

Bone Marrow Scan

Special Instructions	<p>For limited examinations, confirm regions to image with the radiologist.</p> <p>For SPECT-CT examinations, confirm with the radiologist whether the CT is required.</p> <p>For extremities, mark the RIGHT side with a point source on all three phases. For lateral views of the lower extremities, always place the RIGHT foot forward and mark accordingly (consult with the radiologist for any deviations from this).</p> <p>Label extremity images and pelvis images (e.g., TOD) with sides (L/R)</p> <p>To be performed at UNMH. To be performed at SRMC on a case by case basis with Attending Radiologist approval.</p>
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Radiopharmaceutical: Tc-99m sulfur colloid

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

Route of Administration: Intravenous

Patient Preparation: Please ensure the following:

- Patients should remove metal items in the field of view (e.g., jewelry, coins, belt buckles, and watches) before imaging.

Equipment Setup: Note: for simultaneous dual-isotope In-111 WBC / Tc-99m SC marrow scans, see the WBC imaging protocol for imaging parameters.

Collimator: High resolution

Computer setup:

Limited:

- 256 x 256 matrix
- Zoom of 1.0 (more if a pediatric patient)
- Acquisition time depends on region
- 300K (e.g., hands) - 800K (e.g., spine) counts
- If opposite sides are done in separate images, image first side for counts, then image opposite side for same time

Whole-body spots preferred for small pediatric patients, generally ≤12 years old (check w/ Radiologist prior to imaging to confirm):

(confirm w/ Radiologist prior to scan to be sure):

- 256 x 256 matrix
- Zoom 1.0 (more if a pediatric patient)

Bone Marrow Scan (continued)

- Start in the pelvis
- 800K-1000K counts
- Rest of images for same time

Whole-body sweep:

- 256 x 1024 matrix
- **Zoom 1.0 (more if a pediatric patient)**
- scan 12 cm/min

Note: For pediatric patients (generally ≤ 10 years old), do whole-body spots as above; use ZOOM for small pediatric patients as appropriate (generally ≤ 5 years old).

SPECT images:

- High resolution collimator
- 128 x 128 matrix
- **Zoom of 1.0 (more if a pediatric patient)**
- 180 degrees, CW (clockwise)
- 64 steps, 15 sec/step
- Continuous

Patient Positioning:

Consult with radiologist if questions.

Typically include at least the following:

Whole-body sweep: Supine with arms at sides

Whole-body spots: Supine, anterior/posterior spots of trunk and anterior spots of extremities

Limited Feet: Plantar/anterior (delays)

Limited Hands: Palmar/dorsal (delays)

Limited Knees: Anterior/posterior/bilateral laterals (delays)

Depending on region of interest, additional positioning may be required.

Procedure:

- Image at least 20 minutes after injection (longer is OK)
- Review planar images with radiologist to determine if additional views are required prior to releasing patient.

Processing:

All cameras: 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

Bone Marrow Scan (continued)

Label extremity images and pelvis images (e.g., TOD) with sides (L/R)

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
 - Planar:
 - Lightbox/savescreens of all images to PACS, as appropriate, including
 - Whole-body sweep: dual intensity display
 - SPECT:
 - Reconstructed Tomo to Leonardo and PACS,
 - Lightboxes/savescreens of axial/coronal/sagittal SPECT to PACS
 - Rename SPECT to include region imaged (e.g., Reconstructed Tomo PELVIS)
 - SPECT-CT:
 - Attenuation Corrected and Non Attenuation Corrected Tomo Reconstructions, CT (B30 and B60) to Leonardo and PACS
 - Rename SPECT and CT files to include region imaged (e.g., Reconstructed Tomo-AC - PELVIS)
- Complete the examination in RIS