

PERITONEAL SHUNT (LAVEEN or DENVER)

CPT CODE: 78291

UPDATED: MARCH 2006 (Do not use, but keep in book)

**Indications:** To check the patency of the LaVeen or Denver shunt.

**Patient Prep:** None.

**Scheduling:** One hour.

**Radiopharmaceutical**

**& Dose:** Tc-99m-macroaggregated albumin (MAA) 2 mCi +/- 20% (1.6-2.4 mCi) injected intraperitoneally. Dose will be adjusted for patient weight if  $\leq 45$  kg or  $\geq 90$  kg (refer to nomogram).

**Imaging Device:** GE with LEHR collimator.

**Data Acquisition:** LAVEEN\_SHUNT

**Imaging Procedure:** Patient is injected by a physician intraperitoneally (typically left lower quadrant) under aseptic conditions.

With the Denver shunt, it is necessary for the patient to pump the system vigorously (as the patient must for the shunt to function at normal times) after peritoneal injection.

With patient supine, position to include:

1. Abdomen, 3-min static. Record counts.
2. Chest & Neck, 3-min static. Record counts.

Acquire the above static images at 15, 30, and 45 min, post-injection.

Record counts.

Delayed images may be required.

**Display:** Provide anterior views at 15, 30, and 45 minutes of both abdomen and chest.

**Interpretation:** If the shunt is working, the lungs should be visualized within one hour post-injection. If not, delays will be needed at 2-4 hours post-injection.

**Invasive Procedure:** This procedure is minimally invasive. The patient will be observed during the procedure to ensure no ill effects occur (inadvertent invasion of a viscus), in which case a surgical consult or nursing instructions will be instituted. This will be the only monitoring done by Nuclear Medicine staff. The patient will generally be an inpatient, so monitoring will be continued by the patient's ward. Because all patients on whom we perform peritoneal taps have ascites, the probability of a viscus "stick" is minimal. Secondary infection as a result of the "stick" will be detected at a later date by the need for admission to the hospital and by attributing the patient's infection to the procedure. Nuclear Medicine will subsequently be informed of the complication, and as such will not be the primary method of detecting this infectious complication.

**Comments:**

A Nuclear Medicine staff or resident physician should be consulted after every set of pictures to determine if additional views are indicated. Markers may be needed to show shunt placement.

---

Reviewed By: S. Perlman, J. Schott

---

Scott B. Perlman, MD, MS  
Chief, Nuclear Medicine

---

Joni Schott, MBA, RT(R)  
Nuclear Medicine Manager