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Hydrocephalus

National Institute of Neurological Disorders and Stroke (NINDS)

Source

National Institute of Neurological Disorders and Stroke (NINDS). [Hydrocephalus Information Page](#).

Hydrocephalus is a condition in which the primary characteristic is excessive accumulation of cerebrospinal fluid (CSF) -- the clear fluid that surrounds the brain and spinal cord. This excessive accumulation results in an abnormal dilation of the spaces in the brain called ventricles. This dilation causes potentially harmful pressure on the tissues of the brain. Hydrocephalus may be congenital or acquired. Congenital hydrocephalus is present at birth and may be caused by genetic abnormalities or developmental disorders such as spina bifida and encephalocele. Acquired hydrocephalus develops at the time of birth or at some point afterward and can affect individuals of all ages. For example, hydrocephalus ex-vacuo occurs when there is damage to the brain caused by stroke or traumatic injury. Normal pressure hydrocephalus occurs most often among the elderly. It may result from a subarachnoid hemorrhage, head trauma, infection, tumor, or complications of surgery, although many people develop normal pressure hydrocephalus without an obvious cause. Symptoms of hydrocephalus vary with age, disease progression, and individual differences in tolerance to CSF. In infancy, the most obvious indication of hydrocephalus is often the rapid increase in head circumference or an unusually large head size. In older children and adults, symptoms may include headache followed by vomiting, nausea, papilledema (swelling of the optic disk, which is part of the optic nerve), downward deviation of the eyes (called "sunseting"), problems with balance, poor coordination, gait disturbance, urinary incontinence, slowing or loss of development (in children), lethargy, drowsiness, irritability, or other changes in personality or cognition, including memory loss. Hydrocephalus is diagnosed through clinical neurological evaluation and by using cranial imaging techniques such as ultrasonography, computer tomography (CT), magnetic resonance imaging (MRI), or pressure-monitoring techniques.