Despite the same name, Chiari types I and II are unrelated entities. Chiari II malformation is initially encountered in children, occurring in virtually all those who have myelomeningocele.

**Chiari type II malformation**

This is also known as the Arnold-Chiari malformation. Once a myelomeningocele has been closed surgically after birth, most patients develop hydrocephalus. This is the commonest indication for radiological evaluation at which time the features of Chiari type II will be visualised. This anomaly is formed when the posterior neuropore fails to close resulting in failure of the ventricles to expand and so create a normal size posterior fossa with subsequent failing in separation of the thalami. Intra-uterine surgical closure of the myelomeningocele (http://www.fetalsurgery.com) prevents development of this malformation. The imaging features result from squeezing of the growing cerebellum out of a small posterior fossa. The radiological features are best demonstrated on a sagittal T1 weighted MRI image.

**Chiari type I**

This is usually an isolated abnormality but can be seen with conditions that have a small posterior fossa. The subgroups of this entity relate to various craniocervical junction abnormalities. Caudal cerebellar tonsillar ectopia is the primary abnormality. In adults and children less than 5 years of age, projection of the cerebellar tonsils below the foramen magnum of greater than 5 mm is abnormal. Between the ages of 5 and 15 years tonsillar ectopia is only pathological when there is more than 6 mm projecting through the foramen magnum.

**Reference**