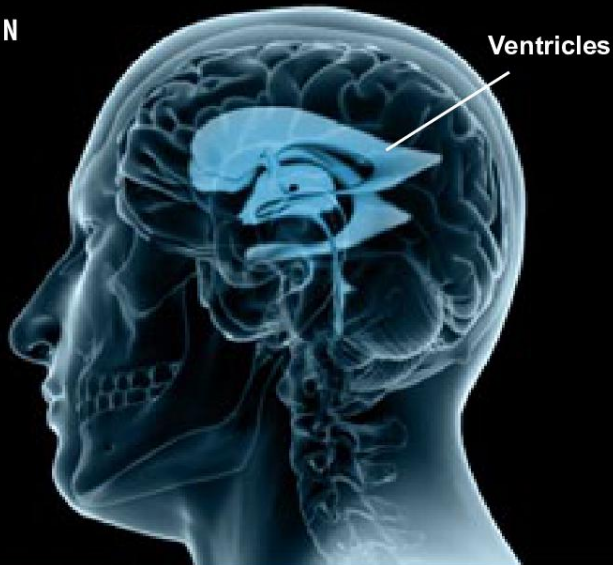


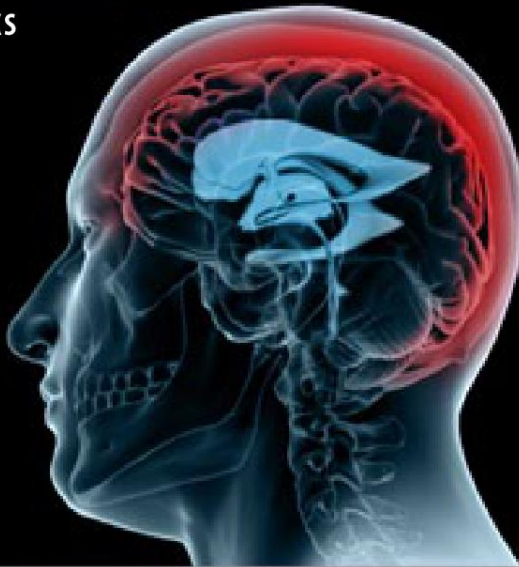


## Normal Pressure Hydrocephalus (NPH)

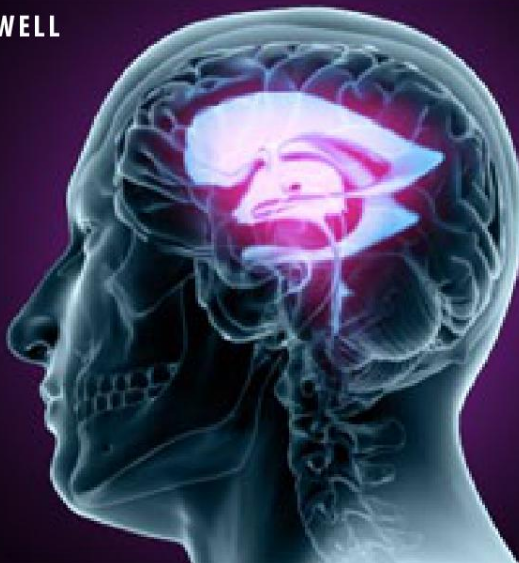
### HEALTHY BRAIN



### BRAIN SHRINKS



### VENTRICLES SWELL



#### Overview

This condition, which usually occurs in adults 55 and older, is an excessive accumulation of cerebrospinal fluid (CSF) in the ventricles of the brain. The ventricles are a system of large, fluid-filled open spaces inside the brain. Too much CSF in the ventricles can distort the brain's shape. It can make the brain susceptible to injury.

#### About CSF

Cerebrospinal fluid is a colorless fluid that bathes the central nervous system. It carries nutrients and waste to and from cells. It also absorbs shocks and regulates pressure.

#### How NPH Develops

As we age, the brain tissue gradually weakens and shrinks, exerting less of its own pressure. This atrophied brain can allow the ventricles to swell with CSF fluid, which distorts the brain's shape without causing an elevation in normal brain pressure.

#### Symptoms

One of the first signs of NPH is difficulty walking - people with the condition typically develop a shuffling, stumbling, hesitant gait. It often then progresses to incontinence and dementia. The symptoms are sometimes confused with those of Alzheimer's or Parkinson's disease.

#### Treatment

Normal Pressure Hydrocephalus is treated with a surgically-implanted shunt. The shunt allows the excess fluid to drain and relieves the distortion caused by swollen ventricles.