Ventricular catheter misplacement

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- Left Ventricular Perforation Following Transcutaneous Pigtail Catheter Placement Mimicking Anterior Wall Myocardial Infarction: An Unusual Complication
- Misplacement of Ventricular Catheters in Ventriculoperitoneal Shunt Surgery
- The impact of real-time ultrasound guidance on ventricular catheter placement in cerebrospinal fluid shunts - a single-center study

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Ventricular Catheter: Misplacement vs Malposition

This section outlines the key differences between **misplacement** and **malposition** of ventricular catheters, which are important for interpreting postoperative imaging and assessing functionality.

Definition Table

Term	Definition	Key Features	Example
Misplacement	Catheter is **completely outside** the intended anatomical target (ventricle).	* Ventricles not accessed. * Non-functional. * Risk of hemorrhage or brain injury.	Tip located in brain parenchyma or subarachnoid space.
Malposition	Catheter is **inside the ventricle**, but in a **suboptimal position**.	* Still within ventricle. * May be functional. * Increased risk of occlusion or failure.	Tip near choroid plexus or wall of posterior horn.

Summary

- **Misplacement** = The catheter **missed the ventricle**.
- **Malposition** = The catheter **entered the ventricle**, but the tip is **not ideally placed** (e.g., far from CSF flow or near choroid).

- Both conditions may compromise catheter function and should be reported in post-op imaging.*

Ventricular catheter placement is one of the fundamental procedures of emergency neurosurgery usually performed freehand at the bedside or in the operating room using anatomical landmarks. However, this technique is frequently associated with malpositioning leading to complications or dysfunction.

Misplacement in eloquent brain tissue can result in serious morbidities such as coma, pial arteriovenous fistula, upgaze palsy, and iatrogenic pseudoaneurysm.

Freehand ventricular catheter misplacement

see Freehand ventricular catheter misplacement.

Prevention

Ventricular catheter misplacement prevention.

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