

Cine MRI for Chiari malformation

Overview

Cine MRI (magnetic resonance imaging) is a special brain scan used to observe cerebrospinal fluid (CSF) flow. With each heartbeat, CSF is forced out of the ventricles of the brain, into the cisterna magna, and down the spinal canal. When the heart relaxes, the CSF flow reverses. The movie-like cine MRI captures the fluid movement. The test can determine if, and by how much, a Chiari is blocking the back-and-forth flow of CSF between the brain and spine.

How does a cine MRI work?

Each time your heart beats, CSF is forced around and out of your skull, down toward the spine in response to the flow of blood entering the brain. Cine MRI (as in cinema) is a special MR sequence that looks at CSF flow. It is taken the same way as a standard MRI, but with the addition of either a wrist strap or EKG chest strap to monitor your heart rate.

What does a cine MRI show?

Once a Chiari is diagnosed on a routine MRI scan, a cine study is needed to assess CSF flow. Multiple images are obtained at different points in the cardiac cycle (one heartbeat). These images are then strung together to create a short movie that helps the radiologist and neurosurgeon see the flow of CSF. The fluid appears white on the scan and can show areas of blockage around the brainstem and tonsils. It can also detect pistoning — up and down motion of the tonsils with each heartbeat.

Who performs the test?

A radiology technologist will perform the test in the MRI suite of the Radiology department of the hospital or imaging center.

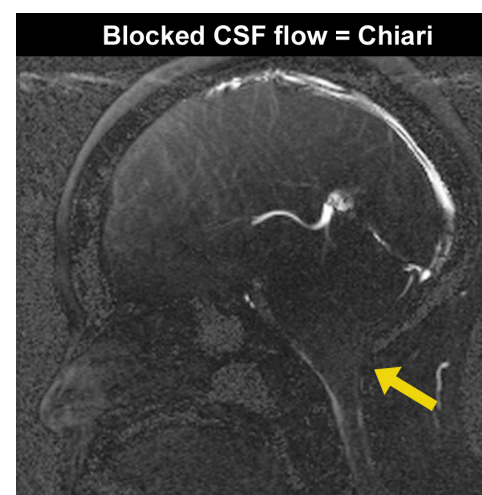
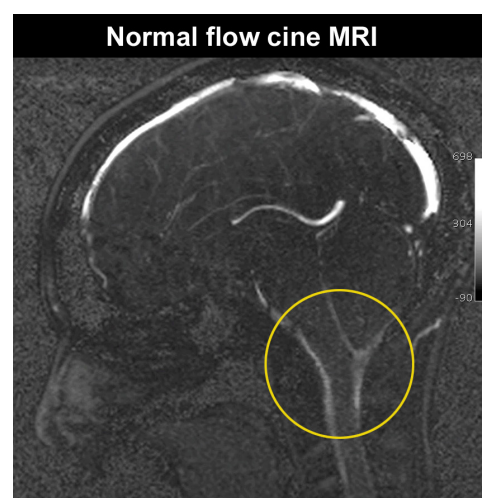
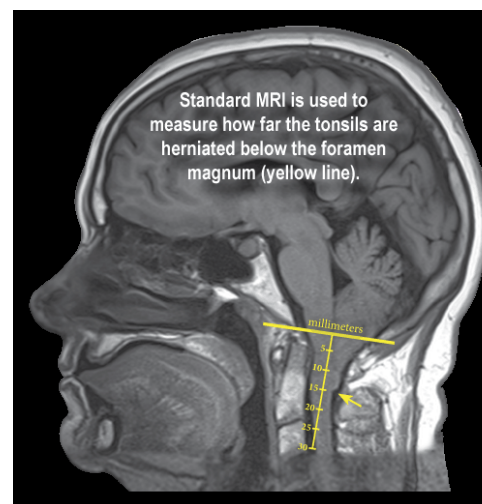
Cine studies are specialized exams and not every imaging center can perform them.

How do I get the test results?

A neuroradiologist will analyze the cine MRI results. The radiologist will promptly review your results with your referring doctor, who in turn will discuss the results with you.

Sources & links

If you have further questions about this diagnostic test, contact the doctor that ordered the test.



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