

Review > [Pediatr Radiol](#). 2021 Feb;51(2):189-204. doi: 10.1007/s00247-020-04954-0.

Epub 2021 Jan 19.

# Magnetic resonance imaging of the brainstem in children, part 2: acquired pathology of the pediatric brainstem

Asha Sarma <sup>1</sup>, Josh M Heck <sup>1</sup>, Aashim Bhatia <sup>2</sup>, Rekha S Krishnasarma <sup>1</sup>, Sumit Pruthi <sup>3</sup>

## Affiliations

- <sup>1</sup> Department of Radiology and Radiological Sciences, Monroe Carell Jr. Children's Hospital, Vanderbilt University Medical Center, 2200 Children's Way, Nashville, TN, 37232, USA.
- <sup>2</sup> Department of Radiology, Children's Hospital of Pittsburgh of UPMC, Pittsburgh, PA, USA.
- <sup>3</sup> Department of Radiology and Radiological Sciences, Monroe Carell Jr. Children's Hospital, Vanderbilt University Medical Center, 2200 Children's Way, Nashville, TN, 37232, USA.  
sumit.pruthi@vumc.org.

PMID: 33464360 DOI: [10.1007/s00247-020-04954-0](#)

## Abstract

Part 1 of this series of two articles describes conventional and advanced MRI techniques that are useful for evaluating brainstem pathologies. In addition, it provides a review of the embryology, normal progression of myelination, and clinically and radiologically salient imaging anatomy of the normal brainstem. Finally, it discusses congenital diseases of the brainstem with a focus on distinctive imaging features that allow for differentiating pathologies. Part 2 of this series of two articles includes discussion of neoplasms; infections; and vascular, demyelinating, toxic, metabolic and miscellaneous disease processes affecting the brainstem. The ultimate goal of this pair of articles is to empower the radiologist to add clinical value in the care of pediatric patients with brainstem pathologies.

**Keywords:** Brain; Brainstem; Children; Demyelinating disease; Diffuse midline glioma; Glioma; Magnetic resonance imaging; Rhombencephalitis.