

Radiopharmaceutical: 99mTc-Sulfur Colloid

Dose: 4 mCi

T1/2: 6 hours

Energy: 140 keV

CPT: 78205

Indications:

Approved indications include, but are not limited to:

1. Primary liver carcinoma.
2. Possible metastasis from other primary cancer.
3. Liver mass.

Patient Preparation:

- No recent barium studies.
- No other preparation.

Equipment:

1. Philips Skylight (VXUR collimator)
2. Philips Forte (VXUR collimator)
3. Philips Vertex Plus (LEUR collimator)

Procedure:

1. Inject 99mTc-Sulfur Colloid and wait 10 minutes.
2. Acquire an anterior view with liver marker in place for 600K counts.
3. Acquire SPECT scan of abdomen including liver and spleen.

Acquisition Parameters:

- Matrix: 128 x 128
- Zoom: 1.0 (Full Field)
- Time: 30 sec/angle
- Number of angles: 128
- Position: Supine
- Orientation: Feet First

Processing:

1. Use ALL IMAGE DISPLAY and choose the ANTERIOR W/ MARKER image.
2. Liver SPECT is processed similar to a bone SPECT.
3. Left click on AUTOSPECT from top menu in Pegasys.
4. Select PROJECTION and PROCEED.
5. At top of screen, left click on OPEN. From listed defaults, choose LIVER/SPLEEN SPECT (12 iterations, Butterworth Filter, Cutoff of 0.43, and Order of 4.1).
6. Perform motion correction as necessary.
7. Set yellow lines to outer limits of liver and spleen, and left click on RECONSTRUCT at top left of screen.
8. After reconstruction is complete, left click on REORIENT.
9. Adjust images, if needed.
10. Left click on SAVE at top right of screen.

11. Left click on QUIT.
12. Left click on MCD & MCD/AC PHYSICIANS REVIEW button on top menu in Pegasys.
13. Choose the TRANSVERSE images and PROCEED.
14. Left click on 3D.
15. Left click on VOLUME.
16. In transverse view, middle click at center of patient and extend green line beyond body habitus.
17. At right of screen, change DEPTH to 128, and VIEWS to 32.
18. Left click on CREATE. This will take a minute or so, then left click on SAVE, and PROCEED.
19. Left click on CANCEL, CANCEL, and QUIT.
20. Reverse the AXIAL and SAGITTAL images. To do this, left click on PAGE 2 at top right of menu at top of screen on Pegasys. Left click on SPECT FRAME REVERSE. Select TRANSVERSE images, this will automatically proceed and then reverse the frames. When the images reappear, left click on EXIT, and then SAVE SELECTED AND PROCEED. Do the same for the SAGITTAL images.
21. Display a composite of all scan planes. Left click on REFRAME from top menu on Pegasys.
22. Select TRANSVERSE-R images and PROCEED.
23. Right click on SELECTION MENU and then right click on 3. Right click on SELECTION MENU again, then right click on 3 STANDARD.
24. Left click on the 24 VIEW image display. Ensure that anatomy of interest is completely included in display range.
25. Increase brightness as necessary for interpretation.
26. Left click on the pencil tool, then choose the proper annotation defaults. Ensure that the proper patient orientation is noted on the images.
27. Left click on the camera icon and double snapshot all images ending in “_SS”.
28. Repeat steps 20 to 25 for CORONAL and SAGITTAL planes.
29. DICOM all saved images, as well as raw projection data to PACS.