Left temporal lobe

In adults, left temporal lobe pathology is typically associated with verbal memory deficits, whereas right temporal lobe pathology is thought to produce visual memory deficits in right-handed individuals. However, in children and adolescents with temporal lobe pathology, conclusions regarding material specificity of memory deficits remain unclear.

The goal of a case series is to examine the profile of verbal memory and visual memory impairment in children with temporal lobe tumors.

Three patients with identified right temporal tumors and three patients with left temporal tumors are included. The Wide Range Assessment of Memory and Learning-Second Edition (WRAML-2) was administered as part of a larger neuropsychological battery. As anticipated, participants with right temporal lesions showed impaired visual memory relative to intact verbal memory. Interestingly, although the discrepancies between verbal and visual indices were less extreme, those with left temporal lesions showed a similar memory profile. These seemingly counterintuitive findings among left temporal tumor patients likely reflect less hemispheric specialization in children in comparison to adults and the fact that early developmental lesions in the left hemisphere may lead to functional reorganization of language-based skills [1].

1)
Whitman L, Scharaga EA, Blackmon K, Wiener J, Bender HA, Weiner HL, MacAllister WS. Material specificity of memory deficits in children with temporal tumors and seizures: A case series. Appl Neuropsychol Child. 2016 Jul 1:1-10. [Epub ahead of print] PubMed PMID: 27366934.