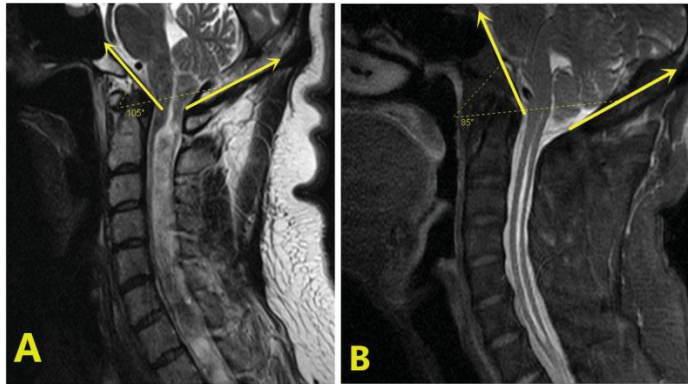


Skull Base Angle Predicts Surgical Outcome

A group of Chinese researchers has found that a single skull base angle may be useful in identifying who will respond well to decompression surgery. Specifically, they measured the clivus-supraocciput (C-SO) angle in 73 adult surgical patients with Chiari and syringomyelia. The C-SO angle essentially measures how steep of a funnel the bottom part of the posterior fossa is:



Previous research has shown that the average C-SO angle for Chiari patients is around 96 degrees, so the researchers divided the patients based on C-SO angle above and below 96 degrees and analyzed their surgical outcomes using the Chicago Chiari Outcome Scale (CCOS), a rating of Excellent/Good/Poor, and amount of syrinx reduction. They found that the patient group with the larger C-SO angle (>96 degrees) did significantly better across all measures. For example, in the large angle group 81% had Excellent outcomes (CCOS=13+) whereas in the smaller angle group 60% had an Excellent outcome. Similarly, a significantly higher percentage of the large C-SO angle group showed a substantial reduction in syrinx size as compared to the small angle group.

The authors admit it is not clear why the C-SO angle seems to play a role in surgical outcome, especially since a smaller angle would generally indicate a tighter posterior fossa which would be expected to respond better to surgery. It should be noted that patients without a syrinx or with other bony abnormalities, like basilar invagination, were excluded. Before reaching any conclusions, this study needs to be repeated at another institution with a larger, and less restrictive, sample of patients.

Source: Wang X, Gao J, Han S, Li Z, Li Y. Analysis of Clinical and Radiographic Outcomes of the Angle between Clivus and Supraocciput in Patients with Chiari's Malformation Type I Following Surgical Decompression. *J Neurol Surg B Skull Base.* 2020;81(1):68–74.

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](#).