

**Neurosurgery Abstracts**

**Title:** CHIARI MALFORMATION CLINICAL QUANDARIES: WHEN TO OPERATE

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**Background:** Chiari malformations are common congenital anomalies associated with spina bifida. The presentation of Chiari are protean, making their management quixotic. Once the diagnosis has been established, timing of surgery is another consideration. While decompressing the younger patient may lead to improved long-term neurological function, it may also lead to an increased risk for re-operation due to closure of the bony decompression. The purpose of this study is to assess the risk time frame and the age beyond which regrowth over the foramen magnum has a reduced risk.

**Method:** From 1998-2007, >2000 spina bifida patient visit were accrued in the Orlando spina bifida clinic. All patients were reviewed by neurosurgery and all had head and spine MRIs. Chart review was used to assess the incidence of Chiari diagnosis, Chiari decompression surgery, and repeat Chiari decompression surgery.

**Results:** Of the >2000 spina bifida patient visits, there were >400 unique patients. Of those patients, >80% were diagnosed with a Chiari II malformation by MRI. The vast majority of Chiari II malformations in this patient population never required surgery. However, 20% progressed to symptomatic Chiari II malformations (after ventriculo-peritoneal shunt failure was ruled out). OF those who underwent decompression, the incidence of repeat surgery was >80% when patient was <2 years old and <10% when patient was older than 2 years old.

**Conclusion:** Chiari malformations are commonly associated with spina bifida. Careful patient selection must be used when making a decision to proceed with decompression surgery. There is a higher re-operation rate in the <2 year-old patient population.