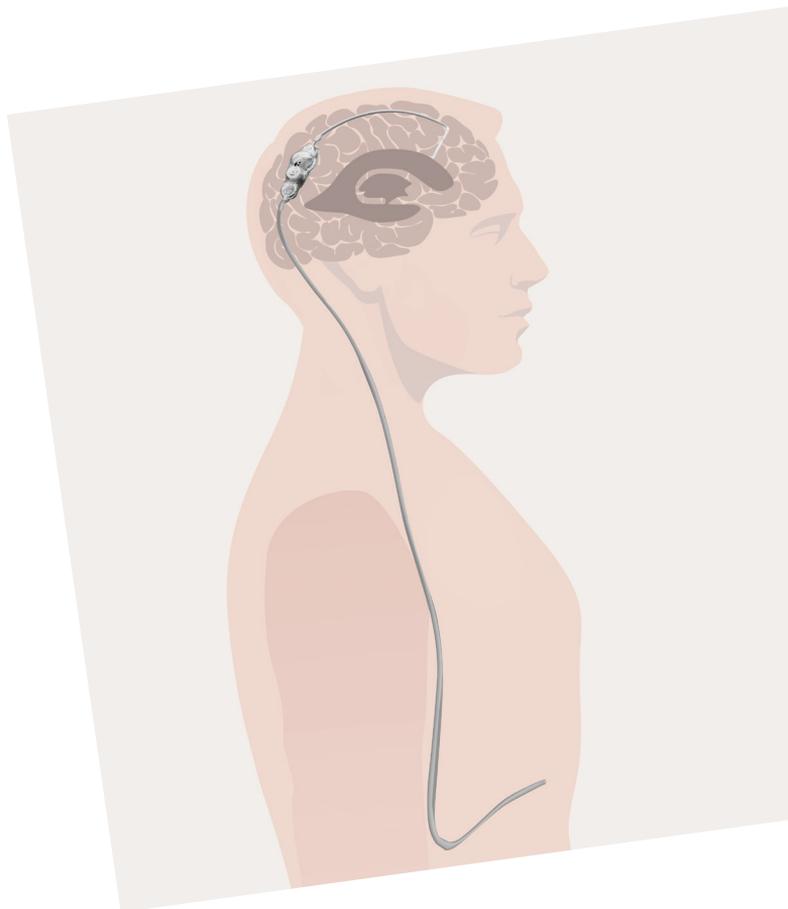


Hydrocephalus and Shunts



The Department of Surgery sees patients for a wide range of surgical services. These include Colorectal, Endocrine, Breast, Upper GI, Bariatrics, Hepatobiliary, Plastics, Neurosurgery, Urology and Vascular Surgery. Our highly qualified consultants use minimally-invasive surgery and surgical endoscopy for diagnostic and therapeutic interventions in the treatment of these conditions. We provide inpatient and outpatient care with a 24-hour acute surgical service. Day surgery (endoscopy) and minor surgery (lumps and bumps) are also offered at Jurong Medical Centre.

What is Cerebrospinal Fluid (CSF)?

CSF is normal fluid found in the brain cavities (ventricles) and which surrounds the brain and spinal cord. It provides a chemical and physical buffer to protect the brain and is secreted by the brain and absorbed by large cerebral venous sinuses in a continuous cycle. When the flow is disrupted, a build-up of fluid occurs to raise the pressure in the brain, damaging it and endangering a patient's life.

What is Hydrocephalus?

This is a condition whereby excess CSF in the brain enlarges the ventricles and compresses the surrounding brain. When this happens, pressure builds up to cause symptoms such as:

- Headaches
- Vomiting
- Irritability/personality change
- Excessive sleepiness
- Incontinence
- Instability of gait and/or urinary incontinence/poor coordination
- Cognitive delays or regression/memory loss
- Impaired vision/blindness
- Seizures

Reasons for hydrocephalus may include poor reabsorption and/or CSF flow obstruction. It is rarely caused by an overproduction of CSF from brain tumours.

What are some investigations that can be done?

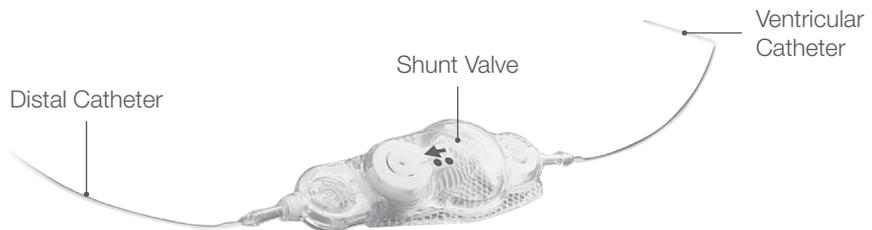
- CT brain
- MRI brain
- Blood tests
- Memory and gait testing
- Lumbar puncture

A lumbar puncture allows the team to check the CSF pressure and look for improvements to drain CSF and assess the severity of hydrocephalus.

What is a Ventriculoperitoneal (VP) Shunt?

A ventriculoperitoneal (VP) shunt is a medical device used to treat hydrocephalus. Making use of a proximal tube inside the brain ventricles and distal tube in the peritoneal cavity, a VP shunt has 3 parts:

- A short ventricular catheter (thin, flexible tube)
- A one-way valve (CSF flow is regulated by a one way valve) +/- reservoir
- A long peritoneal catheter



A VP shunt helps to relieve the pressure in the brain caused by an increase in brain fluid (hydrocephalus).

VP shunts work by bypassing excess CSF in ventricles to other absorption cavities in the body such as the abdominal (most commonly used) or pleural cavity (if abdominal cavity is not suitable). In so doing, it diverts the fluid away from the brain and restores the normal flow and absorption of CSF.

Who needs a VP shunt?

- People of any age can develop hydrocephalus
- Patients with brain tumours/infection/after head injuries/after stroke
- Elderly with symptoms of cognitive decline, unstable gait and urinary incontinence

What is the procedure like?

Under general anaesthesia, you will be asleep during the surgery and not experience any pain. VP shunt catheters are soft, narrow and flexible tubes used to drain the excess fluid. Once implanted, they do not cause pain or restriction in the head or neck movements.

Valves used may include fixed pressure valve or programmable valve, where your doctor will alter the setting to modulate the CSF flow during your clinic visit. These programmable valves are expensive and require a magnetic tool to change its setting. Your doctor will explain this to you in detail.

After surgery

Recovering from a VP shunt placement takes three to four days, with some patients able to be discharged within seven days after the procedure. It is normal to experience mild abdominal discomfort at first, but food and drinks are allowed by the next day.

Your doctor will ensure the shunt valve setting and functioning is proper before you leave. A specialist nurse will follow up with you after your discharge.

Risks of VP shunting

The placement of a shunt is a very safe procedure. However, as with any procedure, complications may arise during or after the procedure. They include:

- Infection in the shunt or brain/redness along tube track
- Blood clots blocking shunt

- Bleeding in the brain
- Damage to brain tissue
- Damage to intestines
- Abdominal bloating

In rare cases of fever, headache, abdominal pain, fatigue, increased high blood pressure, or a recurrence of pre-op symptoms (present before the shunt was placed), please alert your doctor/specialist nurse immediately.

Long term progress

Shunt systems require frequent monitoring and follow-up. Complications may occur.

Do seek immediate medical attention if you experience any of these symptoms:

- Recurrence of pre-op symptoms
- Headaches
- Skin redness around the shunt or fever

It could be a sign that your shunt system is not working properly.

Where to get help

- Dial 995
- Go to the nearest GP clinic
- Go to the Emergency Department

Follow up

- Clinic: _____
- Date/Time: _____

Notes:

For more information

Ng Teng Fong General Hospital and Jurong Community Hospital

1 Jurong East St 21, Singapore 609606

www.ntfgh.com.sg | www.jch.com.sg

Clinic opening hours

Monday – Friday: 8.30am – 5.30pm

Saturday: 8.30am – 12.30pm (Selected clinics only*)

Dental Clinic: Monday – Thursday: 8.00am – 5.30pm, Friday: 8.00am – 5.00pm

*Please refer to our websites for more details.

General enquiries & appointments

General enquiries line: 6908 2222 (24-hr)

Fax: 6716 5500 | Email: contactus@nuhs.edu.sg

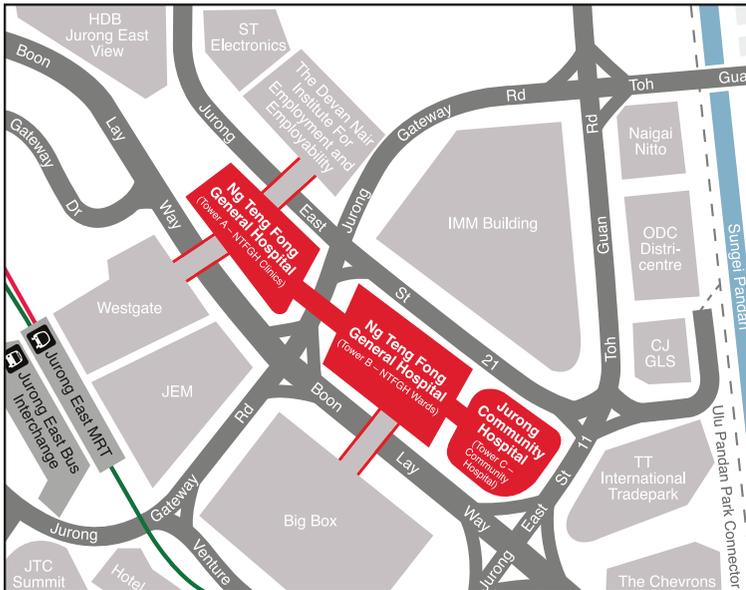
Appointment line: 6908 2222 (Monday – Friday: 8.00am – 5.30pm, Saturday: 8.00am – 12.30pm)

Fax: 6716 2200 | Email: appointment@nuhs.edu.sg

Dental appointment line: 6716 2233 (Monday – Friday: 8.00am – 5.30pm)

Fax: 6716 2200 | Email: JHCampus_Dental@nuhs.edu.sg

Getting there



By train

Alight at Jurong East MRT Station

By bus

Jurong East Bus Interchange

41, 49, 51, 52, 66, 66B, 78, 78A, 79, 79A, 97, 97E, 98, 98M, 105, 143, 143M, 160, 160A, 160M, 183, 183B, 197, 333, 334, 335, 506

Along Boon Lay Way

49, 99, 333, Private bus service 625, 990

Disclaimer:

The information in this brochure is meant for educational purposes and should not be used as a substitute for medical diagnosis or treatment. Please seek your doctor's advice before starting any treatment or if you have any questions related to your health, physical fitness or medical condition. Information is accurate at the time of printing.