

Ventriculoperitoneal Shunt Management

Dr. Juan Sales-Llopis Neurosurgery Department, General University Hospital of Alicante, Spain

- Adjustable differential pressure versus adjustable gravitational valves in pediatric hydrocephalus
 - Effectiveness of single-stage shunt replacement for *Cutibacterium acnes* CSF shunt infection
 - Resolution of tension pseudomeningocele complicating foramen magnum decompression for Chiari I malformation after ventriculoperitoneal shunt: A case report
 - A minimally invasive technique for ventriculoatrial shunt placement
 - A novel perspective on dissemination: somatic metastasis of germ cell tumors from the central nervous system
 - Integration of continuous lumbar drainage and third-generation EGFR-TKI in managing leptomeningeal metastasis-induced life-threatening intracranial hypertension: a case report
 - Burden of pediatric neural tube defects at a referral medical center in Tanzania
 - Implications of the glymphatic system in the diagnostic and surgical workup of normal pressure hydrocephalus
-

□ Perioperative Considerations

- Pre-op imaging (CT/MRI) to evaluate ventricular anatomy
 - Antibiotic prophylaxis
 - Valve selection based on age, pathology, and revision history
 - Intraoperative confirmation of ventricular catheter placement (navigation or ultrasound if complex)
-

□ Postoperative Monitoring

- **Immediate CT scan** to confirm catheter position, rule out pneumocephalus or hemorrhage
 - Clinical improvement in hydrocephalus-related symptoms
 - Wound inspection and signs of infection
 - **Shunt series X-rays** if malfunction is suspected
-

□ Diagnostic Tools in Suspected Failure

- **CT scan:** ventricle size changes (enlargement or slit ventricles)

- **Shunt series:** assess continuity and positioning of components
 - **Valve interrogation** with programming device (if applicable)
 - **Radionuclide shunt study** for functional assessment
 - **Reservoir tap:** opening pressure, CSF clarity and cell count
-

□ Management of Shunt Failure

- **Infection or obstruction** → full shunt system removal often necessary
 - **Isolated component failure** → partial revision may be sufficient
 - **Infection:** remove shunt → place temporary EVD → antibiotics → delayed reimplantation
 - Consider **ETV** as alternative in selected cases (e.g., aqueductal stenosis)
-

□ Long-Term Follow-Up

- Clinical assessment: gait, cognition, urinary function
- Periodic neuroimaging as indicated
- Valve pressure adjustments in programmable systems
- Patient/caregiver education on warning signs of dysfunction

Letters to the Editor

In a [Letter to the Editor](#) Lu et al. published in the [Journal of Neurosurgery](#) to discuss [ventriculoperitoneal shunt management](#) strategies for [discharged](#) patients ¹⁾.

Critical Appraisal

- Strengths:

1. Highlights a clinically important gap—post-discharge VPS care.
2. Sparks important discussion on outpatient monitoring and follow-up protocols.

- Limitations:

1. Absence of abstract/data: no study design, patient numbers, follow-up length or outcomes described.
2. Lacks novel evidence—appears more observational or comment-based rather than presenting new data.
3. Limited generalizability: single-center or experiential letter format.
4. Without details, it's impossible to assess validity or applicability.

- **Verdict:** While raising practical concerns is commendable, the letter's value is minimal without

supporting data. It should not change practice but may prompt more detailed studies or guidelines.

Takeaway for Practicing Neurosurgeon

- Be vigilant about VPS patients after discharge—consider structured follow-up. - Recognize the need for standardized outpatient care (e.g., home nursing, telehealth check-ins, valve pressure reviews). - Use this letter as a prompt—not as evidence to alter protocols yet.

Bottom Line (Score: 3/10)

- **Score:** 3/10 – Raises awareness but lacks [data](#), [methodology](#), and actionable insights.
- **Bottom Line:** This letter draws attention to an under-addressed issue—post-discharge management of VPS patients—but in its current form, offers more suggestion than evidence. A useful conversation starter, but not a practice-changer.

Categories & Tags

1. **WordPress Categories:** Letters, Neurosurgery, VPS, Patient Management
2. **Tags:** ventriculoperitoneal shunt, post-discharge care, outpatient monitoring, neurosurgery letter

1)

Lu J, Zhou J, Li Y. Letter to the Editor. Management of patients discharged from the hospital after VPS surgery. J Neurosurg. 2025 Jul 4;1-2. doi: 10.3171/2025.4.JNS25484. Epub ahead of print. PMID: 40614281.

From:
<https://neurosurgerywiki.com/wiki/> - Neurosurgery Wiki

Permanent link:
https://neurosurgerywiki.com/wiki/doku.php?id=ventriculoperitoneal_shunt_management&rev=1751720693

Last update: 2025/07/05 13:04

