



Normal Pressure Hydrocephalus (NPH)

Normal Pressure Hydrocephalus (NPH) is the accumulation of excess spinal fluid in the ventricles of the brain. It is most often seen in patients older than 60 years. It differs from other types of hydrocephalus that develop in infants or children in which the fluid is often under increased pressure. The treatment of hydrocephalus is a shunt (tube) to drain the excess fluid from the brain into the abdomen where it is reabsorbed.

The diagnosis of NPH can be elusive and symptoms are sometimes considered “normal aging” or Alzheimers. There is a classic trio of symptoms that occur in NPH.

- **Gait Difficulties:** This can be mild imbalance to a severely impaired ability to walk. Many patients will walk with the feet wide-based and take slow steps. This often is the first symptom and can be confused with other causes of gait difficulties such as Parkinson’s Disease or orthopedic or spine problems.
- **Mild Dementia:** Typically this is short term memory loss, loss of interest in activities. Dementia of NPH does not include thought disorders or hallucinations as are seen with other dementias. A neurologist or geriatric specialist may need to help determine the cause of the dementia.
- **Impaired bladder control**
Usually bladder urgency and frequency, sometimes incontinence (loss of urine).

How is NPH diagnosed?

Patients experiencing these symptoms should talk with their primary physician or neurologist. The physician can assist with the initial evaluation, which should include an MRI or CT scan of the brain. Many patients in this age group will show some normal atrophy of the brain. If the fluid in the brain causes enlargement of the ventricles, NPH may be a cause of the neurologic symptoms. If NPH is suspected your primary physician may refer you to a neurologist who can evaluate other causes of the symptoms or confirm the possibility of NPH.

NPH

Confirming the diagnosis:

You will often be referred at this point to a neurosurgeon to have further testing for NPH. Many neurosurgeons will try to confirm the diagnosis by draining some of the spinal fluid to see if symptoms are improved. Often this includes a short hospital stay with placement of a small plastic catheter into the spinal fluid spaces of the low back to drain the fluid over several days. A physical therapist helps to assess improvements in walking during this trial. If improvements in walking, bladder control and memory are noted, then you would be a candidate for surgery to place a permanent drainage tube called a shunt.

Only about 50% of patients with NPH will show improvement in symptoms with a shunt placed. The shunt surgery has about a 20% chance of a complication. These risks include bleeding causing stroke or development of blood in the space around the brain (called a subdural hematoma), infection, or need for further surgery to repair the catheter if it stops working.

Preparing for a Drain Trial:

When you are scheduled for a trial, you will need to be off medications that can “thin” your blood or cause bleeding. If you are on other blood thinners, such as Coumadin, warfarin, Plavix,

Lovenox, Persantine, etc., you will need to be off them before the trial. Discuss this with a PA or MD at our office so that you may be given specific directions for your condition.