99mTechnetium-Pyrophosphate Imaging for Cardiac Amyloidosis

**Primary indication:** Detection of Transthyretin Cardiac Amyloidosis (ATTR)

**Site:** To be performed **only at UNMH.**

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**99mTc-PYP Radiopharmaceutical properties and Warnings**

(Obtained from ASNC, and Technescan PYP preparation kit info)

**Radiopharmaceutical:** 99m-Technetium pyrophosphate (99mTc-PYP)

**Route of Administration:** Intravenous

**Preparation:** No specific preparation. No fasting required.

**Contraindications:** None.

**Adverse reactions:** Several adverse reactions due to the use of Technetium Tc-99m Pyrophosphate Injection have been reported. These were usually flushing, hypotension, fever, chills, nausea, vomiting and dizziness, as well as hypersensitivity reactions such as itching and various skin rashes.

**Carcinogenesis, Mutagenesis, Impairment of Fertility:** No long-term animal studies have been performed to evaluate carcinogenic or mutagenic potential, or whether this drug affects fertility in males or females.

**Pregnancy Category C:** Animal reproduction studies have not been conducted with Technetium Tc 99m Pyrophosphate Injection. It is also not known whether this drug can cause fetal harm when administered to a pregnant woman or can affect reproduction capacity.

**Nursing Mothers:** Technetium Tc-99m is excreted in human milk during lactation, therefore, formula feedings should be substituted for breast feeding.

**Pediatric Use:** Safety and effectiveness in pediatric patients have not been established.
Imaging Parameters (adapted form ASNC)

A. **General imaging instructions:**

**Time between injection and acquisition:** 1-hour planar images of the chest; 3-hour SPECT imaging through the heart.

**Position:** Supine

**Energy window:** 140 keV with 20% window

**Collimators:** Low energy, high resolution

**Matrix:** 64 X 64 minimum

**Pixel size:** 3.5 – 6.5 mm

B. **Planar imaging specific parameters:**

**Number of views:** Anterior, and left lateral

**Detector configuration:** 90 degrees

**Image duration (count based):** 750,000 counts

**Magnification:** 1.46

C. **SPECT imaging specific parameters:**

**Angular range:** 360 degrees

**Detector configuration:** 180 degrees

**Number of views/ detector:** 40

**Time per stop:** 20 seconds

**Magnification:** 1.0
Imaging Procedure:

1) 1 hour following injection, obtain anterior and lateral planar images of the chest, and show nuclear medicine attending.

2) 3 hours following injection, obtain anterior and lateral planar images of the chest, and SPECT imaging through the heart (with attenuation correction) and show nuclear medicine attending.

Review and Approval Date

Initials: ____________________________  Date: ____________________________

Nuclear Medicine Section Chief

Initials: ____________________________  Date: ____________________________

Nuclear Medicine Supervisor