

LIVER SPECT-SPLEEN WITH HEAT TREATED RED CELLS  
UPDATED: December 2009

CPT CODE: 78205  
Liver SPECT

**Indications:** To determine the presence of splenic tissue. This test can be used to identify asplenia and polysplenia.

**Patient Prep:** None.

**Scheduling:** Sixty (60) minutes for labeling process. The radiopharmacy must be given at least 24 hours notice to stabilize the heating block to correct temperature.

Imaging can be done 2 hours post injection. Allow 60 minutes of camera time.

**Radiopharmaceutical**

**& Dose:** Tc-99m pertechnetate (TcO<sub>4</sub>) 5 mCi +/- 20% (4-6 mCi). Dose will be adjusted for patient weight according to nomogram. Dose range from 2.5 mCi to 7.5 mCi.

<u>Organ</u>	<u>Dosimetry</u>
Spleen	2.1 rad/mCi
Ovaries	0.005 rad/mCi
Testes	0.0017 rad/mCi

**Imaging Device:** Multi-head camera with LEHR collimator with CT/AC.

**Red Cell Prep:**

1. Label the red blood cells using the in-vitro method (Ultratag).
2. Prepare the Ultratag kit with 2 ml of blood, and 5-10 mCi of Tc-99m sodium pertechnetate.
3. Place the Tc-99m RBC in a heating block.
4. The temperature needs to be 49-54° C.
5. The temperature is extremely important, and should not fluctuate out of range.
6. Heat the Tc-99m RBCs for 20-30 minutes, occasionally swirling gently.
7. Remove the kit from the heating block and prepare the patient's dose.
8. Let cool for 5 minutes, before injection.

**Imaging Procedure:** Obtain planar anterior and posterior images.

**Planar-Ant/Post**

Matrix: 256 x 256  
Duration: 5 min/image

**Liver Spleen - SPECT/Hawkeye**

Matrix: 128 x 128  
Acquisition: Contoured, 6°/30 sec/stop  
CT/AC Range: Full

**Infinia Processing**

Reconstruct using Volumetric for Hawkeye Oncology

**Display:** Display planar images by selecting study in image review, then selecting review. Display SPECT/Fused images while in reconstruction.

**Interpretation:** The presence of a spleen will be documented by the increased uptake in an organ relative to the normal blood pool background of liver, etc.

**PACS:** Planar and SPECT images, including raw data and screen saves, should be sent to PACS. For SPECT/CT acquisitions, the SPECT and CT axial image sets should be sent to PACS.

**Comments:** A Nuclear Medicine staff or resident physician should be consulted to determine if additional views are indicated. Before the patient leaves, a Nuclear Medicine staff or resident physician should check scans to determine if format size needs to be changed.

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