Austin Radiological Association

Nuclear Medicine Procedure

SALIVARY GLANDS
(Tc-99m as Sodium Pertechnetate)

Overview

- The Salivary Gland study is performed to scintigraphically evaluate salivary function and differentiation of salivary tumors. Parenchymal function and excretion fraction of all four major salivary glands can be simultaneously quantified.

Indications

- Differentiation of salivary tumors
- Evaluation of salivary gland function
- Sjogren's syndrome
- Sialolithiasis

Examination Time

- 1 hour

Patient Preparation

- Verify patient identification
- Verify pregnancy and breast-feeding status if applicable.
- The patient may eat and take medications as necessary

Equipment & Energy Windows

- Gamma camera: Small or large field of view.
- 128 x 128 matrix
- Collimator: LEHR
- Energy windows: 15 - 20% window centered at 140 keV.

Radiopharmaceutical, Dose, & Technique of Administration

- Radiopharmaceutical: Tc-99m as sodium pertechnetate.
- Dose: 10 mCi (370 MBq). Pedi dose by NACG chart.
- Technique of administration: Standard intravenous injection.

Patient Position & Imaging Field

- Patient position: Supine.
- Position in anterior view with neck extended.
- Position camera anterior, as close as possible
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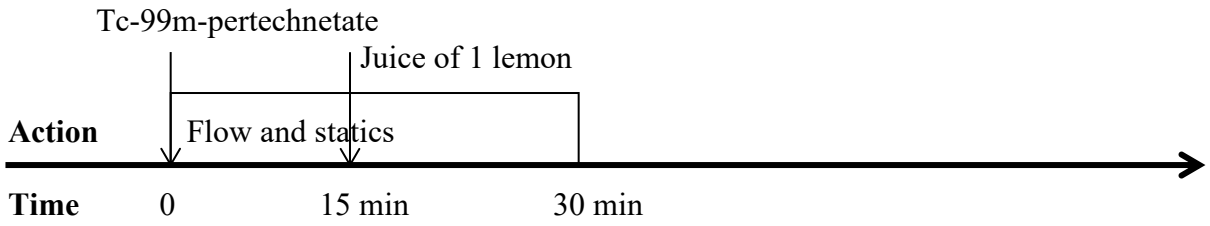
Acquisition Protocol

- Begin imaging immediately following injection of the radiopharmaceutical.
- Acquire dynamic flow images for 2sec per frame for 30 frames
- Acquire dynamic images 60sec per frame for 30 frames with simultaneous 5 minute static images.
- Give juice of one lemon at 15 minutes post radiopharmaceutical. Give via straw without patient moving.
- Have Radiologist review images for any additional imaging

Protocol Summary Diagram



Data Processing

- Process for split function by ROI's

Optional Maneuvers

- Optional views to include obliques and/or magnified views.

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.

Radiation	Mean % per disintegration	Mean energy (keV)
Gamma-2	89.07	140.5

Dosimetry - Tc-99m-Pertechnetate as Sodium Pertechnetate

Organ	rads/5 mCi	mGy/185 MBq
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