# Research Update | November 2023

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## Large Syrinxes May Require Direct Shunting

Despite receiving a lot of research attention, many aspects of syringomyelia, or the collection of fluid in the functional tissue of the spinal cord, remain a mystery. For example, it is not clear why syrinxes form in some Chiari patients and not others; or why some syrinxes are in the cervical region while others are lower in the spine, and still others seem to span the entire length of the spine. To date researchers have failed to identify any predictors of which patients are likely to have syrinxes or which syrinxes are likely to reduce in size after decompression surgery. A recent Research Update highlighted a study that found that while on average syrinx volume is reduced by half following decompression surgery one-fourth of patients will see less than a 25% reduction in syrinx volume.

For cases of persistent syringomyelia such as these, one treatment option is to drain the syrinx directly with a shunt. Now, a clinical report from Turkey indicates that patients with very wide or very long syrinxes may be more likely to require such direct shunting. Specifically, the authors looked at 49 patients with Chiari related syringomyelia whose syrinxes did not respond (get smaller) after decompression surgery. Eventually, 17 of these patients required placement of a shunt to drain their syrinx. When the doctors compared the groups (shunt vs no shunt) they found that patients with an initial syrinx width of 10mm or more were significantly more likely to require a shunt after the initial decompression surgery. The same was true for patients whose pre-operative syrinxes extended vertically for 10 more vertebral segments.

It should be noted that in the US shunting a Chiari related syrinx directly is generally only done if there are no indications of hydrocephalus or tethered cord, and if the initial decompression was sufficient to restore space around the tonsils. It is not clear what percent of patients with syrinxes end up requiring this procedure and outcome data is sparse. However, in this study the direct shunting was successful in reducing the syrinx size for all 17 patients.

**Source**: Management of persistent syringomyelia in patients operated for Chiari Malformation Type 1. Aydin L, Dereli D, Kartum TA, Sirinoglu D, Sahin B, Eksi MS, Musluman AM, Yilmaz A. World Neurosurg. 2023 Nov 25:S1878-8750(23)01672-8. doi: 10.1016/j.wneu.2023.11.109. Online ahead of print. PMID: 38013110

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