

## Commonly ordered Nuclear Medicine Procedures and their indications

The procedures and indications below are guidelines for commonly ordered Nuclear Medicine procedures. If you have any questions in regards to ordering or scheduling a Nuclear Medicine procedure, please feel free to contact the Nuclear Medicine Department at 740–2669 or contact a Radiologist at 740–2692.

### **Wholebody Bone Scan**

Indications include:

- Detection of primary and staging metastatic disease.
- Evaluation of bone pain, trauma, occult fractures, metabolic bone disease, osteoporosis, and other osteopathies.
- Detection and evaluation of Paget disease of the bone.
- Detection and evaluation of arthritis and joint disease.
- Evaluation of prosthesis pain.

### **Limited Bone Scan**

Indications include:

- Pain not associated with infection.
- Patient without a history of cancer with limited area of pain.

### **3 Phase Bone Scan**

Indications include:

- Osteomyelitis
- R/O infection
- Evaluation of Stress Fractures

### **Bone SPECT Scan**

Indications include:

- Spondylolisthesis
- Pars defect

### **Thyroid Uptake and Scan**

Indications include:

- Detection and evaluation of hyperthyroidism and hypothyroidism.
- Detection of benign from malignant nodules. Detection, localization, and evaluation of independent functioning nodule(s).
- Evaluation of heterogeneity of function within a thyroid gland.
- Detection and localization of benign ectopic thyroid tissue.

### **Liver Hemangioma Scan**

Indications include:

- Detection and localization of hepatic hemangiomas
- Detection and localization of vascularized primary and metastatic tumors

### **HIDA Scan**

- Evaluation of cholecystitis, cystic, or common bile ducts.
- Evaluation of cholelithiasis.
- Detection of perforation of the gallbladder.
- Evaluation after gallbladder surgery for suspected leakage.

### **HIDA Scan with Ejection Fraction**

Indications include:

- Evaluation of biliary dyskinesia.

### **Liver/Spleen Scan**

Indications include:

- Assessment of anatomy, size, and relative position of liver and spleen.
- Assessment of hepatomegaly, splenomegaly, splenic artifacts, accessory spleen or splenosis, or situs inversus.
- Assessment of benign mesenchymal focal lesions and hepatocellular focal nodular hyperplasia.
- Assessment of chronic liver or spleen disease including primary liver tumors and metastasis, jaundice, cirrhosis, hepatocellular disease, hepatitis, hepatic abscess, or elevated laboratory results.

### **Parathyroid Scan**

Indications include:

- Detection and localization of primary and secondary parathyroid cancer.
- Identification of single adenomas, multiple adenomas, or glandular hyperplasia in patients with newly diagnosed hypercalcemia and elevated parathyroid hormone levels.
- Location of cancer for surgery candidates.
- Localization of parathyroid tissue after surgery for persistent or recurrent hyperparathyroidism.

**Gallium Scan**

Indications include:

- Evaluation of chronic inflammations.
- Detection and localization of lymphomas, tumors, Hodgkin's disease, hepatomas, and bronchogenic carcinomas.
- Evaluation of fever of unknown origin.
- Evaluation of patients with AIDS.

**WBC Scan**

Indications include:

- Detection and localization of acute and chronic osteomyelitis (especially acute).
- Detection and localization of acute abscesses.
- Detection and localization of infection, FUO.
- Evaluation for prosthesis rejection

**Renal Scan**

Indications include:

- Evaluation of renal function in patients with asymmetric renal disease.
- Evaluation of the vascular supply to the kidneys.

**Renal Scan with Lasix**

Indications include:

- Evaluation of ureteropelvic or ureterovesical obstruction
- Distention of pelvicalyceal system as an etiology of back pain.

**Renal Scan with Captopril**

Indications include:

- Abrupt or severe hypertension
- Hypertension resistant to medical therapy.
- Worsening renal function during therapy with ACE inhibitors

**Gastric Emptying Scan**

Indications include:

- Determination of delayed gastric emptying with quantitation of gastric emptying rate.
- Evaluation of anatomical obstruction.
- Evaluation of nausea, vomiting, and early satiety.
- Evaluation of weight loss.

**Meckel's Scan**

Indications include:

- Localization of a Meckel's Diverticulum with functioning gastric mucosa.
- Detection of gastrointestinal bleeding.
- Evaluation of positive guaiac test.
- Evaluation of abdominal pain in children.
- Evaluation of bleeding, diverticulitis, or intestinal obstruction caused by intussusception and volvulus.

**MUGA Scan**

Indications include:

- Evaluation of left wall motion
- Calculation of ejection fraction
- Evaluation of patient's heart condition for pending surgery, chemotherapy, or radiation therapy.

**Dr. Shawn Rayder, President  
Seacoast Radiology**