

NUCLEAR MEDICINE PROTOCOLS



Three Phase Bone Scan

Reviewed: 01/29/2022

Indications

- Infection in the extremities
- Stress Fracture
- Avascular Necrosis
- Primary Bone Tumor

Exam Time

Injection to imaging time: 3 hours/Procedure imaging time 45 minutes

Conflicting exams and medications

Retained Barium

Patient Preparation

None

Patient Positioning

Supine, Depends on area of Interest. Include both sides of the body so normal can be used for comparison.

Radiopharmaceutical and Dose

^{99m}Tc-phosphates or diphosphonates - If sites of interest is hands or arms there should be a three minute pause between the release of the tourniquet and the injection.

Imaging Device

SPECT Camera

Acquisition Protocol

3 acquisitions- 1- immediate flow phase 60 secs after injection 2- blood pool phase – 5min after injection, 3- delay 2-4 hours , 360 degrees of rotation

Procedure

Routine Views

- 1- Anterior: shoulders, sternum, ribs, pelvis
- 2- Posterior: thorax, lumbar spine, pelvis
- 3- Immediately acquire blood pool images for 1-3 minutes. No. of counts depends on body part being imaged.

Comments:

- Overlap spot images of regions of interest to prevent loss of information.
- Liver and spleen require lead shielding if within region of interest.