



DR VANESSA SAMMONS
NEUROSURGEON



Guide to
HYDROCEPHALUS

WWW.DRVANESSASAMMONS.COM.AU



KEY FACTS

- Hydrocephalus is a treatable condition that occurs when there is an imbalance between the production of cerebrospinal fluid (CSF) and how much of it is absorbed into venous sinuses of the brain
- Symptoms include poor coordination, balance problems, progressive cognitive loss, and loss of bladder control
- Surgery is typically performed to alleviate hydrocephalus
- It can take weeks or even months to recover from surgery and enjoy maximum relief of symptoms.

WHAT IS HYDROCEPHALUS?

Hydrocephalus is a condition where brain cavities (ventricles) become enlarged due to a build-up of cerebrospinal fluid (CSF). CSF protects the brain and spinal cord against sudden impact or injury. It also facilitates central nervous system function and eliminates waste products from the brain. Pressure from excess fluid can disrupt these functions, damage brain tissue, and cause a number of impairments to brain function.

WHAT ARE THE SYMPTOMS OF HYDROCEPHALUS?

Symptoms of this condition vary somewhat according to the age of the patient when hydrocephalus develops:

Infants

- A rapid increase in head size
- An abnormally large head
- Bulging tissue on the top of the head
- Tenderness on the top of the head
- Vomiting
- Poor feeding
- Seizures

Toddlers and Older Children

- Headache
- Poor appetite
- Sunset eyes (eyes that are fixed downward)
- Lethargy
- Poor coordination
- Irritability
- Decline in school performance

Adults

- Headache
- Loss of coordination
- Difficulties with balance
- Cognitive decline, especially memory and concentration
- Loss of bladder control

Seniors

- Memory loss
- Difficulty raising feet to walk (shuffling gait)
- Poor coordination
- Loss of balance
- Progressive loss of thinking and reasoning skills

WHAT CAUSES HYDROCEPHALUS?

Hydrocephalus can occur as the result of abnormal cerebrospinal secretion, flow, or absorption. The condition can develop at any age. Sometimes the cause is unknown, but it can also be caused by:

- Bacterial meningitis
- Bleeding in the brain
- Mumps
- Stroke
- Traumatic injury
- Tumours/lesions of the spinal cord or brain

There are three different categories of hydrocephalus:

- **Acquired hydrocephalus** – triggered by infection, tumours, or bleeding
- **Congenital hydrocephalus** – present at birth and often associated with other birth problems
- **Normal pressure hydrocephalus** – occurs when CSF outflow over the surface of the brain diminishes, most commonly in older patients

WHEN DO I CONSULT A DOCTOR ABOUT HYDROCEPHALUS?

Hydrocephalus can be a fatal condition if it is not treated. Contact your doctor promptly if you are experiencing symptoms of this condition. An early diagnosis offers more options for treatment and a greater chance of a meaningful recovery.

Be especially sensitive to symptoms in young family members. Seek immediate emergency medical care for infants and toddlers who exhibit:

- An unwillingness to move or lie down
- Difficulty breathing
- Problems with sucking or feeding
- Unexplained vomiting

The symptoms of hydrocephalus are associated with other medical conditions. A visit with your medical professional will lead to an accurate diagnosis of the problem, along with the best possible treatment protocol.

HOW IS HYDROCEPHALUS DIAGNOSED?

A consultation about hydrocephalus with a neurosurgeon may include these diagnostics:

- Review of symptoms
- Review of medical history
- Physical examination
- Eye examination
- CT scan
- MRI scan
- Lumbar puncture

These diagnostic tools are well-tolerated by most patients. They provide accurate, detailed information upon which to base a targeted treatment plan.

WHAT ARE THE TREATMENTS FOR HYDROCEPHALUS?

Surgery is recommended for relief from the symptoms of hydrocephalus. The surgery takes one of two forms, depending on a number of different factors:

- **Endoscopic Third Ventriculostomy** – Aided by a tiny video camera, the surgeon makes a small hole in one of the ventricles to allow cerebrospinal fluid to flow out of the brain.
- **Shunt** – The surgeon makes an incision and inserts a drainage system known as a shunt. It's a long flexible tube and directs and regulates fluid flow. Shunts are left in place permanently and require monitoring.

Shunt surgery is the most common procedure to treat hydrocephalus.

WHAT HAPPENS DURING SHUNT SURGERY FOR HYDROCEPHALUS?

Shunt surgery takes approximately an hour and is performed using general anaesthetic. A small incision is made in the scalp to allow the surgeon to then make a small opening in the skull. Additional incisions are made to place the different parts of the shunt. When the procedure is complete, the wound is sutured with dissolvable stitches and small sterile bandages are applied.

WHAT CAN I EXPECT AFTER SURGERY?

After surgery, you will be taken to an observation room where your progress will be monitored for an hour or so. You will awake feeling drowsy and possibly numb or uncomfortable at the incision site. Pain should be treated with medications – there is no need to be in pain. Depending on your clinical progress, your hospital stay will be between 2 and 7 days.

WHAT SHOULD I DO AFTER SURGERY?

When you are ready to return home, you will be given pain medication, if necessary, and you will schedule the first of several follow-up visits. You will be given a list of guidelines for self-care and any questions you have will be answered. Among the things you may be asked to do:

- Self-monitor – Call Dr Sammons if you experience an increase in pain or swelling, if you run a fever, or note a return of preoperative symptoms.
- Keep your wound dry. Cover it when you shower until your sutures have dissolved fully.
- Refrain from lifting anything over 5 kilos
- Follow recommendations for rehabilitation and physical therapy

Each patient's recovery experience is unique. Symptoms such as headaches may disappear almost immediately if the symptoms are related to elevated pressure. For other patients, the improvement is less dramatic.

SHOULD I FOLLOW UP WITH DR SAMMONS AFTER SURGERY?

Yes. Before you leave the hospital, a practice nurse will contact you to schedule your first follow-up appointment for 4-6 weeks after surgery. When you meet, Dr Sammons will check on your wound, and assess your neurological recovery and overall health. Should any concerns arise prior to your follow-up, do not hesitate to contact her for guidance.

Follow-up diagnostic tests, including CT scans, MRIs and X-rays, are helpful in determining if the shunt is working properly. The valve can become blocked, or the pressure in the shunt may not match the needs of the patient. Should the shunt become blocked, additional surgery may be required.

DOES HYDROCEPHALUS REOCCUR AFTER SURGERY?

“With the benefits of surgery, rehabilitative therapies, and educational interventions, many people with hydrocephalus live relatively normal lives,” says the Hydrocephalus Fact Sheet published by the National Institute of Neurological Disorders and Stroke. “While the success of treatment with shunts varies from person to person, some people recover almost completely after treatment and have a good quality of life.”

Please call our rooms if you have any additional concerns or questions.



Hello!

I'm a Neurosurgeon at North Shore Private Hospital, Gosford Private Hospital, Brisbane Waters Private Hospital and the Sydney Adventist Hospital. I treat all neurosurgical conditions, but with a particular interest in Peripheral Nerve Surgery. I pride myself on providing personalised and thoughtful patient care and utilising my skills to achieve the best outcome possible.

I believe that a great neurosurgeon will ensure you feel listened to, will ensure that you understand what your surgery involves, and should also work together with your GP to achieve the best outcome for you.

Dr Vanessa

MBBS (Hons) MPhil FRACS (Neurosurgery)



CONSULTING ROOMS

ST LEONARDS

North Shore Health Hub
Suite A.310
7 Westbourne Street
St Leonards NSW 2065
T 02 9056 0877

ERINA

Central Coast Neurosciences
Suite 202, Level 1, Element Building
200 Central Coast Highway
Erina NSW 2260
T 02 02 9056 0877

WWW.DRVANESSASAMMONS.COM.AU

E doctor@drvanessasammons.com.au