

Information Sheet

Coning—what's that?

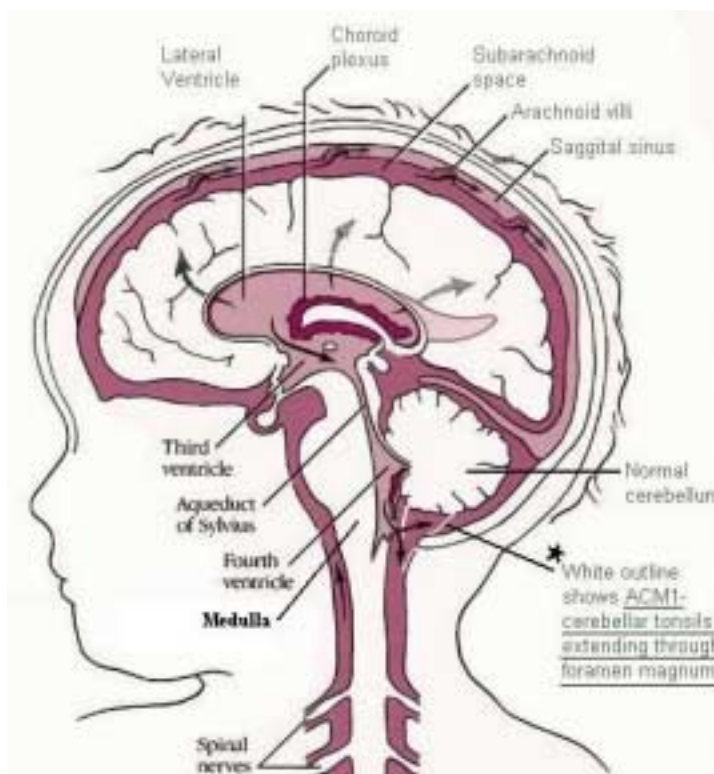
Coning (also variously called tonsillar herniation, cerebellar herniation, hindbrain herniation and brainstem herniation) results from herniation of the cerebellar tonsils out through the foramen magnum, compressing the medulla.

See the diagram.

It is a deterioration in the Arnold Chiari Malformation.

The medulla controls breathing, blood pressure, heart rhythms and swallowing. These functions are all important for survival.

The medulla, along with the pons and hindbrain make up the brainstem. Messages from the brain to the spinal cord and nerves that branch from the spinal cord are sent through the brainstem.



Destruction of these regions of the brain will cause “brain death”. The heart can no longer beat on its own. Lungs cannot work on their own. Unable to breathe, oxygen will not be delivered to the brain, and brain cells, which require oxygen to survive, will die.

The term ‘coning’ derives from the cone shape of the cerebellar tonsils as they are forced down through the foramen magnum.

Coning occurs in a large percentage of children with myelomeningocele and is the leading cause of death in this population. ¹

¹ Improvement in hindbrain herniation demonstrated by serial fetal magnetic resonance imaging following fetal surgery for myelomeningocele; Sutton LN, Adzick NS, Bilaniuk LT, Johnson MP, Crombleholme TM, Flake AW, JAMA 1999 Nov 17;282(19):1826-31