

Renal Cortical Scan

Special Instructions For pediatric patients, confirm with the radiologist whether the SPECT should be performed without or with CT.

To be performed at UNMH.

To be performed at SRMC on a case by case basis with Attending Radiologist approval.

Radiopharmaceutical: Tc-99m DMSA

Dose (Adult/Pediatric): Refer to Nuclear Medicine Dose Chart

Route of Administration: Intravenous

Patient Preparation: None.

Equipment Setup: Collimator (SPECT-CT/ECAM/Evo/Symbia E): High resolution

Computer setup:

Posterior/RPO/LPO:

- Static acquisition
- 128 x 128 matrix
- 500K counts
- **ZOOM as much as possible**

SPECT or SPECT-CT images:

- High resolution collimator
- 128 x 128 matrix
- **ZOOM = 1.0**
- 180 degrees, CW (clockwise)
- 64 steps, 15 sec/step
- Noncircular, continuous

Patient Positioning: Feet first, supine
Center kidneys in field of view

Procedure: Imaging time post-injection: 2 hours.

- Acquire delayed planar posterior/RPO/LPO images followed by SPECT or SPECT-CT
- With pediatric patients, confirm with the radiologist whether or not to perform CT with the SPECT

Renal Cortical Scan (continued)

Processing:

- Static display (lightbox/savescreens) of all delayed static images
- Calculate posterior split function by drawing ROIs around each kidney on the posterior view and calculating % of counts on each side. Display on separate image.

SPECT-CT:

- Follow automatic processing workflow

If SPECT-CT:

- Process CT in soft tissue (B30) and bone (B60) algorithm; should have attenuation corrected and non attenuation corrected SPECT tomo files

If SPECT only:

- Should have reconstructed tomographic file and axial/coronal/sagittal lightboxes/savescreens

Items Required For Complete Study:

- Processing and transfer of all images to PACS and/or Leonardo as appropriate
 - Raw data of all planar images to PACS
 - Delayed planar:
 - Lightbox/savescreen of Posterior/LPO/RPO images and posterior split function image to PACS
 - SPECT:
 - Reconstructed Tomo to Leonardo and PACS, Lightboxes/savescreens of axial/coronal/sagittal SPECT to PACS
 - SPECT-CT:
 - Attenuation Corrected and Non Attenuation Corrected Tomo Reconstructions, CT (B30 and B60) to Leonardo and PACS
- Complete the examination in RIS