Cerebrospinal fluid shunt malfunction classification

- Posthemorrhagic hydrocephalus management in patients with necrotizing enterocolitis: a monocentric experience
- Letter to the editor regarding: "Relapsing-remitting hepatic pseudo-cyst: A great simulator of malfunctioning ventriculoperitoneal shunt. Case report and proposal of a new classification"
- United States emergency department visits for children with cerebrospinal fluid shunts
- Flow ventricular catheters for shunted hydrocephalus: initial clinical results
- Relapsing-Remitting Hepatic Pseudo-Cyst: A great simulator of malfunctioning ventriculoperitoneal shunt. Case report and proposal of a new classification
- Clinical Indicators of Pediatric Shunt Malfunction: A Population-Based Study From the Nationwide Emergency Department Sample
- Hypertensive slit ventricle syndrome: pseudotumor cerebri with a malfunctioning shunt?
- Is the brain water channel aquaporin-4 a pathogenetic factor in idiopathic intracranial hypertension? Results from a combined clinical and genetic study in a Norwegian cohort

---

The main reasons for shunt revision were undershunting and shunt infection, but shunt overdrainage and mechanical failure continue to pose problems.

Shunt overdrainage

Shunt disconnection

Shunt obstruction

Shunt migration

Undershunting

Ventricular catheter misplacement

Distal shunt malfunction due to a mechanical failure is a common reason for shunt revision [1].

As many as one third of patients presenting with shunt malfunction will not have the diagnosis of shunt malfunction supported by a prospective radiologic interpretation of brain imaging. Although the neurosurgical community can assess the clinical situation to determine the need for surgery, other clinicians can be easily reassured by a radiographic report that does not mention or diagnose shunt malfunction. Today, more than ever, nonneurosurgeons are being called on to evaluate complex clinical situations and may rely on radiographic reports [2].

1)
Sribnick EA, Sklar FH, Wrubel DM. A Novel Technique for Distal Shunt Revision: Retrospective Analysis of Guidewire-Assisted Distal Catheter Replacement. Neurosurgery. 2015 May 1. [Epub ahead of print] PubMed PMID: 25938689.
2)
Iskandar BJ, McLaughlin C, Mapstone TB, Grabb PA, Oakes WJ. Pitfalls in the diagnosis of ventricular

shunt dysfunction: radiology reports and ventricular size. Pediatrics. 1998 Jun;101(6):1031-6. PubMed PMID: 9606231.