

How Age Influences The Impact Of Chiari In Children

While research has shown that there are clear differences in both symptomatic presentation and outcomes between pediatric and adult Chiari, a recent study from Texas indicates that pediatric Chiari may consist of two distinct subgroups as well. For the study, researchers looked at 232 surgical patients under the age of 18 treated at a single institution. Statistical analysis indicated that the ages of the children formed two clusters, one around 5 years and the other around 15 years, plus a distinct cut-off between the two at the age of 9.

When the authors compared the younger and older groups they found a number of significant differences. First, the younger group was comprised of more males (62%) while the older group had more females (56%). In addition, occipital headaches (back of the head) were more frequent in the older group (82% vs 67%), as was scoliosis (23% vs 10%), and syringomyelia (68% vs 52%). Meanwhile, sleep apnea was significantly more common in the younger group (13% vs 5%). There were no other significant differences in terms of symptoms, amount of herniation, or rates of hydrocephalus and cranio-cervical instability.

Post-surgical complication rates were also similar between the groups and ranged from 16-20%, and there was no difference in average length of hospital stay which was 3 days for both groups. Finally surgical outcomes were similar as measured by total CCOS (Chicago Chiari Outcome Scale) scores and syrinx shrinkage.

The idea that children pre and post puberty may have different Chiari experiences isn't entirely new, but it has not been studied extensively. Since female patients are much more prevalent among adults the role of sex hormones in the onset of Chiari symptoms has always been an open question. One note of caution is that since the study group was limited to surgical patients, these results may not be generalizable to Chiari populations at other institutions where the criteria for surgery may be different.

Source: Dang H, English CW, Athukuri P, Flores A, Khan AB, Bauer DF. Characterizing symptom presentation in Chiari malformation type-1 in two subpopulations of pediatric patients who underwent decompression. *Surg Neurol Int.* 2026;17:232. Published 2026 Apr 17. doi:10.25259/SNI_463_2025

Please consider a \$10 donation as Conquer Chiari's educational material is free to read, but not free to produce:



<https://www.conquerchiari.org/donate>

Conquer Chiari's research updates highlight and summarize interesting publications from the medical literature while providing background and context. The summaries do contain some medical terminology and assume a general understanding of Chiari. Introductory information and many more research articles can be found in the [Conquer Chiari Library](#).