

Normal pressure hydrocephalus (NPH)

What is normal pressure hydrocephalus?

Normal pressure hydrocephalus (high-droh-SEFF-a-luss), or NPH, is a disorder in which cerebrospinal fluid surrounding the brain and spinal cord is unable to drain normally. The fluid builds up and enlarges the ventricles (VENN-trick-uhls), hollow, fluid-filled chambers inside the brain. As the ventricles expand, they can compress and damage nearby brain tissue. The “normal pressure” in NPH refers to the fact that the fluid pressure often, although not always, falls within the normal range on a spinal tap.

NPH is generally considered a rare disorder. It is difficult to determine exactly how common it is, because no professional advisory body or federal agency has established a formal definition or diagnostic guidelines.

The three hallmark symptoms of NPH are difficulty walking, loss of bladder control and decline in mental function.

The cause of NPH is usually unknown, although a small percentage of cases develop as a result of head injury, tumors or infections.

NPH can be treated by surgically inserting a long narrow tube called a shunt to drain excess fluid from the brain to another part of the body. Experts are uncertain how many people experience symptomatic improvement after shunt surgery. Most studies of NPH have been small and have varied significantly in the percentage of people who improve, how long improvement lasts, and the chances of serious side effects. Many experts believe the likelihood of lasting benefit from surgery may be small for the majority of people. Walking and bladder control may be more likely to improve than mental function.

Televised portrayals of NPH

Television broadcasts have portrayed NPH as a highly treatable condition that may be misdiagnosed as incurable

dementia. A segment on a national news magazine show featured “case studies” of people whose mental impairment and physical symptoms cleared up with shunt surgery and claimed that as many as 375,000 people diagnosed with Parkinson’s disease or dementia may have treatable NPH. A commercial for a company that makes shunts and other devices used in NPH surgery contrasts a vigorous, articulate older man with his unsteady and confused self of “a couple of years ago.” He tells viewers “there was talk of Alzheimer’s and Parkinson’s,” but his real problem was “a treatable neurological condition called NPH.” He encourages viewers who believe they may have NPH to ask their physicians about having a brain imaging study and to call the company’s toll-free number or log on to its Web site for more information.

Could NPH be confused with Alzheimer’s disease?

When defined by its three hallmark symptoms of difficulty walking, problems with bladder control and mental decline, NPH presents a clinical picture that looks different from Alzheimer’s disease to a physician with experience in diagnosing and treating dementia. In many cases, difficulty walking is the first and most obvious symptom of NPH, followed by bladder control problems. Although these symptoms also occur in Alzheimer’s, they tend to develop in late stages of the disease and would rarely be among the first problems to bring a person to the doctor.

Both disorders also cause mental decline, but the patterns of changes usually differ. The impairment associated with Alzheimer’s disease typically begins in specific areas of the brain involved in learning and memory and gradually progresses to affect other aspects of reasoning, judgment and communication. NPH more often causes an overall slowing in processing or reacting to information, but the person’s eventual response is more likely to be accurate.

Based on studies of NPH published in peer-reviewed professional journals and the experience of its science advisors who direct National Institute on Aging

Alzheimer's Disease Centers, the Alzheimer's Association believes it is unlikely that large numbers of people diagnosed with dementia actually have symptoms of NPH that would clear up with shunt surgery.

Anyone who is worried that a loved one might be misdiagnosed should share those concerns with the person's physician. Physicians should always be willing to discuss the basis for a diagnosis and their level of confidence in its accuracy.

Many Alzheimer's Association chapters in our nationwide network can provide referrals to local physicians with special interest and expertise in diagnosing and treating Alzheimer's disease and related disorders.

The Alzheimer's Association, the world leader in Alzheimer research, care and support, is dedicated to finding prevention methods, treatments and an eventual cure for Alzheimer's.

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