

# Brainstem glioma classification

Brainstem gliomas are classified based on several criteria, including their location, histological type, and molecular characteristics. Here's a detailed overview of the classification:

1. Location-Based Classification Diffuse Intrinsic Pontine Glioma (DIPG): The most common and aggressive type, primarily occurring in the pons. It often presents in children and has a poor prognosis. Focal Brainstem Gliomas: These tumors are localized and may include: Exophytic Tumors: Tumors that grow outward from the brainstem. Circumscribed Tumors: Well-defined tumors that do not infiltrate surrounding brain tissue. 2. Histological Classification Astrocytomas: The most common type of brainstem glioma, categorized into: Pilocytic Astrocytoma: Typically a low-grade tumor that may occur in the brainstem. Fibrillary Astrocytoma: Often classified as a grade II tumor. Anaplastic Astrocytoma: A higher-grade (grade III) tumor with a more aggressive behavior. Glioblastoma Multiforme (GBM): The most aggressive type (grade IV) that can occur in the brainstem. Ependymomas: These can also occur in the brainstem and arise from ependymal cells lining the ventricles.

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3. Molecular Classification Recent advances have allowed for a molecular classification based on genetic alterations: H3 K27M Mutant Gliomas: A specific mutation that is common in DIPGs and associated with poor prognosis. IDH Mutant Gliomas: Less common in pediatric brainstem gliomas but may occur. Histone Mutations: Alterations in histones can also help classify gliomas based on molecular characteristics.

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4. Age-Based Considerations [Pediatric Brainstem Gliomas](#): Typically include [DIPG](#) and pilocytic astrocytomas.

[Adult Brainstem Gliomas](#): Less common but may present as high-grade gliomas or secondary tumors.

Summary of Common Types Diffuse Intrinsic Pontine Glioma (DIPG): Aggressive, infiltrative tumor in the pons, primarily in children. Pilocytic Astrocytoma: Often found in younger patients, can be localized in the brainstem. Anaplastic Astrocytoma: More aggressive, may present in the brainstem. Glioblastoma Multiforme: Rare but possible, highly aggressive brainstem tumor.

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[Adult brainstem glioma](#)

[Diffuse intrinsic pontine glioma.](#)

[Diffuse high-grade brainstem glioma](#)

[Midbrain glioma.](#)

[H3K27M-mutant brainstem glioma](#)

[Brainstem high grade glioma.](#)

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