



# Proposal for a Systematic Approach to the Management of Hydrocephalus Secondary to Intraventricular Tumors

NORTH AMERICAN SKULL BASE SOCIETY

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## Introduction

Intraventricular tumors (IVTs) constitute a heterogeneous group of neoplasms that originate within or extensively involve the cerebral ventricular system. Their deep-seated location and close relationship with cerebrospinal fluid (CSF) pathways pose substantial diagnostic and therapeutic challenges. Hydrocephalus is frequently associated with IVTs and significantly contributes to morbidity and potential mortality. Therefore, the management of hydrocephalus should be considered an integral component of the primary treatment strategy for these tumors; however, no consolidated or widely accepted guidelines currently exist in the literature.

## Objective

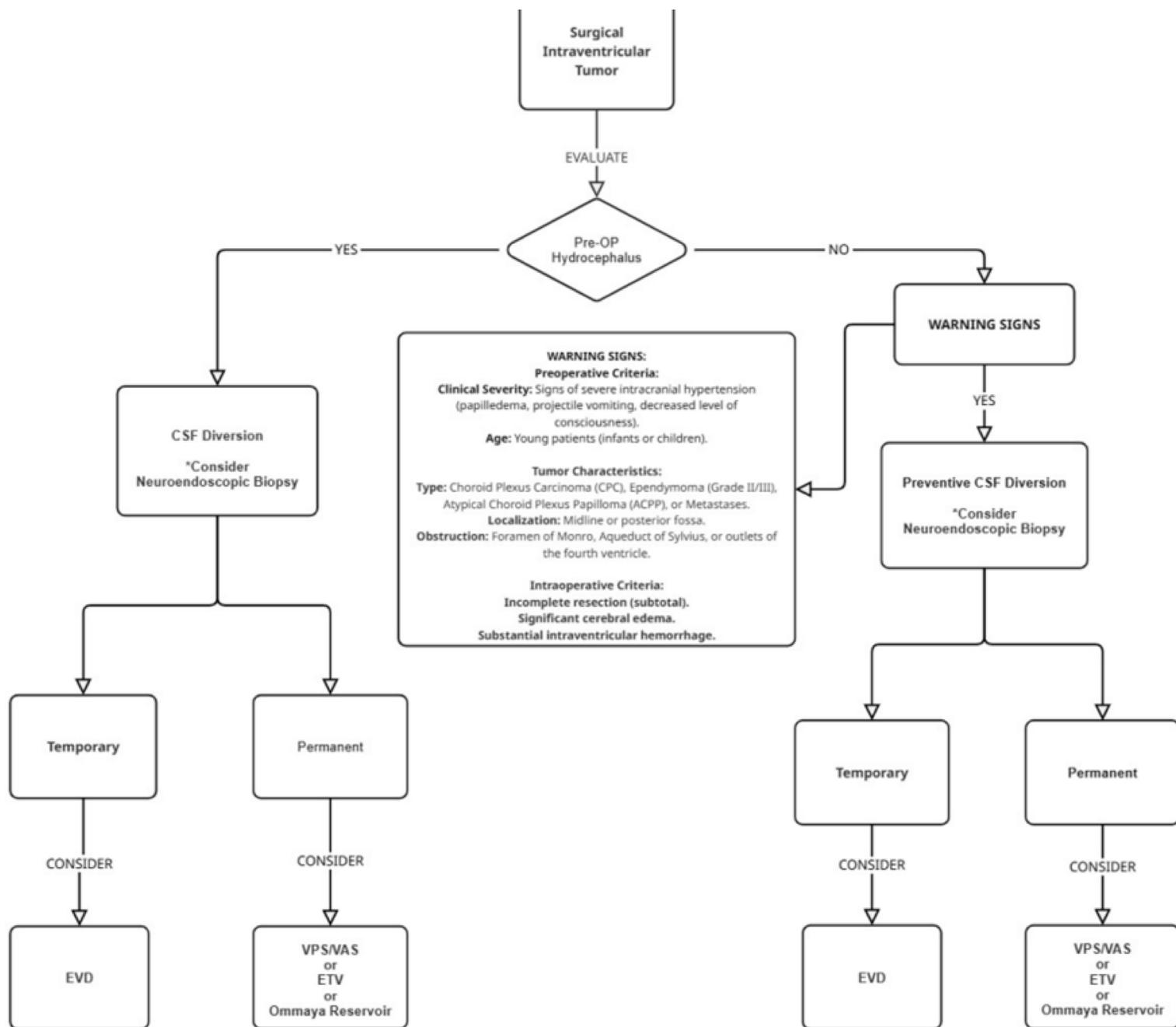
To propose a flowchart outlining a systematic approach for the management of hydrocephalus secondary to intraventricular tumors.

## Methods

- A narrative review was conducted using the **PubMed, Embase, Scopus, and Web of Science** databases, including studies published from inception to April 2025.
- Studies reporting data on any type of IVT and outcomes related to the diagnosis and preoperative or postoperative management of hydrocephalus, as well as preventive strategies, were included.
- Studies focusing on other pathologies, not addressing hydrocephalus, or published as conference abstracts or preclinical investigations were excluded.

## Results

Figure 1. Proposal for a Systematic Approach to the Management of Hydrocephalus Secondary to Intraventricular Tumors.



Abbreviations: CSF: cerebrospinal fluid; ETV: endoscopic third ventriculostomy; EVD: external ventricular drain; VAS: ventriculoatrial shunt; VPS: ventriculoperitoneal shunt.

## Conclusion

The proposed flowchart integrates multiple risk factors to support personalized, evidence-based management of hydrocephalus secondary to IVTs, guiding clinical decision-making from diagnosis through the postoperative period and identifying patients who may benefit from preventive strategies.