

Radiopharmaceutical: Tc99m-Sulfur Colloid

Dose: 1 mCi divided into 4 separate 250 μ Ci doses and combined with 10 cc of water.

T1/2: 6 hours

Energy: 140 keV

CPT: 78258

Indications:

Approved indications include, but are not limited to:

1. Esophageal reflux.
2. Dysphagia.

Patient Preparation:

- Nothing by mouth for 4 hours.
- No gastroesophageal medications on the day of the test.

Equipment:

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

Procedure:

1. Be sure to instruct the patient before any attempts are made.
2. Position the camera for the first two upright images.
3. Place a 50 μ Ci point source on the patient's right shoulder, just below the clavicle.
4. Have patient take the first dose into his or her mouth and hold it there until you give the instruction to swallow.
5. Tell patient to swallow each dose at frame #10 (5 seconds), and dry swallow at frame 60 (30 seconds).
6. Acquire 2 upright and 2 supine image sets, properly labeling each respective set.
7. If a poor attempt is made, prepare another 250 μ Ci dose and rescan.

Acquisition Parameters:

- Matrix: 128 x 128
- Zoom: 1.00 (Full Field)
- 120 frames at 0.5 seconds/frame
- Position: Seated and Supine
- Orientation: Upright and Feet First

Processing:

1. Reframe each dynamic image set, for a total of 4 sets.
2. Left-click on REFRAME ULTRA DYNAMIC DISPLAY.
3. Select the proper patient and left-click PROCEED.
4. Select the first upright image set, and left-click PROCEED.
5. Right-click on SELECTION MENU, then right-click on 6. Right-click on SELECTION MENU again, and then choose 6 Standard.
6. Selection 24-zone display. Annotate appropriately. Snapshot image.

7. Repeat steps 1 through 6 for the other upright image set and the 2 supine image sets, labeling appropriately.
8. Left-click IMAGE/CURVE/ROI MANIPULATION.
9. Left-click on CURVE CREATE, then STATIC CURVE.
10. Select the first upright dynamic curve.
11. Enter the first frame number for the composite image: 1
12. Enter the total number of frames: 120
13. Enter ROI set name: UPR 1 ROI
14. Enter composite name: UPR DYN 1
15. Enter curve name: UPR 1 ALL CURVES. Hit <Return>.
16. Draw ROI around entire esophagus and label as TE, hit <Return>.
17. Draw a rectangular region on the upper pole of the esophagus (inside the ROI over entire esophagus). Label as TOP, <Return>.
18. Draw middle region, label as MIDDLE, <Return>.
19. Draw lower region, label as LOWER, <Return>.
20. Left-click on PENCIL TOOL and label composite image appropriately.
21. Right-click on CAMERA TOOL, then right-click on SNAPSHOT AREA IN A BOX.
22. Middle-click and drag at top left of image and drag down and to the right, including entire image.
23. Left-click on PROCEED button for snapshot menu.
24. Left-click on PROCEED button for curve menu.
25. All four graphs will appear. Left-click on SAVE at top of screen.
26. Enter the set name: TOTAL ESOPH UPR 1, click the box labeled TE, then click SAVE TO BUFFER AND DATABASE.
27. Click SAVE at the top of the screen, enter the set name: TOP UPR 1, click the second box labeled TOP, then click SAVE TO BUFFER AND DATABASE.
28. Repeat steps for the MIDDLE and LOWER labels, naming the sets MIDDLE UPR 1 and LOWER UPR 1, respectively.
29. Click SELECT CURVE, choose TOTAL ESOPH UPR 1, and snapshot area in a box.
30. Click SELECT CURVE, choose TOP UPR 1, and snapshot area in a box.
31. Click SELECT CURVE, choose MIDDLE UPR 1, and snapshot area in a box.
32. Click SELECT CURVE, choose LOWER UPR 1, and snapshot area in a box.
33. EXIT, then SAVE SELECTED AND PROCEED.
34. Left-click ALL IMAGE DISPLAY, and select the four snapshots you just created, and display on 4-zone.
35. Click on PENCIL TOOL, and label appropriately. SNAPSHOT.
36. Repeat this process for the three remaining image sets, ensuring that you label each step appropriately.
37. Double-snapshot all images ending in “_SS”.
38. DICOM and put online.