

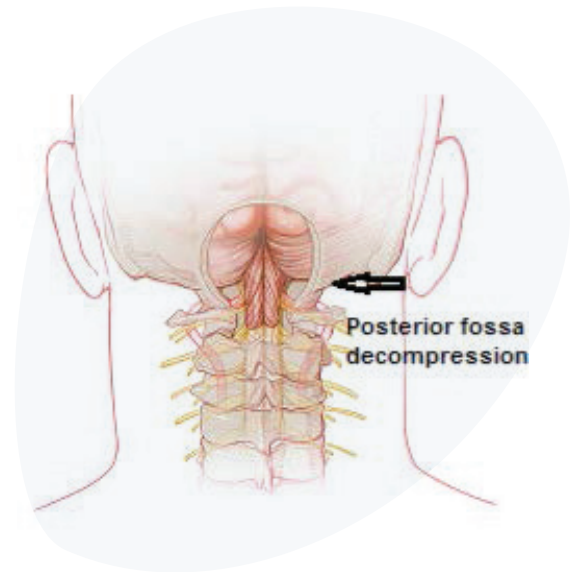
How is Chiari malformation treated?

Treatment Options

Once a diagnosis of Chiari malformation has been established, your pediatric neurosurgery team will discuss treatment options with you.

Depending on the severity of your symptoms and imaging studies, your provider will most commonly recommend one of the two treatment options:

- Conservative management
- Surgery
 - Posterior fossa decompression
 - Various other surgical treatments available that will be discussed in this flyer



We offer full neurosurgical care for Chiari malformations based on the needs of each individual patient, including some procedures that are not detailed in this flyer.

Surgical Treatment

A posterior fossa decompression is the surgical treatment for a Chiari malformation. This procedure involves surgically removing a piece of the back of the skull and opening the outer covering of the brain (called the dura) to allow the cerebellar tonsils (the portion of the brain that is protruding into the spinal canal that is causing the Chiari malformation) to relieve compression. This provides more room in the back of the skull and eliminates the crowding.

Conservative Management

Your neurosurgery team will discuss the treatment options with you for your child. If it is determined that conservative management is the best route at that given time, here is a list of what you should expect.

- Referral to a pediatric subspecialist, such as a pediatric neurologist for headache management
- Routine annual MRIs to monitor for any changes in the Chiari, as well as to monitor for any evidence of syrinx development
- Imaging to be repeated sooner should symptoms worsen or new symptoms develop
- Some of the other surgical treatments which may be indicated based on the severity of the Chiari malformation

Ventriculoperitoneal shunt (VPS) – This procedure entails a tube being inserted into the fluid-filled spaces of the brain. The tube is then tunneled down into the abdomen to re-route the fluid to be reabsorbed there. Some individuals with chiari malformation have an underlying hydrocephalus (excess spinal fluid causing pressure on the brain) which may require a VPS.

Cervical fusion – With this procedure, parts of the spine are held together with rods and screws while the bones are fused together. With chiari malformation, cervical instability can be present.

Odontoidectomy – During this procedure, the odontoid (bone located on the second cervical vertebrae) is removed surgically through the individual's mouth. This may be required if there is compression on the front of the brain stem.

What to Expect After Surgery

Surgery for your child can be frightening, but knowing what will be going on in the operating room and what to expect afterwards can help to alleviate some fear and anxiety. After the surgery, your child will need to stay in the hospital for monitoring. They will be groggy after surgery due to the anesthesia, and an intravenous catheter (IV) will be in place to administer medications. Your child may also have a drain coming from the back of their head to drain any remaining blood products in that area from the surgery. Your child may have headaches due to the drainage of spinal fluid. Once the drain is removed, usually two to three days after the surgery, they may begin to feel somewhat better. However it is a big surgery so it will take some time to recuperate. Recovery time varies from child to child, but we usually allow at least one month for them to really get back to feeling themselves. Some children may require physical therapy after the surgery, which can be performed in the inpatient or outpatient setting depending on the child's overall status. The length of stay after surgery depends on each individual patient and the type of surgery that they had.

Familiarize yourself with wound care before leaving the hospital. It is important to know how to properly clean the wound and what type of dressing (bandage) should be applied.

Also of importance are knowing the signs and symptoms of infection:

- Redness/red streaks around the wound
- Swelling
- Drainage
- Fever

It is important to keep your follow-up visits after your surgery with your neurosurgeon. You should contact them sooner if:

- The wound becomes re-opened
- Signs or symptoms of infection are present
- Fluid is leaking from the wound
- Other questions/concerns