Liver/Spleen Scan

- **Indications**
  - To the assess size, shape, and position of the liver and spleen; detecting, measuring, and monitoring liver/spleen masses; differentiating hepatic hemangiomas and FNH from other liver lesions; evaluating hepatic function in acute or chronic liver disease; confirming patency of hepatic arterial perfusion catheters and evaluating pattern of blood flow via these catheters; identifying functioning splenic tissue and evaluating suspected functional asplenia.

- **Radiopharmaceutical:**
  - Option 1 - 3-6 mCi Tc-99m sulfur colloid administered IV
  - Option 2 - 20-25 mCi Tc-99m ultra-tagged RBCs administered IV

- **Patient Preparation:**
  - No specific preparation prior to radionuclide administration.

- **Conflicting Examinations/Medications:**
  - No Nuclear Medicine exams within the previous 24 hrs.
  - No barium GI exams within the previous 48 hrs.

- **Pregnancy/Lactation:**
  - Pregnancy testing is only needed in potentially pregnant patients who state they could be pregnant. See Pregnant, Potentially Pregnant and Lactating Patients policy for specifics.
  - Breast feeding mothers should discard breast milk for 4-24 hrs following Tc-99m sulfur colloid / RBC administration.

- **Imaging Technique (for Sulfur Colloid scans):**
  - Collimator - LEHR or LEAP
  - Photopeak - 140 keV 20% window for Tc-99m
  - Image Preset Counts - 500k to 1 million counts/image
  - Matrix Size - 256 x 256
  - Zoom - 1.23
  - Patient Positioning - supine

- **Imaging Views (for Sulfur Colloid scans):**
  - Begin imaging 15-20 mins after radionuclide administration.
  - Obtain anterior, posterior, RAO, LAO, RPO and right lateral images.
  - Obtain an additional anterior image with a linear marker placed along the right inferior costal margin and xyphoid process.

- **Imaging Technique (for Tagged RBC scans):**
  - Collimator - high resolution / LEAP collimator
  - Photopeak - 140 keV 20% window for Tc-99m
  - Image Preset Counts
    - Flow - 3 secs/image for 90 secs (30 images)
    - Fill-In - 60 secs/image for 24 mins (24 images)
    - SPECT - 64 stops, 25 secs/stop
    - Static - 100k counts/image
  - Matrix Size - 128 x 128 (flow), 64 x 64 (fill-in), 128 x 128 (SPECT), 256 x 256 (static)
  - Zoom - 1.23
  - Patient Positioning - supine

- **Imaging Views (for Tagged RBC scans):**
  - Flow Images
    - Begin imaging immediately after radionuclide administration.
    - Obtain anterior and posterior images for 90 secs.
  - Fill-In Images
    - Begin imaging immediately after flow imaging

- Obtain anterior and posterior images for 24 mins.
- ➢ SPECT Images
  - Begin imaging immediately after fill-in imaging
  - Obtain SPECT images of the liver and spleen with axial, coronal and sagittal reconstructions.
  - Obtain a 3D horizontal spinner.
- ➢ Static Images
  - Begin imaging immediately after SPECT imaging
  - Obtain anterior and right lateral images.
  - Check with the Radiologist to determinate if any other imaging plane or more delayed images are needed.