

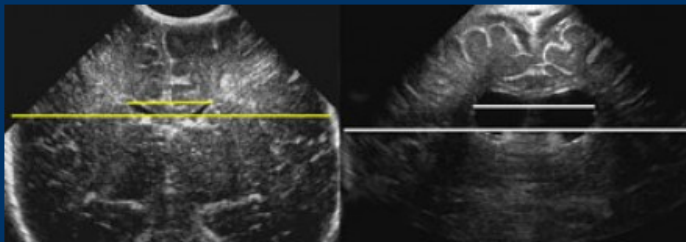
Levene index

Up to 40 weeks of gestational age the Levene-index should be used and after 40 weeks the ventricular index.

The Levene index is the absolute distance between the falx and the lateral wall of the anterior horn in the coronal plane at the level of the third ventricle.

This is performed for the left and right side.

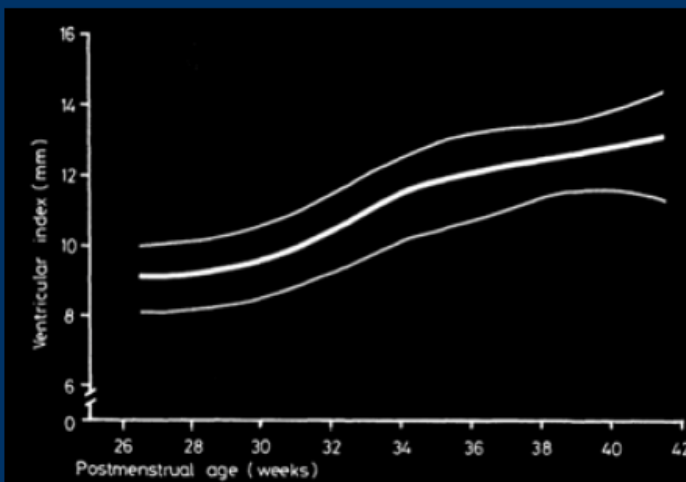
These measurements can be compared to the reference curve and are quite useful for further follow-up.



LEFT: Standard measurement of the ventricular index. RIGHT: There is ballooning of the ventricles and the index measurement underestimates the severity of the ventricular widening.

Ventricular index

After 40 weeks the ventricular index or frontal horn ratio should be used, i.e. the ratio of the distance between the lateral sides of the ventricles and the biparietal diameter. When using this ratio you have to realise, that when the ventricular system widens, the frontal horns tend to enlarge in the craniocaudal direction more than in the left to right dimension.



Cross-sectional chart of ventricular index. Smoothed centiles are 3rd, 50th, and 97th.

Measurement of the falx to the most lateral point of the lateral ventricle.

Real-time ultrasound was used to make exact measurements from the lateral wall of the body of the lateral ventricle to the falx (the ventricular index) in 273 infants of varying gestational ages (5).

The measurement performed in an axial plane through the temporoparietal bone correlated closely with an actual measurement made in coronal plane in 50 infants.

A cross-sectional centile chart was drawn up of the normal range for this measurement from 27 to 42 weeks' postmenstrual age.

A further chart showing the rate of change of the ventricular index allowed growth of the ventricles to be assessed in a longitudinal manner.

Use of these charts permits early detection of hydrocephalus or dilated ventricles secondary to cerebral atrophy.