



**Austin Radiological Association**  
**Nuclear Medicine Procedure**  
**TESTICULAR SCAN**  
**(Tc-99m as Sodium Pertechnetate)**

**Overview**

- The Testicular study is performed to scintigraphically evaluate blood flow to the scrotum. While ultrasound is the method of choice, scintigraphy can confirm the clinically suspected diagnosis of torsion and direct the patient to surgery while preventing unnecessary exploration of patients with epididymitis as a cause for pain.

**Indications**

- Evaluation of groin pain.
- Evaluation of patency of blood supply to testes.
- Evaluation of increased perfusion caused by inflammatory disease.
- Differentiation between torsion, acute epididymitis, and orchitis.
- Evaluation of scrotal mass

**Examination Time**

- 1 hour.

**Patient Preparation**

- Verify patient identification
- Instruct patient to empty bladder
- Use discretion as patient is usually experiencing pain and modesty will be compromised.

**Equipment & Energy Windows**

- Gamma camera: Small or large field of view. Zoom if large FOV.
- Collimator: LEHR
- Energy windows: 15 - 20% window centered at 140 keV.

## Radiopharmaceutical, Dose, & Technique of Administration

- Radiopharmaceutical: Tc-99m as sodium pertechnetate.
- Dose: 20 mCi (740 MBq). Pedi dose by NACG chart.
- Technique of administration: Standard intravenous injection.

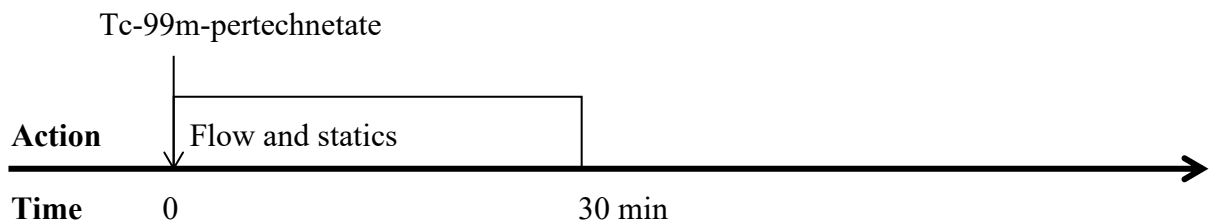
## Patient Position & Imaging Field

- Patient position: Supine, legs abducted or frog leg.
- Secure penis to abdomen with tape.
- Position towel or tape sling under testicles for support while imaging
- Drape privacy cloth after set-up.
- Position camera anterior, as close as possible, with scrotum centered in FOV.
- Position lead shielding over thighs and abdomen and/or under scrotum to reduce background.

## Acquisition Protocol

- Begin imaging immediately following injection of the radiopharmaceutical.
- Acquire 5 minute statics for 30 minutes.
- Have Radiologist review images for any additional imaging

## Protocol Summary Diagram



## Data Processing

- None.

## Optional Maneuvers

- Optional views to include obliques and/or magnified views.
- Imaging with a pinhole collimator may be performed.

## Method for timely correction of Data Analysis and reporting errors and notification of referring parties

- Data Analysis and reporting errors are reported to the interpreting physician and appropriate clinic manager for timely correction and notification of the referring physician via report addendum or STAT call if error is significant.

## Principle Radiation Emission Data - Tc-99m

- Physical half-life = 6.01 hours.

<u>Radiation</u>	<u>Mean % per disintegration</u>	<u>Mean energy (keV)</u>
Gamma-2	89.07	140.5

## Dosimetry - Tc-99m-Pertechnetate as Sodium Pertechnetate

<u>Organ</u>	<u>rads/5 mCi</u>	<u>mGy/185 MBq</u>
Thyroid	0.65	6.5
Large intestine	0.60	6.0
Bladder wall	0.43	4.3
Stomach	0.26	2.6
Ovaries	0.15	1.5
Whole body	0.06	0.6
Testes	0.05	0.5
Red Marrow	0.1	0.1