metastatic thyroid cancer.

Evaluate for presence and extent of residual functioning thyroid tissue.

### **4. Procedure Description**

Iodine-131 is organified by thyroid tissue and is used to evaluate residual and/or metastatic thyroid cancer in patients which have had thyroidectomy and I-131 ablation. The I-131 is given orally and allowed three days to be taken up by residual and/or metastatic thyroid carcinoma. A whole body scan and static images of the neck are performed three days later. The preparation is very important since thyroid medicines and iodinated substances may interfere with the localization of I-131.

### **5. Interpretation**

Images are reviewed for abnormal uptake (hot spot) of the radiopharmaceutical in the images. Analysis of the images will be aided by a detailed history and the availability of previously acquired I-131 whole body scan, CT scans, MRI scans, and/or PET scans.

## **Renal Scan**

### **1. Scheduling Notes**

May be scheduled Monday through Friday, as early as 8 AM and as late as 4 PM. Upon arrival, the patient will be asked to drink a glass of water, have history documented, and receive injection of the radiopharmaceutical (Tc99m MAG3). The exam should be complete in less than 1 hour.

### **2. Patient Preparation**

Well hydrated, Medications per physicians instructions.

### **3. Common Indications**

Abnormal kidney function, Obstruction, Congenital anomaly, HTN, Renal transplants, vesicoureteral reflux, Acute renal failure, Renal artery stenosis.

### **4. Procedure Description**

Tc99m MAG3 is secreted through the tubules of the kidney and is representative of kidney function. Patients are encouraged to hydrate prior to the study. After arrival and voiding of urine, the patient is placed supine on the imaging table with the detector positioned closest to the kidneys. An IV is inserted into a vein of the arm, Tc99m MAG3 injected, and images acquired to capture clearance from the blood and then excretion into the urine. Time activity curves are created from the acquired data allowing quantitative analysis of kidney function such as renal perfusion, renal excretion, and split function. Lasix is used to aide in the diagnosis of UPJ obstruction.

### **5. Interpretation**

Images are reviewed for uniform radiopharmaceutical uptake within each kidney and one relative to the other, clearance of Tc99m MAG3 by each kidney, retained radiopharmaceutical in the uretero pelvic junction. Curve analysis includes time to peak, split function, and excretion of the Tc99m MAG3.

## **Parathyroid Scan with/without SPECT**

### **1. Scheduling Notes**

May be scheduled Monday through Friday, as early as 8 AM and as late as 2 PM. The patient will arrive for an initial appointment (requires approximately 30 minutes) to have history documented, to receive injection of the radiopharmaceutical, and have initial images of the neck made. A second appointment (requires approximately 30 minutes) is scheduled 2 hours later to acquire additional images of the neck and chest. SPECT imaging (requires approximately 30 minutes) is then performed if clinically indicated.

### **2. Patient Preparation**

No patient preparation.

### **3. Common Indications**

Hypercalcemia, Elevated parathyroid hormone, Parathyroid adenoma, Ectopic parathyroid tissue.

### **4. Procedure Description**

Tc99m Sestamibi is initially taken up in thyroid tissue, parathyroid tissue, and parathyroid adenomas. With time, Tc99m Sestamibi washes out of normal tissue but is retained by parathyroid adenomas. After documenting history, an IV is inserted into a vein in the arm and Tc99m Sestamibi is injected. After 10 minutes for the radiopharmaceutical to localize, an image is made of the neck. At a second appointment, 2 hours later, additional images are made of the neck and chest. SPECT is performed, if needed, to provide 3D images to better localize the adenoma. Fusion of SPECT images with a CT are performed if the CT is available.

### **5. Interpretation**

Images are review for focally retained activity in the neck and/or chest. SPECT images of the neck are fused with an available CT to precisely locate the parathyroid adenoma.

## **Meckels Diverticulum Scan**

### **1. Scheduling Notes**

May be scheduled Monday through Friday, as early as 8 AM and as late as 2 PM. The patient will arrive for a single appointment requiring 60 minutes to have history documented, to receive injection of the radiopharmaceutical while images are being made of the abdomen.

### **2. Patient Preparation**

Nothing by mouth for 6 hours.

### **3. Common Indications**

Meckels Diverticulum, Ectopic Gastric Mucosa.

### **4. Procedure Description**

Tc99m Pertechnetate localizes in gastric mucosa. After documenting history, an IV is inserted into a vein in the arm and Tc99m Pertechnetate is injected. Images are started during injection and continue for 60 minutes.

### **5. Interpretation**

The images are reviewed as static images and as a movie, looking for an abnormal accumulation (hot spot) of the radiopharmaceutical.

## **Gastrointestinal Bleeding Scan**

### **1. Scheduling Notes**

May be scheduled Monday through Friday, as early as 8 AM and as late as 3 PM.

### **2. Patient Preparation**

Nothing by mouth 6 hours prior to scan if non-emergency.

### **3. Common Indications**

Evaluate rectal bleeding, Locate site of GI bleed.

### **4. Procedure Description**

Upon arrival, a small amount of blood is collected from the patient and labeled with Tc99m. The radiolabeled red blood cells are given back to the patient as images are made of the abdomen. Images continue for 60 minutes. Occasionally delayed images are made.

### **5. Interpretation**

Images are analyzed for abnormal accumulation of Tc99m red blood cells indicating a bleeding site.

## **Liver/Spleen Scan with/without SPECT**

### **1. Scheduling Notes**

May be scheduled Monday through Friday, as early as 8 AM and as late as 4 PM. The patient will arrive for a single appointment (requires approximately 30 minutes) to have history documented, to receive injection of the radiopharmaceutical, and have images of the liver and spleen made.

### **2. Patient Preparation**

Preference is for no iodinated or barium contrast agents 24 hours prior to exam.

### **3. Common Indications**

Cirrhosis, hepatitis, jaundice, liver cancer, liver mass.

### **4. Procedure Description**

Tc99m Sulfur Colloid is removed from circulation by the reticuloendothelial system. After arrival and having history documented, injection of the radiopharmaceutical is performed. Images are then made at various angles around the abdomen.

### **5. Interpretation**

Images are reviewed for uniform distribution of the Tc99m Sulfur Colloid as well as for "colloid shift" to the spleen and bone marrow. Comparison to CT and MRI scans are made if available.



## **Octreoscan**

### **1. Scheduling Notes**

May be scheduled Monday through Wednesday, as early as 8 AM and as late as 3 PM. The patient will arrive for an initial appointment (requires approximately 90 minutes) to have history documented and to receive injection of the radiopharmaceutical. A second appointment is made the following day and a third appointment two days following injection. Images are made on days 2 and 3.

### **2. Patient Preparation**

Hydrate before and for at least 1 hour after.

Withhold somatostatin (Octreotide) therapy for a minimum of 24 hours.

### **3. Common Indications**

Neuroendocrine tumors, Staging neuroendocrine tumors, Determine somatostatin receptor status, Recurrence of neuroendocrine tumor, Assist in selecting patients for peptide receptor radionuclide therapy.

### **4. Procedure Description**

Octreoscan binds to tumors bearing somatostatin receptors. After a detailed history, an IV is inserted into a vein of the arm. The Octreoscan is injected slowly and the patient observed for sign of reaction. Images are made two and three days after injection, from the top of head to mid-thigh. SPECT images of the abdomen are also made.

### **5. Interpretation**

Images are reviewed for abnormal, increased, persistent uptake of Octreoscan over the duration of scans.

## **MIBG Scan**

### **1. Scheduling Notes**

May be scheduled Monday through Wednesday, as early as 8 AM and as late as 3 PM. The patient will arrive for an initial appointment (requires approximately 90 minutes) to have history documented and to receive injection of the radiopharmaceutical. A second appointment is made the following day and a third appointment two days following injection. Images are made on days 2 and 3.

### **2. Patient Preparation**

Evaluate for presence and location of neuroendocrine tumors, most commonly pheochromocytoma.

Evaluate tumor avidity for MIBG pre-therapy.

### **3. Common Indications**

Patient should be encouraged to hydrate.

Menstrating females need a recent (-) serum beta HCG pregnancy test.

Pre medicate with 130 mg Lugol's solution the day before, day of, and day after injection.

Lab work including epinephrine, nor-epinephrine, metanephrine, catecholamines.

### **4. Procedure Description**

I-123 MIBG is structurally similar to norepinephrine and concentrates in catecholamine-producing cells. After a detailed history, an IV is inserted into a vein of the arm. The I123 MIBG is slowly injected and the patient observed for signs of a reaction. Two and three days after injection, images are made from top of head to mid-thigh. SPECT images are made as well.

### **5. Interpretation**

Images are reviewed for abnormal, increased, persistent uptake of MIBG over the duration of scans.

## **Ceretec White Blood Cell Scan**

### **1. Scheduling Notes**

May be scheduled Monday through Friday at 8 AM. The patient will arrive for an initial appointment (requires approximately 30 minutes) to have history documented and to have blood drawn. A second appointment 3 hours later is made for injection of the radiopharmaceutical. Images of the area of interest are made 30 minutes and 4 hours post injection.

### **2. Patient Preparation**

No patient preparation.

### **3. Common Indications**

Infection, Osteomyelitis, Fever of unknown origin, Inflammatory bowel disease activity.

### **4. Procedure Description**

60 cc's of blood is withdrawn from the patient. The blood is sent to the radiopharmacy to have the white blood cells extracted. Tc99m Ceretec is used to label the WBC's. The Tc99m Ceretec WBC's are injected into the patient. 30 minutes and 4 hours later, images are made of the whole body or of the specific area of interest.

### **5. Interpretation**

Images are analyzed for increased uptake of the Tc99m Ceretec WBC's.

## **Indium White Blood Cell/Bone Marrow Scan**

### **1. Scheduling Notes**

May be scheduled Monday through Thursday at 8 AM. The patient will arrive for an initial appointment (requires approximately 30 minutes) to have history documented and to have blood drawn. A second appointment 3 hours later is made for injection of the radiopharmaceutical (Indium-111 White Blood Cells). The next day, a second radiopharmaceutical (Tc99m Sulfur Colloid) is injected. 30 minutes later, images of the replaced joint are made requiring approximately 30 minutes.

### **2. Patient Preparation**

No patient preparation.

### **3. Common Indications**

Evaluate for presence and location of osteomyelitis of joint replacement.  
Evaluate for active bone marrow.

### **4. Procedure Description**

60 cc's of blood is withdrawn from the patient. The blood is sent to the radiopharmacy to have the white blood cells extracted. In-111 oxime is used to label the WBC's. The In-111 WBC's are injected into the patient. When returning the next day, an injection of Tc99m Sulfur Colloid is made. 30 minutes later, images of the replaced joint, are made of the In-111 WBC's and Tc99m Sulfur Colloid simultaneously.

### **5. Interpretation**

Images are analyzed by comparing the uptake of In-111 WBC's (localizes in infection and normal bone marrow) with Tc99m Sulfur Colloid (localizes in normal bone marrow). Matching uptake or uptake where there is Tc99m Sulfur Colloid but no In-111 WBC's would indicate no infection present. Non-matching uptake, In-111 WBC's and no Tc99m Sulfur Colloid would indicate an infection.

## **Gated Blood Pool Scan**

(MUGA)

### **1. Scheduling Notes**

May be scheduled Monday through Friday as early as 8 AM and as late as 3 PM. The patient will arrive for a single appointment requiring approximately 90 minutes. History will be documented, injection of the radiopharmaceutical, and images made.

### **2. Patient Preparation**

Patients with abnormal rhythms, causing variable R-R intervals, may not yield accurate results.

### **3. Common Indications**

Evaluation of left ventricular ejection fraction, abnormal wall motion, myocardial infarction, valvular disease, cardiomyopathy, effects of chemotherapy.

### **4. Procedure Description**

Upon arrival, a small amount of blood is collected from the patient and labeled with Tc99m. The radiolabeled red blood cells are given back to the patient as images are made of the heart. These images are made relative to the patient's heart beat (EKG).

### **5. Interpretation**

Images are reviewed as movies of the heart beating. Time activity curves are generated to represent the amount of blood in the left ventricle through a beat (diastole-systole-diastole). The images are analyzed for wall motion abnormality and the ejection fraction is calculated to quantitate the amount of blood ejected with each contraction of the left ventricle.

## **Thyroid Therapy for Non-Cancerous Indications**

### **1. Scheduling Notes**

May be scheduled Monday through Friday, as early as 8 AM and as late as 3 PM. When arriving, history will be documented and consultation with the Radiologist will occur. Once consultation is complete, the Iodine-131 will be ordered and then administered.

### **2. Patient Preparation**

Patient should be encouraged to hydrate.  
Discontinue T4 thyroid replacement hormone for 6 weeks.  
Discontinue T3 (cytomel) thyroid replacement hormone for 2 weeks.  
Prefer low iodine diet 3-10 days prior to dosing.  
Discontinue iodine containing medications & contrast per attached list.  
Current (within 2 days of I-131 administration) Serum TSH level (scan is most sensitive when TSH is > 30  $\mu$ U/ml)  
Menstrating females need a recent (-) serum beta HCG pregnancy test.

### **3. Common Indications**

Hyperthyroidism

### **4. Procedure Description**

Iodine-131 is organified by thyroid tissue. Once trapped, the stronger nature of the radiation released by I-131 will slowly disrupt the thyroid cells causing the patient's thyroid function to slow and even stop.

### **5. Interpretation**

No interpretation.

## **Gallium Scan**

### **1. Scheduling Notes**

May be scheduled Monday or Tuesday as early as 8 AM and no later than 3 PM. At the initial appointment history will be documented and the radiopharmaceutical injected. The patient will return 48 and 72 hours later for scanning.

### **2. Patient Preparation**

No patient preparation.

### **3. Common Indications**

Lymphoma, Abscesses, Infection.

### **4. Procedure Description**

After a detailed history, an IV is inserted into a vein of the arm. Gallium-67 citrate is slowly injected. Two and three days after injection, images are made from top of head to mid-thigh. SPECT images are made as well.

### **5. Interpretation**

Images are reviewed for abnormal, increased, persistent uptake of Gallium over the duration of scans

## **Prostascint Scan**

### **1. Scheduling Notes**

May be scheduled Monday through Friday, as early as 8 AM and as late as 2 PM. The patient will arrive for an initial appointment (requires approximately 90 minutes) to have history documented, to receive injection of the radiopharmaceutical, and have initial images taken 30 minutes after injection. Patient returns 5 to 6 days later for additional imaging and to have a CT scan. Need 2 days advanced notice to order the radiopharmaceutical.

### **2. Patient Preparation**

Note must be made of previous exposure to proteins of murine origin.

### **3. Common Indications**

Previously treated prostate cancer with rising PSA and negative bone scan.

### **4. Procedure Description**

Prostascint is murine monoclonal antibody which will bind to prostate antigen receptors. Once injected, the prostascint is allowed to circulate for 30 minutes then images are made from top of the head to mid-thigh. 5-6 days later additional images are made including 3D images of the abdomen and pelvis. The patient then has a CT scan from the upper chest through pelvis. The prostascint and CT scan are fused together.

### **5. Interpretation**

Prostascint, CT, and fused images are reviewed for abnormal uptake of the prostascint. PSA values from diagnosis to current, gleason score, and previous CT, MRI, and bone scans, as well as a detailed treatment record are extremely useful.



# MEDICAL TERMINOLOGY

## ROOT MASTER LIST

---

**abdomin/o** abdominal

**acr/o** extremities

**aden/o** gland

**adip/o,** fat

**adren/o** adrenal glands

**aer/o** air

**angi/o** vessel

**anter/o** front, anterior

**aort/o** aorta

**arteri/o** artery

**arthr/o** joint

**audi/o** sound

**bronchi/o,** bronch/o bronchus

**calc/o** calicum

**carcin/o** cancer

**cardi/o** heart

**cephal/o** head

**cerebr/o** brain, cerebrum

**chondr/o** cartilage

**col/o, colon/o** colon

**cost/o** ribs

**crani/o** cranium, skull

**cutane/o** skin

**cyan/o** blue

**cyst/o** bladder

**cyt/o** cell

**dent/o** teeth

**derm/o** skin

**dipl/o** double

**dist/o** far, farthest

**dors/o** back (of body)

**encephal/o** brain

**enter/o** intestine

**erythr/o** red

**esophag/o** esophagus

**gastr/o** stomach

**gingiv/o** gum

**gloss/o** tongue

**gluc/o, glyc/o** sugar, glucose

**hema, hemat/o, hem/o** blood

**hepat/o** liver

**hidr/o** sweat

**hist/o** tissue

**hydr/o** water

**lapar/o** abdominal

**laryng/o** larynx (voice box)

**latr/o** side

**leuk/o** white

**lingu/o** tongue

**lip/o** fat

**lith/o** stone

**lumb/o** lower back

**lymph/o** lymph

**melan/o** black

**mening/o** meninges

**myc/o** fungus

**myel/o** spinal cord, bone marrow

**my/o** muscle

**nas/o** nose

**necr/o** death

**nephr/o** kidneys

**neur/o** nerve

**noct/o** night

**odont/o** teeth

**olig/o** scanty, little

**ophthalm/o, ocul/o, opt/o** eye

**or/o, stomat/o** mouth

**orth/o** straight

**oste/o** bone

**ot/o** ear

**pelv/o, pelv/i** pelvis

**phalang/o** fingers and toes

**pharyng/o** pharynx (throat)

**phleb/o** vein

**pleur/o** pleura

**pneum/o** lung

**poster/o** back (of body), behind, posterior

**proxim/o** near, nearest

**py/o** pus

**radi/o** x-rays, radiation

**rhin/o** nose

**scler/o** hardening, white of eye

**tend/o** tendons

**therm/o** heat

**thorac/o** chest

**thromb/o** blood clot

**toxic/o, tox/o** poison

**trache/o** trachea (windpipe)

**ur/o** urine

**vascul/o** blood vessel

**vertebr/o** vertebra (backbone)

## MEDICAL TERMINOLOGY

### SUFFIX MASTER LIST

---

-**al**, -**ic**, -**ous** pertaining to

-**algia**, -**dynia** pain

-**cele** hernia, swelling

-**centesis** surgical puncture

-**cyte** cell

-**derma** skin

-**ectasis** dilation, expansion

-**ectomy** excision, removal

-**edema** swelling

-**emesis** vomiting

-**emia** blood

-**genesis** producing, forming

-**gram** record

-**graph** instrument for recording

-**graphy** process of recording

-**iasis**, -**osis** abnormal condition

-**ist** specialist

-**itis** inflammation

-**logist** specialist in the study of

-**logy** study of

-**lysis** separation, destruction

-**malacia** softening

-**megaly** enlargement

-**oma** tumor

-**opia, -opsia** vision

-**osis** abnormal condition

-**pathy** disease

-**penia** decrease

-**pepsia** digestion

-**phagia** swallow, eat

-**phasia** speech

-**phobia** fear

-**plasia, -plasm** formation, growth

-**plasty** surgical repair

-**plegia** paralysis

-**pnea** breathing

-**rhage, rrhagia** bursting forth of

-**rrhaphy** suture

-**rrhea** flow, discharge

-**scope** instrument to view

-**scopy** visual examination

-**spasm** involuntary contraction, twitching

-**stasis** standing still

-**stenosis** narrowing, stricture

-**stomy** forming a new opening

-**therapy** treatment

-**tome** instrument to cut

-**tomy** incision, to cut into

-**tripsy** crushing

-**uria** urine



## MEDICAL TERMINOLOGY

### PREFIX MASTER LIST

---

**-a-, an-**, without, not

**auto-** self

**bi-** two, double

**brady-** slow

**dia-** through

**dys-** bad, painful, difficult

**echo-** sound

**epi-** above, upon

**hemi-**, semi- half, partly

**hypo-**, sub under, below

**hyper-** excessive, high

**inter-** between

**macro-** large

**micro-** small

**neo-** new

**para-** near, beside, around

**peri-** around

**poly-**, multi- many, much

**post-** after, behind

**pre-** before

**quadri-** four

**supra-** above

**tachy-** rapid

**tri-** three

## Circulatory System Terms

Cardi/o	= heart	Endocarditis, myocarditis, pericarditis (inflammation of the lining, the muscle layer, the outer layer of the heart)
Brady/tachy	= slow/fast	Bradycardia (rate<60) tachycardia (rate>100)
Angi/o	= vessel	Angiography, angiogram (X-ray of artery)
Veno/phlebo	= vein	Venogram (X-ray of veins), phlebitis (inflammation of veins)
-stasis	= to stop	Hemostasis (to stop bleeding), hemostat (a clamp-like instrument)
-cyte	= cell	Erythrocytes, leucocytes (red, white blood cells)
Hem/o, -emia	= blood	Hypoxemia (low oxygen), hematosalpinx (blood in the uterine tubes)

## Digestive System Terms

Gastr/o	Stomach	Gastritis, Gastrectomy
Chol/e	Gall, bile	Cholecystitis, cholecystectomy (inflammation of, removal of gallbladder)
Cyst/o	Bladder, sac	(see above)
Emes/o	Vomit	Emesis (vomiting), emetic (stimulating vomiting), antiemetic (stopping vomiting)
Lith/o	Stone	Cholelithotomy (removal of gall stones)
Lapar/o	Abdominal wall	Laparotomy (cutting into the abdomen)
-centesis	To puncture	Abdominocentesis (puncturing and draining)
-tripsy	To crush	Cholelithotripsy (smashing gall stones with sound waves)
-rrhea	Flow, discharge	Diarrhea
-iasis (-osis)	Abnormal condition	Cholelithiasis (presence of gall stones causing symptoms)

## Musculoskeletal System Terms

Oste/o	Bone	Osteitis, osteoma, osteocyte
Chondr/o	Cartilage	Chondritis, chondroma, chondrocyte
Arthr/o	Joint	Arthritis, arthroplasty
Myel/o	Bone marrow	Myeloma
Ten/o, tendin/o	Tendon (binds muscle to bone)	Tendonitis, tenorrhaphy
Ligament/o	Ligament (binds bone to bone)	Ligamentous injury
Burs/o	Bursa, "bag", (shock absorber between tendons and bones)	Bursitis
My/o, myos/o	Muscle	Myoma, myositis
-malacia	Softening	Osteomalacia, chondromalacia
-porosis	Porous	Osteoporosis
-asthenia	Weakness, loss of strength	Myasthenia gravis
-trophy	Development, stimulation, maintenance	Atrophy (shriveling of muscles), hypertrophy (increase in size and strength of muscles)
-algia, algesia	Pain	Myalgia, arthralgia, analgesia (take away pain)

## Nervous System Terms

Cephal/o	Head	Cephalgia (a headache)
Encephal/o	Inside the head (brain)	Encephalitis (inflammation of the brain) Anencephalic (born without a brain)
Mening/o	Membranes surrounding the brain and spinal cord	Meningitis (inflammation of the membranes)
Myel/o	Spinal cord	Myelogram (X-ray of the spinal cord)
Neur/o	Nerve	Neuroma (tumor) Neuritis (inflammation)
Dys	Difficult, painful, abnormal	Dyslexia (difficulty reading)
-cele	Hernia, abnormal protrusion of structure out of normal anatomical position	Meningomyelocele (protrusion of membranes and spinal cord)
-pathy	Disease, abnormality	Encephalopathy (disease of the brain) Neuropathy (disease of the nerves)
-plasia	Development, formation, growth	Aplasia (no development) Hyperplasia (over development)
-plegia	Paralysis	Hemiplegia (paralysis of one side of the body) Quadriplegia (paralysis of all four limbs)

## Respiratory System Terms

Rhin/o	Nose	Rhinitis, rhinorrhea (inflammation of and "runny" nose)
Laryng/o	*Larynx, "voice box"	Laryngotomy, Laryngectomy (cutting into, surgically removing the larynx)
Trache/o	Trachea, "windpipe"	Tracheotomy, tracheostomy (temporary and permanent openings)
Bronch/o	Lung air passageways	Bronchoscopy (looking into the bronchi)
Pne/u, -pnea	Breath, air, lung	Tachypnea, dyspnea, apnea (accelerated, difficult/painful, cessation of breathing)
Pulmo/o	Lung	Pulmonary artery
-ptysis	Spitting (coughing)	Hemoptysis (spitting or coughing up blood from lungs)
-plasty	Reconstruction	Rhinoplasty (surgical reconstruction of nose)

## Reproductive System-female Terms

Hyster/o, metr/o	Uterus	Hysterectomy, endometritis (inflammation of the lining of uterus)
Salping/o, -salpinx	Uterine tube	Salpingitis, hematosalpinx (blood in the uterine tube)
Colp/o	Vagina	Colporrhaphy (suturing a tear), colpoplasty (surgical reconstruction), colposcopy (viewing the interior)
Oophor/o	Ovary	Oophorectomy, oophoropexy (surgery fixation, reattachment)
Men/o	Menstruation	Menarche (first), dysmenorrhea (painful menstruation)
Mamm/o, mast/o	Breast	Mammogram, mastectomy
-pareunia, coitus	Intercourse	Dyspareunia (painful intercourse), precoital, postcoital (before and after intercourse)

## Reproductive System-male Terms

Orchid/o, test/o	*Testes (male gonad)	Orchiditis, orchidectomy, testicular artery, testosterone (male sex hormone)
Balan/o	Head of the penis	Balanitis
Andr/o	Male	Androgenic (stimulating maleness), androgynous (characteristics of male and female appearance)
Prostat/o	Prostate	Prostatitis, prostatectomy
Vas/o	Vessel, duct	Vas deferens, vasectomy (duct carrying semen from testes, cutting the duct)
-rrhaphy	To suture	Herniorrhaphy (surgical correction of inguinal hernia)

## Urinary System Terms

Nephr/o, ren/o	Kidney	Nephritis, renal artery
Hydro/o	Water	Hydronephrosis (abnormal condition involving back up of urine into the kidney)
Cyst/o	Bladder	Cystitis, cystectomy (inflammation of , removal of bladder)
Pyel/o	Renal collecting ducts	Pyelogram (X-ray of the collecting ducts)
Ur/o, -uria	Urine	Polyuria, anuria (frequent urination, no urine formation)
Olig/o	Scanty, less than normal	Oliguria (reduced urine formation)
-pexy	To surgically reattach, fix in normal position	Nephropexy (surgically attach kidney in normal anatomical position)

## Technicolor Terms

Leuk/o	= white	leukemia (overabundance of white blood cells)
melan/o	= black	melanoma (black tumor of the skin)
cyan/o	= blue	cyanosis (blueness may be due to cold or not enough oxygen in blood)
xanth/o	= yellow	xanthoma (yellow tumor)

## Odds & Ends

graphy/ -graph	= recording an image	mammography (imaging the breasts)
-gram	= the image (X-ray)	mammogram
-ology/ -ologist	= study, specialize in	cardiologist, nephrologist (study the heart, the kidneys)



## Useful Prefixes and Suffixes

-itis	= inflammation	tonsillitis, appendicitis (you know these!)
-osis	= abnormal condition	cyanosis (of blueness, due to cold or low oxygen)
-ectomy	= to cut out (remove)	appendectomy, tonsillectomy (you know these too!)
-otomy	= to cut into	tracheotomy (to cut into the windpipe, temporary opening)
-ostomy	= to make a "mouth"	colostomy (to make a permanent opening in colon)
a/an	= without, none	anemia (literally no blood but means few red cells)
micro	= small	microstomia (abnormally small mouth, see "stomy" in colostomy above?)
macro	= large	macrostomia (abnormally large mouth)
mega/ -megaly	= enlarged	megacolon (abnormally large colon = large intestine)
-scopy/ -scopic	= to look, observe	colonoscopy (look into colon)
Endo	= within, inside of	endoscopy (to inspect the inside of an organ or space with a lighted instrument)
Peri	= around	perianal (around the anus)
Circum	= around	circumcise (cut around)

## Useful Prefixes and Suffixes

Retro	= behind	retrosternal (behind the breastbone)
Epi	= upon, on top	epidermis (the top or outermost layer of skin)
Trans	= through	transurethral (through the urinary exit duct)
Intra	= within	intravenous (inside the veins, e.g. IV fluids)
Sub	= below	subclavian (below the clavicle = collar bone)

## CANCER WORDS

<i><b>GOOD NEWS</b></i>	<i><b>BAD NEWS</b></i>
<b>Benign</b>	<b>Malignant</b>
<b>Low grade</b>	<b>High grade</b>
<b>Radiosensitive</b>	<b>Radioresistant</b>
<b>No metastases</b>	<b>metastases</b>
<b>Well differentiated</b>	<b>Poorly differentiated</b>
<b>Negative nodes</b>	<b>Positive nodes</b>
<b>In remission</b>	<b>Relapse</b>
<b>Surgically resectable</b>	<b>Inoperable</b>

# Have You Ever Wondered What That Doctor Does?

<b>SPECIALTY:</b>	<b>WHAT THEY DO:</b>
Anesthesiology	The medical study of how to eliminate pain and sensation in people undergoing surgery and other medical procedures
Cardiology	The medical study of the diagnosis and treatment of diseases affecting the heart and blood vessels
Dermatology	The field of medicine that specializes in the treatment of skin disorders
Endocrinology	The scientific study of the function and pathology of the endocrine glands
Gastroenterology	The diagnosis and treatment of diseases and disorders affecting the stomach, intestines, and associated organs
Genetics	The study of the patterns of inheritance of specific traits
Geriatrics	The branch of medicine concerned with the physiological and pathological aspects of the aged, including the clinical problems of senescence and senility.
Gynecology	A branch of medicine dealing with the diagnosis and treatment of disorders affecting the female reproductive organs
Hematology	The study of the morphology of the blood and blood forming tissues
Internal Medicine	The specialty of the general medicine of the internal organs
Neonatology	The art and science of caring medically for the newborn
Nephrology	The science that treats of, the kidneys, and their structure and functions
Neurology	The branch of science which treats of the nervous system.
Obstetrics	A branch of medicine dealing with the care of women during pregnancy, childbirth, and the period during which they recover from childbirth
Oncology	The study of diseases that cause cancer
Ophthalmology	The area of medicine dealing with the eye
Orthopedics	The branch of surgery broadly concerned with the skeletal system (bones).
Otology	The branch of science that treats of the ear and its diseases
Pathology	The branch of medicine concerned with disease, especially its structure and its functional effects on the body
Pediatrics	Concerned with the health of infants, children and adolescents, their growth and development, and their opportunity to achieve full potential as adults
Perinatology	The branch of medicine dealing with the fetus and infant during the perinatal period. The perinatal period begins with the twenty-eighth week of gestation and ends twenty-eight days after birth
Podiatry	The medical study of the diagnosis and treatment of disorders of the foot
Psychiatry	A branch of medicine concerned with the diagnosis, treatment, and prevention of mental illness
Radiology	The study of X-rays in the diagnosis of a disease
Rheumatology	A branch of medicine concerned with the diagnosis and treatment of arthritis
Sports Medicine	The field of medicine concerned with physical fitness and the diagnosis and treatment of injuries sustained in sports activities
Urology	A branch of medicine concerned with the diagnosis and treatment of diseases of the urinary tract and urogenital system

## Physician Title Abbreviations

<b><i>Designation:</i></b>	<b><i>What It Means:</i></b>
M.D.	Medical Doctor
D.O.	Doctor of Osteopathic Medicine
D.C.	Doctor of Chiropractic
N.P.	Nurse Practitioner
P.A.	Physician Assistant
D.P.M.	Doctor of Podiatric Medicine

Diagnosis:	Abbreviation:	Definition:
Abdomen/abdominal	ABD	The portion of the body which lies between the thorax and the pelvis.
Abdominal aortic aneurysm	AAA	A distended and weakened area in the wall of the abdominal aorta. Symptoms include sudden, severe abdominal pain with radiation to the back.
Alzheimer's		A progressive, neurodegenerative disease characterized by loss of function and death of nerve cells in several areas of the brain leading to loss of cognitive function such as memory and language.
Anemia		Too few red blood cells in the bloodstream, resulting in insufficient oxygen to tissues and organs.
Aneurysm		A sac formed by the dilatation of the wall of an artery, a vein or the heart.
Bells Palsy		A condition that involves the facial nerve (VII cranial nerve) and results in the paralysis of one side of the face.
Bruit		An unexpected audible swishing sound or murmur heard over an artery or vascular channel. Indicates increased turbulence often caused by a partial obstruction.
Calcification		The process by which organic tissue becomes hardened by a deposit of calcium salts within its substance.
Cancer	CA	This is now a general term for more than 100 diseases that are characterized by uncontrolled, abnormal growth of cells. Cancer cells can spread locally or through the bloodstream and lymphatic system to other parts of the body.
Carotid Artery		A key artery located in the front of the neck that carries blood from the heart to the brain. Cholesterol plaques on the inner wall of the carotid artery can lead to stroke.
Carotid Artery Stenosis	CAS	Narrowing or stricture of the carotid artery.
Cerebrovascular Accident	CVA	This general term encompasses such problems as stroke and cerebral hemorrhage.
Chronic kidney disease	CKD	One suffers from gradual and usually permanent loss of kidney function over time. CKD is divided into five stages of increasing severity, stage 5 is kidney failure.
Cirrhosis		Liver disease characterized pathologically by loss of the normal microscopic lobular architecture, with fibrosis and nodular regeneration

Diagnosis:	Abbreviation:	Definition:
Claudication		Limping or lameness; pain, tension and weakness in the legs on walking.
Deep vein thrombosis	DVT	Blood clotting in the veins of the inner thigh or leg.
Degenerative disc disease	DDD	Narrowing of disc space.
Degenerative joint disease	DJD	A form of arthritis that results in the destruction of the articular cartilage that line the joints.
Dementia		An organic mental disorder characterized by a general loss of intellectual abilities involving impairment of memory, judgment and abstract thinking as well as changes in personality.
Diarrhea		A purging or looseness of the bowels
Disease	DZ	An alteration in the state of the body or of some of its organs, interrupting or disturbing the performance of the vital functions, and causing or threatening pain and weakness
Diverticulitis		inflammation of sac or pouch in the walls of a canal or organ, such as the stomach or intestine. Usually caused from particles of food getting trapped in the sac and can be very painful.
Diverticulosis		A condition in which a person has small sacs or pouch in the walls of a canal or organ, such as the stomach or intestine.
Dysphagia		Difficulty in swallowing
Edema		The presence of abnormally large amounts of fluid in the intercellular tissue spaces of the body (swelling).
Endometriosis		The aberrant occurrence of tissue which more or less perfectly resembles the endometrium, in various locations in the pelvic cavity.
Endometritis		Inflammation of the endometrium (lining of the uterus). Symptoms include pelvic pain accompanied by a foul smelling vaginal discharge.
Epigastric Pain		Pertaining to the epigastrium; The upper central region of the abdomen.

<b>Diagnosis:</b>	<b>Abbreviation:</b>	<b>Definition:</b>
Epilepsy		The paroxysmal transient disturbances of brain function that may be manifested as episodic impairment or loss of consciousness, abnormal motor phenomena, psychic or sensory disturbances or perturbation of the autonomic nervous system.
Gastroenteritis		An acute inflammation of the lining of the stomach and intestines, characterized by anorexia, nausea, diarrhea, abdominal pain and weakness,
GastroEsophageal Reflux Disease	GERD	A disorder in which there is recurrent return of stomach contents back up into the esophagus, frequently causing heartburn, a symptom of irritation of the esophagus by stomach acid.
Goiter		Enlargement of the thyroid gland
Headache(s)	H/A	Pain in various parts of the head, not confined to the area of distribution of any nerve.
Hematuria		The finding of blood in the urine.
Hemorrhoids		Presents as a livid and painful swelling formed by the dilation of the blood vessels around the margin of, or within, the anus, from which blood or mucus is occasionally discharged.
Hepatitis		Inflammation of the liver.
Herniated disc	HNP	A condition that results in the abnormal protrusion (bulging) of vertebral disc, The displaced disc may exert force on a nearby nerve root causing the typical neurologic symptoms of radiating pain (to an extremity), numbness, tingling and weakness. Recurrent episodes of severe back pain are common.
Hydronephrosis		Abnormal enlargement of a kidney, may occur secondary to acute ureteral obstruction (kidney stone) or chronic kidney disease.
Hypertension		Persistently high arterial blood pressure.
Hypotension		Abnormally low blood pressure
Insufficiency		The condition of being insufficient or inadequate to the performance of the allotted duty.



Diagnosis:	Abbreviation:	Definition:
Last Menstrual Cycle	LMP	Usually is the first day of the last menses; A monthly discharge of blood, mucus, and tissues from the uterus.
Left Lower Quadrant	LLQ	Usually referring to the left lower section of the abdomen (pelvic area) (quadrant meaning 4 parts/sections). This abbreviation is usually used with pain.
Left Upper Quadrant	LUQ	Usually referring to the left upper section of the abdomen (quadrant meaning 4 parts/sections). This abbreviation is usually used with pain.
Lethargic		
Elevated Liver function test	↑ LFT's	A test that measures the blood serum level of several enzymes produced by the liver. An elevated liver function test is a sign of possible liver damage.
Lower back pain	LBP	
Mastalgia		General term for breast pain.
Menorrhagia		Excessive uterine bleeding occurring at the regular intervals of menstruation
Menouria		Menstruation occurring through the urinary bladder as a result of vesicouterine fistula.
Metastasis		The transfer of disease from one organ or part to another not directly connected with it.
Metastasize		To spread to another part of the body, usually through the blood vessels, lymph channels or spinal fluid.
Motor vehicle accident	MVA	
Nausea & Vomiting	N/V	An unpleasant sensation, vaguely referred to the epigastrium and abdomen and often culminating in vomiting (The act of repeated regurgitation of stomach contents).
Nephrolithiasis		The presence of calculi in the kidney or collecting system (kidney stones).

Diagnosis:	Abbreviation:	Definition:
Neuropathy		A general term denoting functional disturbances and/or pathological changes in the peripheral nervous system.
Occult blood		Blood that is in the feces or vomit that is not obvious by general inspection.
Pain	PN	An unpleasant sensory and emotional experience associated with actual or potential tissue damage or described in terms of such damage.
Paralysis		Loss or impairment of motor function in a part due to lesion of the neural or muscular mechanism
Paresthesias		Abnormal neurological sensations which include: numbness, tingling, burning, prickling and hyperesthesia (increased sensitivity).
Parkinson's Disease		A progressive, neurological disease. Symptoms include shuffling gait, stooped posture, resting tremor, speech impediments, movement difficulties and an eventual slowing of mental processes and dementia.
Peripheral vascular disease	PVD	A term used to describe progressive occlusive disease of the arteries that supply the extremities
Pituitary gland		A small oval shaped endocrine gland situated at the base of the brain in the fossa (depression) of the sphenoid bone. The overall role is to regulate growth and metabolism.
Pneumonia		Inflammation of the lungs with consolidation
Polyps		A general descriptive term used with reference to any mass of tissue that bulges or projects outward or upward from the normal surface level,
Proteinuria		Too much protein in the urine. This may be a sign of kidney damage.
Radiculitis		Inflammation of the root of a spinal nerve.
Radiculopathy		A herniated disk which has become displaced; where the radicular nerve (nerve root) is compressed by the displaced disk.
Reflux		A backward or return flow.

Diagnosis:	Abbreviation:	Definition:
Renal		Pertaining to the kidney
Renal Artery Stenosis	RAS	A narrowing of the renal artery or one of its main branches accounts for 2 to 5% of cases of hypertension.
Rheumatoid Arthritis	R/A	Chronic inflammatory disease in which there is destruction of joints
Right Lower Quadrant	RLQ	Usually referring to the right lower section of the abdomen (pelvic area) (quadrant meaning 4 parts/sections). This abbreviation is usually used with pain.
Right Upper Quadrant	RUQ	Usually referring to the right upper section of the abdomen (quadrant meaning 4 parts/sections). This abbreviation is usually used with pain and <b>associated with the gallbladder.</b>
Rotator cuff		The rotator cuff is a tendon formed by three distinct muscles: teres minor, supraspinatus and infraspinatus, which stabilize the head of the humerus within the shoulder joint.
Sinusitis		Inflammation of a sinus. The condition may be purulent (pus) or nonpurulent, acute or chronic.
Stenosis		Narrowing or stricture of a duct or canal
Temporomandibular joint	TMJ	The joint that connects the lower jaw to the skull.
Thrombosis		An aggregation (clumping) of blood factors, frequently causing vascular obstruction at the point of its formation.
Transient ischaemic attack	TIA	Temporary paralysis, numbness, speech difficulty or other neurologic symptoms that start suddenly and recovers within 24 hours (typically resolve over several hours).
With or w/	— C	Usually referring to IV or Oral contrast
With out or wo/	— S	Usually referring to IV or Oral contrast

**MOST COMMON ERRORS ON ORDERS**

<b>BIOPSY</b>	<b>BREAST BX:</b> Order needs to state “mammo if needed” as well as “ultrasound guided bx or stereo bx (w/specified breast). Needs to specify breast in either the exam section or the diagnosis section
<b>CT</b>	<b>DX: AAA or PE:</b> Order should be for CTA Abd w/DX AAA or CTA Chest w/DX PE <b>BONES/EXTREMITIES:</b> Needs to state “W/3D reconstructions” <b>NECK vs CSP:</b> Needs to be CT Neck for DX Mass and CT Csp for DX Pain
<b>DOPPLERS</b>	<b>DOPPLER vs US:</b> Needs to state “DOPPLER” NOT “ultrasound.” It’s ok if both US and Doppler are on the order, as long as Doppler is there <b>UPPER/LOWER EXT:</b> Needs to state “arterial” or “venous” <b>SCROTAL/TESTICULAR:</b> Order needs to state “US” & “DOPPLER” <b>RENAL ARTERY US:</b> Needs to say “Doppler”
<b>MAMMO</b>	<b>SCREENS:</b> DX cannot be “Breast CA”, if patient has HX of Breast CA “HX of” needs to be on order. <b>DIAGNOSTIC:</b> Cannot state “screening” with a DX of lump, mass, ect.
<b>MRI</b>	<b>BREAST:</b> Cannot state only one breast, must be bilateral or just “MRI Breast” <b>BACK/SPINE:</b> Needs to specify Lsp, Tsp, or Csp in the exam title or in the diagnosis, cannot just say “MRI Back for back pain” <b>MRCP:</b> Needs to state “MRI Abd w/reconstructions (MRCP)” <b>MRA BLE:</b> Cannot state only one leg, needs to either say “bilat” or just “MRA Lower Extremities” NECK vs CSP: Needs to be MRI Neck for DX Mass and MRI Csp for DX Pain
<b>ULTRASOUND</b>	<b>RUQ US:</b> Must state what part of abdomen. Cannot just state a location <b>OB:</b> If patient is pregnant then acceptable order can be “US OB” or “US Pelvis” with DX “possible pregnancy” or “possible miscarriage” <b>DX AAA:</b> Order should be for “Aorta US”, rather than “Abd US”



## **POLICIES AND PROCEDURES**

### **FOR**

### **WOMEN OF CHILDBEARING AGE: TWENTY-EIGHT (28) DAY RULE**

To protect women of childbearing age from potential radiation to an unknown pregnancy, and to comply with ACR and NRC recommendations, the following procedures have been established. This **MUST BE** addressed prior to X-Rays being ordered on any female of childbearing age.

#### **TWENTY-EIGHT DAY RULE DEFINED:**

Prior to scheduling of procedures involving radioactive pharmaceuticals or external radiation to the abdomen or pelvic area, the technologist will enforce the “28-Day Rule.” The patient is to be within the first twenty-eight days following the beginning of her last menstrual period.

If a sexually active female (menstruating) falls outside the “28-Day Rule,” a serum pregnancy test will be ordered and negative results documented before scheduling or performing the procedures unless and emergency has been determined by an attending physician. The pregnancy test is ordered by the patient’s referring physician with a copy to the radiologist.

Exceptions to the “28-Day Rule”: are sexually active women who have had tubal ligation, hysterectomy, are on contraceptive pill, implanted or injected contraceptive device or an IUD device, or injected hormonal manipulation for the past three months.

If the patient and/or the referring physician refuse the pregnancy test, the procedure will be scheduled after the time of her next normal cycle within 28 days of the beginning of the last cycle.

X-ray examinations of abdomen and pelvis exposing the uterus to radiation are:

Abdomen (KUB)	Hips, Sacrum, Coccyx
Stomach (UGI)	PET Scans
Small Intesting	IVP & Retrograde
Colon (Barium Enema)	Cystograms
Gallbladder	Lumbar Spine & Pelvis
All Nuclear Medicine Studies	Hysterosalpingograms
All CT Exams	

The attending physician has the authority to insist exams be performed if it is a medical necessity.

**DID YOU KNOW???**

Radiology Associates Toll Free Phone# - 877-626-8678

General Correspondence and Billing Address:  
PO Box 5608  
Corpus Christi, TX 78465-5608

Business Office Physical Address:  
1812 S. Alameda  
Corpus Christi, TX 78404

Patient Payment Address:  
P.O. Box 6010  
Corpus Christi, TX 78466-6010

Authorization is mostly **NOT REQUIRED** \*\* for:  
All Mammograms (Screening & Diagnostic)  
All Fluoroscopy (BE, UGI, IVP, etc.)  
Ultrasounds  
X-rays

Medicaid is accepted at ALL FIVE Radiology Associates locations

**Medicare Non-Covered MRA's**

MRA Cardiac

**Medicaid Non-Covered MRA's**

MRA Cardiac

Radiology Associates cannot accept a patient with orders from an ER doctor or any doctor from a hospital UNLESS they are already under the care of a PCP.

Radiology Associates cannot accept Government Insurance patients (Medicare/Medicaid) during extended hours.

\*\* Humana Gold requires Authorization on All Diagnostic mammograms



# Radiology Associates<sup>LLP</sup>

## "EXPRESS"

### FAX REFERRAL FORM

Fax to: **561-3107**

Date: \_\_\_\_\_

Patient: \_\_\_\_\_

DOB: \_\_\_\_\_ Soc. Sec. #: \_\_\_\_\_

Pt. phone no.: \_\_\_\_\_ Alt. phone no: \_\_\_\_\_

Examinations Requested: \_\_\_\_\_

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Related Signs and Symptoms: \_\_\_\_\_

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Date Lab Serum Creatinine: \_\_\_\_\_ Bun (if avail): \_\_\_\_\_

Referring physician: \_\_\_\_\_

cc to other physician: \_\_\_\_\_

cc to other physician: \_\_\_\_\_

**"Express" form NOT for same day/STAT or P.E.T. Exams  
To schedule please call 887-7000**

Confirmation of appointment will be faxed to you.  
For any questions please call 887-7000

**361-887-7000**  
**1-877-626-8678 Toll Free**

CENTRAL APPOINTMENT LINE, PREP INFORMATION AND CONFIRMATION  
**CENTRAL FAX: 361-561-3107**

**PLEASE INCLUDE AUTHORIZATION NUMBER (WHEN/IF NEEDED) :** \_\_\_\_\_

Patient: \_\_\_\_\_ D.O.B: \_\_\_\_\_

Date: \_\_\_\_\_ Appointment Date/Time Preferred: \_\_\_\_\_

Patient Phone Number: \_\_\_\_\_

**Examinations Requested:**

\_\_\_\_\_

\_\_\_\_\_

ICD - 10 CODE and DESCRIPTION: \_\_\_\_\_

Related Signs and Symptoms: \_\_\_\_\_

\_\_\_\_\_

Recent Exams Elsewhere? Yes  No  If Yes, where and when: \_\_\_\_\_

LMP(Date): \_\_\_\_\_ Patient Height: \_\_\_\_\_ Weight: \_\_\_\_\_

Current Lab Results: BUN : \_\_\_\_\_ Creatinine: \_\_\_\_\_ Date: \_\_\_\_\_

OR

Order Creatinine (On site testing now available)

Is Patient diabetic? Yes  No  If so, on Glucophage? Yes  No

Is Patient allergic to Iodine? Yes  No

**Report Urgency**

Regular Mail  Regular Fax  Stat Fax  Stat Call Report

If more than one (I) location, please include address: \_\_\_\_\_

Office phone number: \_\_\_\_\_ Office fax number: \_\_\_\_\_

Referring physician signature: \_\_\_\_\_

cc to other physician: \_\_\_\_\_

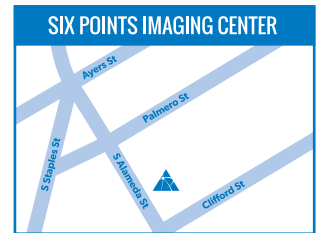
**All patients should confirm pre-scheduled appointments 24 hours in advance by calling 887-7000.**

Payment is due at time of service. Any necessary payment arrangements must be made prior to the appointment.

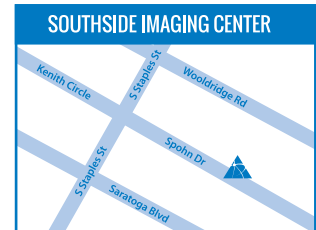
**SEE REVERSE SIDE OF THIS FORM FOR INSTRUCTIONS ON PREPARING FOR YOUR EXAM.**

Most insurance plans accepted.

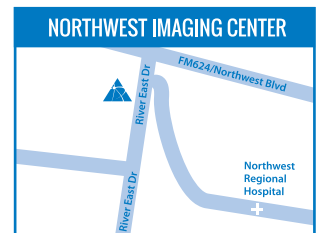
**TAX I.D. #74-1087689**



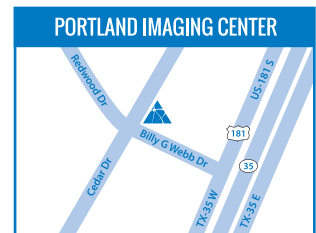
**SIX POINTS IMAGING CENTER**  
**1812 S. Alameda 78404**  
 MRI, MR Spectroscopy, MR Angio  
 CT, Low Dose CT Lung Screen,  
 Fluoroscopy, X-Rays  
 Women's Imaging  
 3D and Diagnostic Mammography,  
 Ultrasound, Non-Surgical Breast  
 Biopsy, DXA



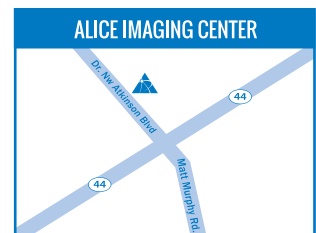
**SOUTHSIDE IMAGING CENTER**  
**5742 Spohn Drive 78414**  
 3T MRI, MR Spectroscopy, MR Angio,  
 CT, X-Rays, Nuclear Medicine,  
 PET/CT Scan  
 Women's Imaging  
 3D and Diagnostic Mammography,  
 Ultrasound, Non-Surgical Breast  
 Biopsy, DXA



**NORTHWEST IMAGING CENTER**  
**3929 River East Drive 78410**  
 MRI, MR Angio, CT,  
 Low Dose CT Lung, X-Rays  
 3D Mammography, Ultrasound, DXA



**PORTLAND IMAGING CENTER**  
**1776 Billy G. Webb Drive 78374**  
 MRI, MR Angio, CT,  
 Low Dose CT Lung Screen, X-Rays,  
 3D Mammography, Ultrasound, DXA



**ALICE IMAGING CENTER**  
**2000 Dr. NW Atkinson 78332**  
 Suite 801  
 X-Rays, Mammography,  
 Ultrasound, DXA





### P.E.T. (Positron Emission Tomography)

Please call 561-3117. Ask P.E.T. scheduler for instructions.



PET/CT Female Video

### Digital Mammogram

DAY OF EXAM: Do not wear deodorant, talc powder, body lotion, body oil or glitter.

### Intravenous Pyelogram (IVP)

DAY BEFORE EXAM: Nothing to eat or drink after midnight. (Wait until after exam to take any daily medication.)



PET/CT Male Video

### Barium Enema Examination (Colon)

- DAY BEFORE EXAM: Clear liquids at noon and supper meals. Eat no solid food.  
 Drink six 8-ounce glasses of water between 1:00pm and 9:00pm.  
 At 5:00pm drink one bottle of Citrate of Magnesia (10 ounces).  
 At 8:00pm take two Biscodyl (Dulcolax) pills.
- DAY OF EXAM: Insert one Biscodyl (Dulcolax) rectal suppository upon arising.  
 No solid food. May have coffee, water or juice until 1 hour prior to exam.



Digital Mammogram Video

### Upper GI Series (Stomach)

DAY BEFORE EXAM: Nothing to eat or drink after midnight. (Wait until after exam to take any daily medication.)

### Ultrasound

ABD, GB, PANCREAS, LIVER, or AORTA—EVENING BEFORE EXAM: Nothing to eat or drink after 10:00pm.  
 BREAST: DAY OF EXAM—Do not wear deodorant, talc powder, body lotion, body oil glitter.  
 KIDNEY:(Renal) - Do not empty bladder 1½ hours (90 minutes) before exam.  
 PELVIS AND OBSTETRICAL:

- Pelvis—under 18 years of age: 1 HOUR BEFORE EXAM drink 32 oz. of water. Do not empty bladder.  
 Otherwise no special instructions.
- OB—No special instructions.

VASCULAR ULTRASOUND: 1 HOUR BEFORE EXAM, No smoking or exercise.

LIVER OR RENAL DOPPLER: DAY BEFORE EXAM: Nothing to eat or drink after 10:00pm the night before.



CT Video

### CT Exam (Please bring any previous CT films if available)

Most CT Abdomen and CT Pelvis exams will require patient to drink an oral contrast solution\*

#### CT ABDOMEN ONLY

- Arrive 1 hour before exam to drink oral contrast\*
- Nothing to eat or drink 4 hours prior to exam.

#### CT PELVIS ONLY

- Nothing to eat or drink 4 hours prior to exam.
- Arrive 2 hours before exam to drink oral contrast\*

#### CT ABDOMEN AND CT PELVIS

- Nothing to eat or drink 4 hours prior to exam.
- Arrive 2 hours before exam to drink oral contrast\*

\*NOTE: You may pick up contrast from our office the day before your exam and drink at home. Our oral contrast is sugar-free.  
 Diabetic patients may drink some juice if necessary 1 hour before drinking oral contrast.



MRI Video

#### OTHER CT EXAMS NO SPECIAL INSTRUCTIONS

### Nuclear Medicine Exam

#### <sup>123</sup>I THYROID SCAN / UPTAKE:

- FOR 6 WEEKS BEFORE EXAM: No intravenous radiographic contrast.
- FOR 6 WEEKS BEFORE EXAM: No Synthroid.
- FOR 4 WEEKS BEFORE EXAM: No Iodine containing vitamins or diet supplement.
- FOR 2 WEEKS BEFORE EXAM: No anti-thyroid medications (desiccated thyroid, PTU).

HEPATOBILIARY SCAN: No food or drink ON DAY OF EXAM.

Bone and other scans: A Nuclear Medicine Specialist will call with specific instructions regarding your appointment.



Who is Radiology Associates? video. Learn about our expertise and experience and discover our expert Radiologists.

### MRI / MRA Exams

If you are not contacted by our MRI Department by 2:00pm THE DAY PRIOR to your appointment, please call 887-7000 for instructions. Wear cotton under garments; all patients will be asked to change into exam gown.

### DXA

Patient MUST hold all calcium, vitamin D and multi vitamins  
 48 hours (full 2 days) prior to exam.  
 Wear metal free garments preferred (ie. underwire bra, grommets on jeans, zippers, etc.)  
 Revised 9-15

Snap a picture of our QR code with your smartphone and view the "What to Expect" videos!





Radiology Associates<sup>LLP</sup>

## Age Limits on Pediatric Patients

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### Examination

### Age Limits

Barium Enemas and IVP/Cystograms

16 and older

UGI

7 and older – RA will not administer any sedation to minors

CT and MR

7 and older – RA will not administer any sedation to minors (Care Dose to be used on all minors <18 for CT)

Ultrasound

Not under 12 years of age

Breast Ultrasound

Contact Breast Imaging Team radiologist if patient is under 12 years of age

Plain Films

No age limit

DXA

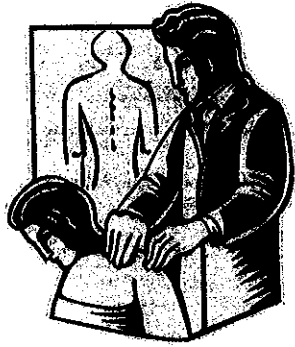
No patient under the age of 21 years

Nuclear Medicine/PET

No age limit (RA will not do pediatric NM VCUG studies)

### **Note:**

**NM/CT/MR tech will have IV started outside the office if there is likely to be an access problem; no IV sedation patients to be done ever!**



## Helpful Information for Chiropractors For Appointments – 887-7000

**Radiology Associates** is a group of sixteen Board Certified Radiologists with musculoskeletal, neuroradiology and ultrasound specialty training. We Provide a full range of outpatient imaging services. In addition, we also provide:

- ☑ Same day/next day availability for most scheduled exams.
- ☑ Same day reporting - direct fax of results to referrers, or call reports, upon request.
- ☑ Images/reports delivered to referrers' offices, upon request.
- ☑ Extensive patients' film library on-line, plus film pickup within the City for comparisons.
- ☑ Computerized data systems for online scheduling, film tracking, office reports, mammogram follow-up (tracking), electronic billing and extensive patient exam histories.

### We accept the following health plans

- |  |   |  |
|--|---|--|
| <ul style="list-style-type: none"><li>☑ <b>Aetna/US Healthcare</b></li><li>☑ <b>BCBS Plans</b></li><li>☑ <b>Driscoll Children's Health Program (DCHP-CHIP)</b></li><li>☑ <b>Christus Spohn Health Network</b><ul style="list-style-type: none"><li>☑ Beechstreet</li><li>☑ Affiliated HealthCare</li><li>☑ Pro-Net</li></ul></li><br/><li>☑ <b>CIGNA</b></li></ul> | <ul style="list-style-type: none"><li>☑ <b>Coastal Bend Healthcare Solutions</b><ul style="list-style-type: none"><li>☑ Accountable Health Plans</li><li>☑ Blue Bell Creameries</li><li>☑ Evolutions Healthcare Systems</li><li>☑ First Health (CCN One Source)</li><li>☑ Galaxy Health Network</li><li>☑ Humana-Military/TRICARE</li><li>☑ Private Healthcare Systems (PHCS)</li><li>☑ Southwest Medical Provider</li><li>☑ Texas True Choice (Formerly Ethix)</li><li>☑ USC Health Services</li></ul></li></ul> | <ul style="list-style-type: none"><li>☑ <b>Humana/Employers Health/Humana Gold Plus (ChoiceCare)</b></li><li>☑ <b>Medicaid</b></li><li>☑ <b>Medicare</b></li><li>☑ <b>Texas Workers' Compensation</b></li><li>☑ <b>United Healthcare (HMO,PPO,POS)</b></li></ul> |
|--|---|--|

### Comments:

- ☑ Humana Gold will **NOT** pay for **ANY** imaging services ordered by a Chiropractor unless an order is received from a Medical Doctor, otherwise the patient would be "self-pay".
- ☑ Medicare & Medicaid will **NOT** pay for **ANY** imaging services ordered by a Chiropractor unless an order is received from a Medical Doctor, otherwise the patient would be "self-pay".
- ☑ Radiology Associates requires a Chiropractor to have a M.D./D.O. sign off on a referral order for an Arthrogram or Mylogram.
- ☑ At present, our insurance department does not accept P.I.P. or L.O.P.
- ☑ Treating Provider must be on referral for Workman's Comp cases.

Visit our website at: [www.xraydocs.com](http://www.xraydocs.com)


## Review Toolbar

The review toolbar contains tools that you can use to investigate and manipulate images in the image viewer.






NOTE: The review toolbar is configurable by the System Administrator. As a result, it may not contain the identical groupings or sequence of buttons as shown in this section.



## All-In-One Tool

	Enables the all-in-one tool.
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## Window Options

	Enables you to manually adjust the window width can be wide (many grays, less contrast) or narrow (fewer grays, more contrast). The window level can be high (dark) or low (bright).
	Applies optimum window width and level values based on a histogram analysis of the active image.
	Inverts the image grayscale to provide a negative image display. Click the button again to return to the original setting.  For MG images, this feature only inverts the breast tissue; the background remains black.



## Zoom

	<p>Zooms the selected image. In the viewport, click the left mouse button and move the pointer up to zoom in and move the pointer down to zoom out.</p>
	<p>Magnifies an area of an image. Only the image is magnified; overlay text, annotations, and so forth, do not appear in the magnified area. You can move the magnification box to different locations within the viewport.</p> <p>Left-click within the magnification area to dismiss the window.</p> <p>To change the magnification level, you can either disable the tool and select a different magnification factor or scroll the mouse wheel while in the magnifier.</p>



## Pan

	<p>Repositions the image within the viewport.</p>
---	---



## Lines

	<p>Ortho line. Click two points on the image to create a line. The application displays the distance.</p>
	<p>Transischial. The tool is used to measure leg length discrepancies for pre-operative planning of orthopedic surgeries. Click two points on the image to create a reference line. Click two more points on either side of the reference line to measure the distance between those points and the reference line. The application displays the distance between the two points and the reference line and calculates the discrepancy between the two distances.</p>




## Angles

	Angle. Click three points on the image. The application displays the angle's measurement.
	Cobb angle. Click two points on the image to create a line. Click two more points to create the second line. The application extrapolates the point where the two lines intersect and displays the Cobb Angle.

## Text

	Add text. Click the image where you want the text to appear. The application places a text insertion point on the image. Type the text you want to place on the image. Click outside of the text box or press ENTER to complete the function.
	Edit text. Click the text and edit as desired. Click outside of the text box or press ENTER to complete the function.

## Annotation Shapes

	Annotation rectangle. Click and drag the mouse pointer to draw a rectangle over the desired region. When you release the mouse button, the application displays the ROI measurements.*
	Annotation ellipse. Click and drag the mouse pointer to draw an ellipse over the desired region. When you release the mouse button, the application displays the ROI measurements.*
	Annotation ROI. Click and drag the mouse pointer to draw a freehand region of interest (ROI). When you release the mouse button, the application completes the ROI with a straight line between the start and end points. The application displays the ROI measurements.*




\* For each ROI drawn, the following measurements are displayed: Max (maximum pixel value), Mean (average pixel value) and Min (minimum pixel value). For CT images, the pixel measurements are automatically converted to Hounsfield units.

## Annotation Options



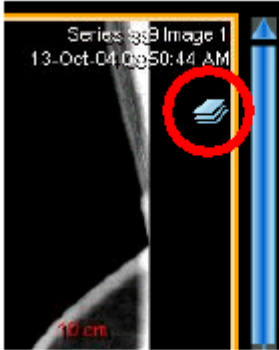
Annotation options enable you to place the following annotations on the images:

- Measurement annotations (such as line, rectangle, ellipse, ROI, angle and cobb angle). All measurements are displayed in metric units.
- Text annotations (such as labels and notes).


The following table describes all of the available annotation tools:

	Edit annotation. When selected, enables you to modify a selected annotation in the image viewer.
	Delete annotation. When selected, deletes a selected annotation in the image viewer.
	Delete all annotations. When selected, deletes all annotations in the image viewer.


## Cine and Stack

	<p>Cine. You can animate any active series using the Cine feature. Cine controls provide standard navigation commands that allow you to stop, pause and move forward or backward through the cine. You can also adjust the speed of the cine and use the zoom, pan and window settings while in cine mode.</p>
	<p>Produces a stack of all images in the study within a single viewport. Use the scroll bars to scroll through the images that constitute the stack. An indicator appears in the viewport to identify that the images are stacked.</p> 

## Toggle Text






	<p>Toggles the text. Click once to hide the text and again to restore the text.</p>
---	---

## Localizer Line



	<p>Localizer line. These lines enable you compare images of different planes. The application takes one reference image, compares it with the images in the other viewers, then displays a line (if applicable) that shows where the reference image intersects with the other images.</p>
---	--




## Link Options


	Link all.
	Link all offset.
	Link cancel.
	Link selected.
	Link selected offset. See

## Image Orientation



	Flips the image on the horizontal axis.
	Flips the image on the vertical axis.

	<p>Rotates the image clockwise or counter-clockwise in 90 degree increments.</p>
---	--



Print

	<p>Prints the selected patient image to a printer connected to your local workstation. If you are connected to a network, you can print to a network printer.</p> <p>The application's print function is dependent on the Web browser that you are using. Hardcopy printouts can vary between different Web browsers.</p>
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Save

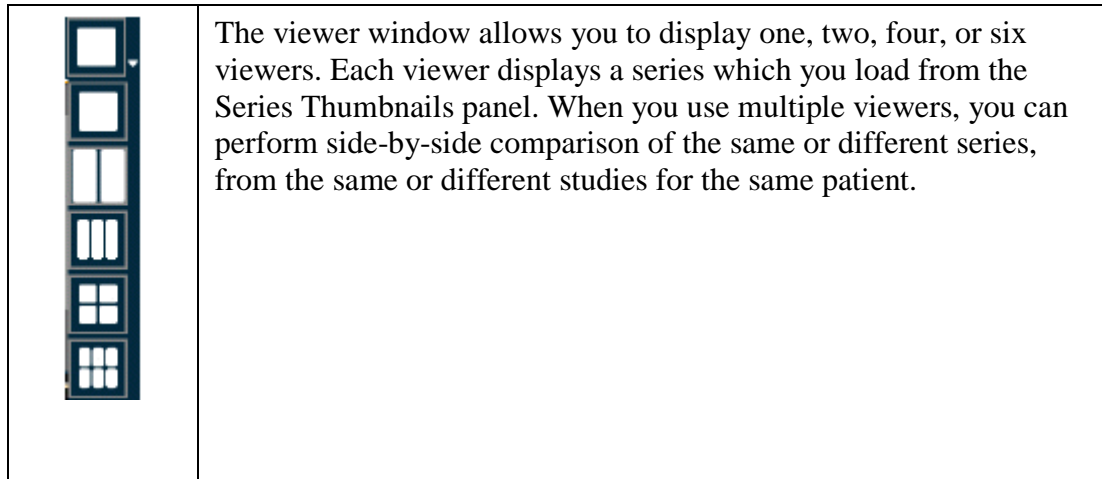
	<p>Saves the series.</p>
	<p>Saves the selected annotated image.</p>

Reset and Full-Browser Mode

	<p>Resets the image display parameters (such as window settings, zoom, pan, orientation and grayscale inversion) to the last saved settings or, if you have not saved the settings during the current session, to the settings applied when the study was first loaded.</p> <p>When you reset the image display parameters, depending on the scope set for the viewer, the application resets the current image or all the images in the series.</p>
	<p>Full Browser mode creates space by hiding the top portion of the application user interface.</p>

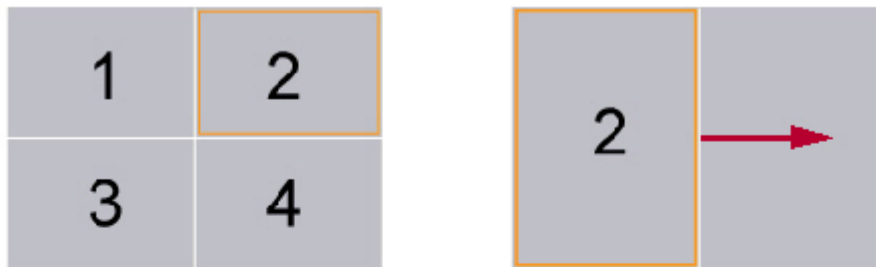
## Series Viewer Options

For modalities other than PR and KO, series scope is set by default.

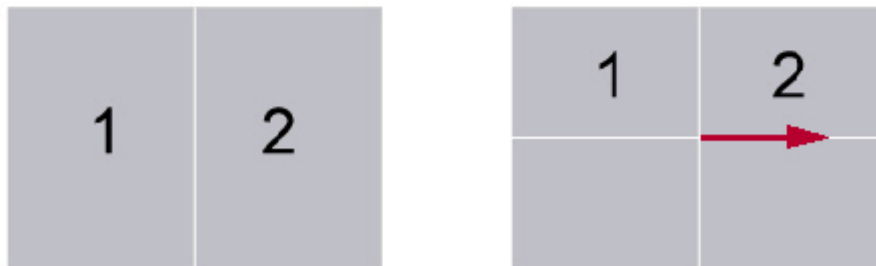


NOTE: When you first load a study, the application displays the number of viewers defined in the modality presets. For information on defining the modality presets, refer to the *iConnect Access Administrator's Guide*.

When you change the number of viewers from a larger to a smaller number, the application only displays the images from the active viewer (see example below). When you change the number of viewers from a smaller to a larger number for example, from two to four viewers), the application preserves the images.



Preserves only the selected viewer



The application saves the last viewer settings and displays the same number of viewers the next time you load a study into the viewer window.

### External Application Launch

	<p>Launches an external application.</p>
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### Series Scope Options

Scope is the range of displayed images to which the application applies your changes to any review parameters (such as window settings, zoom, pan, orientation and grayscale inversion). There are two scope settings: Image and Series. When you apply a scope, the setting applies to all viewers during a review session.

NOTE: For PR and KO modalities or if the viewer has global stack on, the default scope is set to image scope. Otherwise, the scope setting is set to Series. If both scope options are configured on the toolbar, the system highlights the option that is applied.



When you first load a study, the viewer displays the images using the last saved presentation state (in other words, the images do not share the same image settings). For example, if you had previously set your scope setting to Image and saved your review parameters, when you reload the study, the viewer displays your images as they were last saved. If you do not change the

scope setting back to Image, when you apply any changes to the review parameters, the application applies those changes to every image in the series.

**NOTE:** If the application detects different pixel spacing between images in a series, the viewer displays a warning message immediately. After you dismiss the warning message, the application only applies zoom and pan settings to the current image to prevent inaccurate measurements. For example, if your scope setting is Series, and the images have different pixel spacing values, the application applies review changes to all images in the series except for zoom and pan changes. The application only applies those changes to the image on which you are currently reviewing.


**CAUTION:** If you change your scope setting from Image to Series during a review session, the application applies any review parameters on any image to all the images in the series.

Your scope setting applies to all the series that belong to the same study including the studies in the Related Studies List.

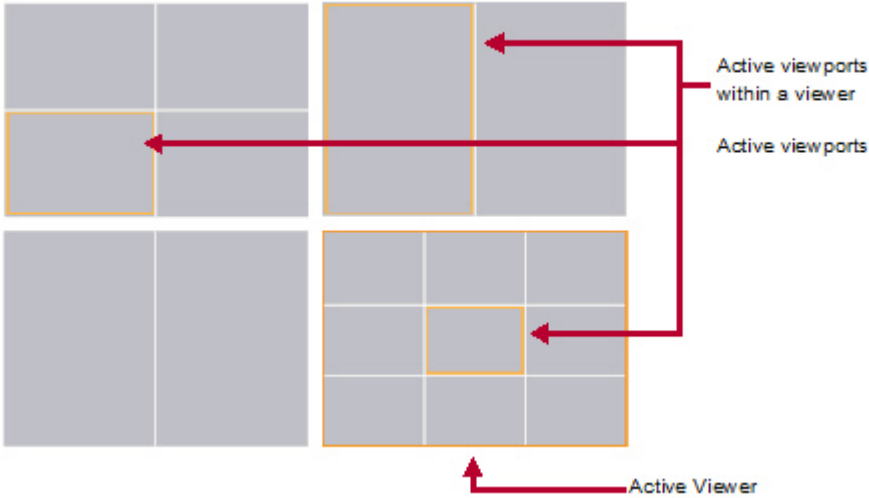
	Applies review parameters to all images in a series.
	Applies review parameters to the current image.

### Image Layout Options


For PR and KO modalities, image scope is set by default.

	<p>The image layout specifies the number of rows and columns in which the images are displayed within a viewer. Each image area within a viewer is referred to as a viewport. For example, if you select a 2x2 layout, there are four viewports in the viewer.</p>
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The following example shows four viewers, each with a different layout. The application displays the active viewer bordered by an orange bounding box. Active viewports within each viewer are bordered by a light orange bounding box.




### Series Navigation Options

	Enables you to navigate to the next or previous series.
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### Email Study

	Enables you to send a study to non-registered users via email.
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### Transfer Study

	Opens the Transfer dialog.
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## Consultation Notes

	Opens the Consultation Notes screen. This button applies to the iPad only.
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## Grant Access

	Opens the Grant Access dialog.
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## Online Help

	Opens the iConnect Access online help system in another browser window.
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## Close

	Closes the viewer and returns to the study list.
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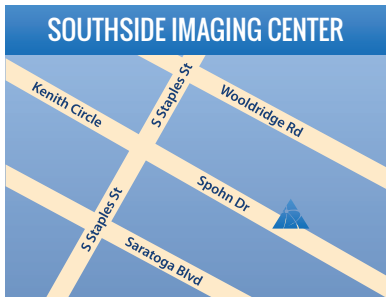
# Imaging Center Locations & Hours

Central Appointment Line: All Offices: 361-887-7000 Toll Free: 1-877-626-8678

## APPOINTMENT LINE HOURS OF OPERATION:

MONDAY – THURSDAY  
FRIDAY  
SATURDAY

7:30 AM – 6:30 PM  
7:30 AM – 5:30 PM  
8:00 AM – 12:00 PM



### Southside Imaging Center

5742 Spohn Drive, 78414

**Ultrasound, Nuclear Medicine,  
Women's Imaging: DXA, Non-Surgical  
Breast Biopsy**

Monday – Friday 8 am – 5 pm

**3D Digital Screening Mammography**

Monday – Friday 8 am – 5 pm

**MRI, MR Angio, MR Spectroscopy,  
Diagnostic Radiology/X-ray**

Monday – Thursday 8 am – 6 pm

Friday 8 am – 5 pm

**CT/CTA Scanning**

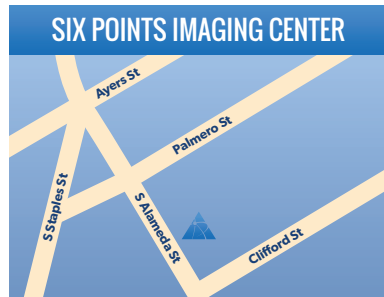
Monday – Friday 8:30 am – 5 pm

**PET/CT Scan**

Monday – Friday 7:30 am – 5 pm

**Xray, 3D Digital Mammogram, MRI,  
DXA, Ultrasound (limited)**

Saturday 8 am – 12 pm



### Six Points Imaging Center

1812 S. Alameda, 78404

**CT/CTA Scanning, Fluoroscopy**

Monday – Friday 8 am – 5 pm

**Diagnostic Radiology/X-Ray**

Monday – Thursday 8 am – 6 pm

Friday 8 am – 5 pm

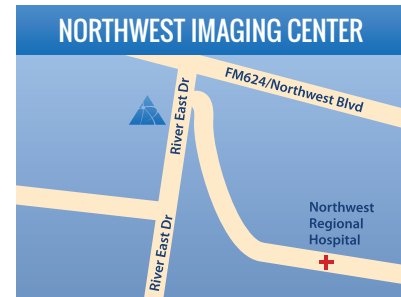
**Ultrasound, Women's Imaging:  
DXA Scan, 3D Digital Mammography,  
Non-Surgical Breast Biopsy**

Monday – Friday 8 am – 5 pm

**Large-Bore MRI, MR Angio,  
MR Spectroscopy**

Monday – Thursday 7:30 am – 6 pm

Friday 7:30 am – 5 pm



### Northwest Imaging Center

3929 River East Drive, 78410

**MRI, MR Angio**

Monday – Thursday 7:30 am – 6:00 pm

Friday 7:30 am – 5 pm

Saturday 8 am – 12 pm

**CT/CTA Scanning, Ultrasound**

Monday – Friday 8 am – 5 pm

**Diagnostic Radiology/X-Ray**

Monday – Thursday 8 am – 5:30 pm

Friday 8 am – 5 pm

Saturday 8 am – 12 pm

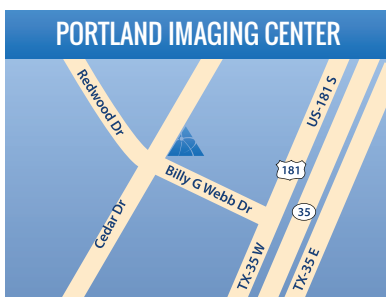
**3D Digital Mammography**

Monday – Friday 8 am – 5 pm

Saturday 8 am – 12 pm

**DXA**

Monday – Friday 8 am – 5 pm



### Portland Imaging Center

1776 Billy G. Webb Dr., 78374

**Large-Bore MRI, MR Angio**

Monday – Thursday 7:30 am – 6 pm

Friday 7:30 am – 5 pm

**Ultrasound**

Monday – Friday 8:00 am – 5 pm

**CT/CTA Scanning,  
Women's Imaging: DXA Scan,  
3D Digital Mammography**

Monday – Friday 8 am – 5 pm

**Diagnostic Radiology/X-Ray**

Monday – Friday 8 am – 5 pm



### Alice Imaging Center

2000 Dr. N.W. Atkinson Blvd,  
Suite 801, 78332

**Ultrasound, Diagnostic Radiology/X-ray,  
Digital Mammography, DXA**

Monday – Friday 8 am – 5 pm



**Radiology Associates** LLP

Visit our website for more  
information: [xraydocs.com](http://xraydocs.com)

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# Exam Preparation Instructions

Central Appointment Line: All Offices: 361-887-7000 Toll Free: 1-877-626-8678

## P.E.T./C.T. (Positron Emission Tomography)

Please call 361-887-7000. Ask for P.E.T. scheduler for instructions

## Digital Mammogram

Day of Exam: Do not use antiperspirant, deodorant, talc powder, body lotion, body oil, sunscreen or glitter.

## Intravenous Pyelogram (IVP)

Day of Exam: **Nothing** to eat or drink after midnight. (wait until after exam to take any daily medication.)

## Barium Enema Examination (Colon)

1. DAY BEFORE EXAM: Clear liquid at noon and supper meals. Eat no solid food.  
Drink six 8-ounce glasses of water between 1 pm and 9 pm.  
At 5 pm drink one bottle of Citrate of Magnesia (10 ounces).  
At 8 pm take two Biscodyl (Dulcolax) pills.
2. DAY OF EXAM: Insert one Biscodyl (Dulcolax) rectal suppository upon arising.  
No solid food. May have coffee, water or juice until 1 hour prior to exam.

## Upper GI Series (Stomach)

1. DAY BEFORE EXAM: **Nothing** to eat or drink after midnight. (wait until after exam to take any daily medication)

## Ultrasound

**AB, GB, PANCREAS, LIVER, or AORTA-EVENING BEFORE EXAM: Nothing to eat or drink after 10 pm**

**BREAST: DAY OF EXAM** - Do not use antiperspirant, deodorant, talc powder, body lotion, body oil, sunscreen or glitter.

**KIDNEY: (Renal)** - Do not empty bladder 1.5 hours (90 minutes) before exam.

**PELVIS AND OBSTETRICAL:**

1. Pelvis—Under 18 years of age: 1 HOUR BEFORE EXAM drink 32 oz. of water. Do not empty bladder. Otherwise no special instructions.
2. OB—No instructions.

**VASCULAR ULTRASOUND:** 1 HOUR BEFORE EXAM, No smoking or exercise.

## CT Exam (Please bring any previous CT films if available)

Most CT Abdomen and CT Pelvis exams will require patient to drink an oral contrast solution. \*

### CT ABDOMEN ONLY

1. Nothing to eat or drink 4 hours prior to exam.
2. Arrive 1 hour before exam to drink oral contrast. \*

### CT PELVIS ONLY

1. Nothing to eat or drink 4 hours prior to exam.
2. Arrive 2 hours before exam to drink oral contrast. \*

### CT ABDOMEN AND PELVIS

1. Nothing to eat or drink 4 hours prior to exam.
2. Arrive 2 hours before exam to drink oral contrast. \*

## Nuclear Medicine Exam

<sup>123</sup> I THYROID SCAN/UPTAKE:

1. FOR 6 WEEKS BEFORE EXAM: No intravenous radiographic contrast. No Synthroid, T4 medications, thyroid replacement medications, or desiccated thyroid.
2. FOR 4 WEEKS BEFORE EXAM: No iodine containing vitamins or diet supplements.
3. FOR 2 WEEKS BEFORE EXAM: No (short acting) thyroid medications (PTU) or T3 medications.

HEPATOBI LARY SCAN: No food, drink, or medication ON DAY OF EXAM.

Bone, Parathyroid, Renal, MUGA, or Liver Scans: NO SPECIAL INSTRUCTIONS.

All Other Scans: Nuclear Medicine tech will call patient to confirm preparation.

## MRI/MRA Exam

If you are not contacted by our MRi Department by 2 pm THE DAY PRIOR to your appointment, please call 361-887-7000 for instructions.

## DXA

Patient MUST hold all calcium, vitamin D and multi vitamins a full 48 hours (2 full days) prior to exam.