

□ External Ventricular Drainage Technique

Latest related articles on PubMed

- [Enhancing cerebrospinal fluid clearance in subarachnoid hemorrhage: A systematic review of combined ventricular and lumbar drainage](#)
- [Fully automatic anatomical landmark localization and trajectory planning for navigated external ventricular drain placement](#)
- [Research Progress of External Ventricular Drainage Catheterization Techniques](#)
- [BASILAR ARTERY STENOSIS: TECHNICAL TIPS TO PREVENT AND TREAT HEMORRHAGE DURING ANGIOPLASTY](#)
- [Effectiveness of single-stage shunt replacement for Cutibacterium acnes CSF shunt infection](#)
- [Active Cerebrospinal Fluid Exchange vs External Ventricular Drainage in the Neurocritical Care Unit: An International, Retrospective Cohort Study](#)
- [Triple sheath neuroendoscopic combination technique for managing complete intraventricular hemorrhage casting in patients with cerebral hemorrhage](#)
- [Surgical Nuances in Ultrasound-Guided Percutaneous Distal Catheter Placement in Pediatric Ventriculoatrial Shunts](#)

Step-by-step guide to perform **ventriculostomy** for cerebrospinal fluid drainage in cases of hydrocephalus, intraventricular hemorrhage, or elevated Intracranial hypertension.

□ 1. Preparation

- □ Verify **indication** (e.g., IVH, ↑ICP, hydrocephalus)
- □ Review imaging (CT or MRI)
- □ Coagulation parameters: INR < 1.5, platelets > 100k/μL
- □ Consent (if feasible)
- □ Shave and clean frontal region
- □ Prepare sterile EVD kit, manometer/collection system

□ 2. Landmark Identification

- [Kocher's Point](#):
 1. ~11 cm posterior to nasion
 2. 2.5–3 cm lateral to midline
 3. ~1 cm anterior to coronal suture
- Side: typically **non-dominant hemisphere** (unless pathology dictates otherwise)

□ 3. Procedure Steps

1. Position: **Supine**, head elevated 20–30°
2. Anesthesia: Local (± sedation) or general if intubated
3. [Skin incision](#) (1.5–2 cm) at Kocher's point

4. Drill burr hole perpendicular to skull
5. Open **dura** carefully with monopolar or blade
6. Insert catheter **toward contralateral medial canthus**, aiming ~5-6 cm depth
7. Confirm **CSF (or bloody CSF)** return
8. Advance slightly (~2-3 mm) once CSF flow confirmed
9. Tunnel catheter subcutaneously if long-term use
10. Suture to scalp securely

□ 4. Drainage System Setup

- Connect catheter to **closed drainage system**
- Level transducer or chamber to **external auditory meatus (EAM)**
- Typical initial height: **+10 to +15 cmH₂O**
- Secure tubing, avoid dependent loops

□ 5. Post-Insertion Care

- Check **CT scan** for catheter position and complications
- Monitor:
 1. Drainage volume
 2. ICP waveform and trends
 3. Neurologic status
- Label system with date/time of insertion
- Keep connections closed; sample only if clinically indicated
- Daily assessment of need for continued drainage

⚠ 6. Troubleshooting

Issue	Action
----	----
No CSF return	Slight repositioning, flush with saline (if protocolized)
Obstruction	Confirm level, irrigate gently
Overdrainage	Raise system height, check for leak
Infection signs	Culture CSF, consider antibiotic EVD or replacement

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

Permanent link:
https://neurosurgerywiki.com/wiki/doku.php?id=external_ventricular_drainage_technique&rev=1751699236

Last update: 2025/07/05 07:07

