

Children's Mercy Kansas City

## SHARE @ Children's Mercy

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Clinical Pathways

Evidence-Based Practice Collaborative

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6-2021

### Neurosurgical Shunts, Trouble Shooting for Malfunction

Children's Mercy Kansas City

These guidelines do not establish a standard of care to be followed in every case. It is recognized that each case is different and those individuals involved in providing health care are expected to use their judgment in determining what is in the best interests of the patient based on the circumstances existing at the time. It is impossible to anticipate all possible situations that may exist and to prepare guidelines for each. Accordingly, these guidelines should guide care with the understanding that departures from them may be required at times.

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S/S of increased ICP:

- Headache
- Vomiting
- Altered mental status
- Bradycardia with hypertension

**Shunt types:**

- Shunts used to treat hydrocephalus (**malfunction can be life threatening**):
  - Ventriculo-peritoneal (VP)
  - Ventriculo-atrial (VA)
  - Ventriculo-pleural (VPI)
- Neonatal devices to treat intraventricular hemorrhage (**patient may need evaluation if less than 2yo for the development of hydrocephalus**):
  - Ventriculo-subgaleal (VSG)
  - Ventricular reservoir / access device (VAD)
- Cranial shunts not used to treat hydrocephalus (**malfunction is not life threatening and can be treated on an outpatient basis**):
  - Subdural-peritoneal (SDP)
  - Cysto-peritoneal (CP)
- Spinal shunts (**malfunction is not life threatening and can be treated on an outpatient basis**):
  - Lumbo-peritoneal (LP)
  - Syringo-pleural (SP)
  - Syringo-subarachnoid (SSA)

Timing of previous imaging in relationship to prior malfunction is **critical** to identify. If most recent prior imaging was obtained immediately prior to a malfunction, new imaging may not show "enlargement" of ventricles comparatively because the current imaging also represents a shunt malfunction. Consult Neurosurgery.

**Slit or dysmorphic** ventricles may not change in size when exposed to increased intra-cranial pressure. If the CT or MRI radiology report states slit or dysmorphic ventricles and shunt malfunction is suspected based on the patients signs and symptoms, consult Neurosurgery.

**Abbreviations (laboratory & radiology excluded):**  
 pt. = patient  
 ICP= Increased intracranial pressure

