

Posterior Fossa Decompression Indications

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- Chiari malformation type I (with or without syringomyelia), see [Posterior fossa decompression for Chiari Malformation](#).
 - Space-occupying lesions of the posterior fossa
 - Congenital malformations with tonsillar herniation
 - Refractory intracranial hypertension
 - Foramen magnum stenosis or basilar invagination (selected cases)
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The indications for PFD vary depending on the underlying pathology. Some of the main indications include:

[Posterior Fossa Decompression for Chiari Malformation Indications](#)

3. Posterior Fossa Tumors Symptomatic posterior fossa tumors causing obstructive hydrocephalus, brainstem compression, or cerebellar dysfunction. Common tumors include medulloblastoma, ependymoma, pilocytic astrocytoma, hemangioblastoma, and metastatic lesions.

4. Hydrocephalus with Fourth Ventricular Outlet Obstruction When hydrocephalus is caused by compression or obstruction at the level of the foramen of Magendie or Luschka (e.g., Dandy-Walker malformation). As an alternative or adjunct to ventriculoperitoneal (VP) shunting.

5. Cerebellar Stroke or Hemorrhage Life-threatening cerebellar infarcts or hemorrhages leading to brainstem compression, hydrocephalus, or herniation. Indicated in patients with deteriorating neurological status or radiological signs of impending herniation.

6. Basilar Invagination When associated with brainstem compression and significant neurological deficits. Often requires additional stabilization with occipitocervical fusion.

7. Syringomyelia and Syringobulbia Syringomyelia secondary to Chiari malformation, with progressive symptoms unresponsive to conservative management. Syringobulbia with brainstem dysfunction.

8. Dandy-Walker Malformation Indicated in cases where there is progressive hydrocephalus or brainstem compression. PFD may be performed alongside shunting procedures.

9. Skull Base Compression Syndromes Conditions such as platybasia, clival abnormalities, or craniovertebral junction anomalies causing posterior fossa crowding and compression. The decision to perform PFD depends on the severity of symptoms, radiological findings (MRI/CT), and response to conservative management. It is crucial to weigh the benefits of decompression against potential complications such as CSF leaks, pseudomeningocele, and cerebellar slump.

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