

Chiari In The Classroom: Hearing Problems Lead to Learning Problems

A case report from Australia highlights one of the many ways that Chiari can affect a person, but also how sometimes these issues can be overcome with relatively simple solutions. The authors report on a 17-year-old girl with a history of Chiari who was having trouble in school – and in general - due to being unable to understand speech in a noisy environment or communicate easily in a group situation.

She was originally diagnosed with a 12mm herniation at the young age of three due to nausea, vomiting, speech delays, and developmental delays. Surgery was performed and her physical issues were mostly resolved. However, throughout her childhood she struggled with hearing issues.

At the age of 17, she was seen by the authors, and she underwent a large battery of hearing related tests. These showed that her ability to detect sound was normal, as were her neural pathways involved in hearing. However, the testing did show that she was unable to differentiate the direction a sound was coming from and could not coordinate the auditory signals arriving at each ear. In practical terms, this led to difficulties in filtering out background noises if they were coming from a different direction than speech she was focused on.

To improve things at school, the teacher wore a microphone which was wireless connected to an earpiece the patient wore. This presented the teacher's voice at a much higher level than any background noise which enabled her to process it more easily. According to the authors, this accommodation is working and has improved her academic situation.

Source: Binaural Processing Deficits in a Child with Chiari Malformation (Type 1). Rance G, Zanin J. J Clin Med. 2024 Dec 2;13(23):7311. doi: 10.3390/jcm13237311. PMID: 39685769

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