

**OLIVE VIEW-UCLA MEDICAL CENTER  
DEPARTMENT OF RADIOLOGICAL SCIENCE  
POLICY & PROCEDURE**

**NUMBER: 10821  
VERSION: 1**

**SUBJECT/TITLE:** SHUNT POLICY FOR MRI AND CLINICAL SERVICES

**POLICY:**

**PURPOSE:**

**DEPARTMENTS:** Radiology

**DEFINITIONS:**

**PROCEDURE:** In light of the fact that some ventricular shunts are programmable and that their valve settings can be changed by exposure to the MRI magnet, the following policy regarding shunts is in effect

1. Please ask the patient and review available records to determine if patient has a ventricular shunt.
2. If the patient has a ventricular shunt, current documentation must be obtained prior to MRI scanning to determine the shunt type (programmable vs non-programmable). Documentation may include either one of the following:
  - a) Shunt card with the make and model number.
  - b) Medical records or letter from the neurosurgeon with the shunt make and model number.
3. Documentation will be forwarded to the Neuroradiologist, who will determine if the shunt can be safely scanned (i.e., non-programmable shunt) and approve and protocol the scan accordingly.
4. If the shunt is a non-MR imaging-safe programmable shunt or otherwise not safe to scan at OVMC, arrangements will need to be made to scan the patient at a facility that has neurosurgical oversight for shunt evaluation and possible reprogramming post-scan. This would best be done by the referring service contacting a “sister” service at Harbor or USC, who would take charge of the patient for the purposes of MRI scanning, making arrangements with Neurosurgery to

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see the patient before and after MRI scanning and re-set the shunt after scanning if necessary.

5. If the make and model documentation cannot be obtained, a lateral skull radiograph may be obtained to attempt shunt identification:
  - a) If the shunt is identified as a programmable shunt by the Neuroradiologist, then the patient cannot be scanned at OVMC and arrangements must be made for scanning at another facility, as detailed above (#4).

Radiographic appearance of shunt valves:

- i. <http://www.ajnr.org/content/31/7/1343.full.pdf>
  - ii. <http://kinderneurochirurgie-leipzig.de/therapeuticfocus/hydrocephalus/radiologic-identification-of-vp-shunt-valves-and-adjustment/>
- b) If the shunt is identified as a non-programmable shunt or an MR imaging-safe programmable by a Neuroradiologist, then an MRI may be performed following approval by and at the discretion of a Neuroradiologist and under the specific manufacturer's conditions.
  - c) If the shunt type cannot be determined, then the patient cannot be scanned at OVMC and arrangements must be made for scanning at another facility, as detailed above (#4).
6. If arrangements for MRI scanning at another facility with neurosurgical oversight cannot be made, the patient will need to be worked up by CT and would not be eligible for MRI.
  7. A prior MRI is not sufficient documentation of shunt safety. Verification of the shunt make and model is required.

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References:	
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