



Guardians of Hydrocephalus Research Foundation

GUARDIANews



Caring For Your Child

At the Guardians of Hydrocephalus Research Foundation we receive a lot of phone calls and emails from concerned and worried parents who have just received news that their child was diagnosed with hydrocephalus. At this point we would like to first tell our readers to relax and continue reading.

All children have a need to be their own person as they mature and explore the world. A child with hydrocephalus is no different. It is essential that you treat your child as you would any other child, and that you afford him/her every opportunity to live as normal a life as possible. Your child should be

able to participate in most activities, with the exception of rough contact sports.

Through your experience you will find that your knowledge and understanding of your child's illness will increase together with your confidence and comfort in caring for him/her. If you find that you still have questions about the illness, write them down as they occur to you—and bring the list with you when you visit your doctor. Also, realize that there are many resources available to families with children who have special needs. Being by asking your nurse or doctor about some of these possibilities.

Friends and relatives can also offer valuable emotional support. And don't forget—all parents need to take time out for themselves. Allow a relative or a responsible sitter to care for your child from time to time. Leave important information and telephone numbers where you can be reached.

When your family does decide to travel together get the names of medical resource personnel in the area to which you are going. Although the likelihood of an emergency is remote, such preparedness will allow you greater piece of mind and will avoid unnecessary inconvenience should a problem arise.



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Membership Dues

Your dues help us throughout the year !

The Guardians of Hydrocephalus Research Foundation help thousands of families all over the world annually. We do not charge for the materials we provide for

our members.

A Family Membership is only \$30.00 per year and this entitles you to our seasonal newsletter, information pamphlets, and support from someone on our staff.

Your \$30.00 check is tax de-

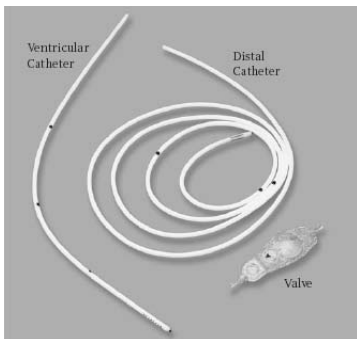
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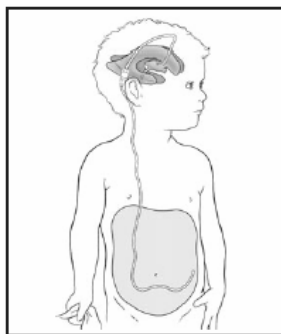
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What is a Shunt?



Common components of a shunt



Ventriculo-peritoneal (VP) shunt



Ventriculo-atrial shunt



Ventriculo-pleural (VP) shunt

Today, the best and most effective treatment for hydrocephalus known is a surgical procedure in which a flexible tube called a *shunt* is placed into the child's CSF (cerebrospinal fluid) system.

The shunt diverts the flow of CSF from the ventricles into another region of the body, most often the abdominal cavity or a chamber of the heart called the atrium. The shunt tube is about 1/8" in diameter and is made of a soft and pliable plastic (usually Silastic®) that is well-tolerated by our body tissues. Shunt systems come in a variety of models but have similar functional components. Catheters (tubing) and a flow-control mechanism (one-way valve) are components common to all shunts.

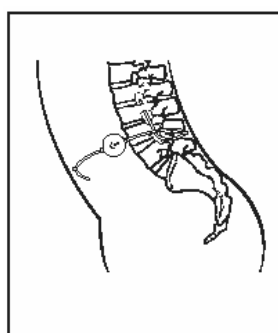
The parts of a shunt are named according to where they are placed in the body. The portion of the tube which is inserted into the ventricles is called the ventricular catheter. The peritoneal catheter is the portion of the tube which passes the CSF into the

abdomen (peritoneal cavity). If the tube is placed into the right atrium of the heart it is called the atrial catheter. The valve regulates the pressure of the CSF flow and prevents backward flow of spinal fluid toward the ventricles. Valves are designed to operate at low, medium, or high pressure. Depending on the particular nature of your child's hydrocephalus, your neurosurgeon will select an appropriate valve pressure to accommodate your child's needs. Some valve models have an on/off control device.

Many shunt systems also have a flexible flushing chamber (reservoir) which may be housed within the same unit as the valve or may be a separate unit along the shunt, depending in the design of the shunt system. This chamber serves several important purposes. It permits your physician to remove samples of CSF from the shunt with a needle and syringe, and to inject the chamber for testing shunt function and for treatment. The chamber also allows the shunt to be "flushed" or pumped. This is accomplished simply by pressing on the skin overlying the flushing chamber. Depending on the design of the shunt and the manner in which the chamber is pressed, fluid can be forced toward or away from the ventricles. Flushing the chamber sometimes allows your doctor or nurse to determine whether the shunt is functioning properly.

Because serious problems may result from too frequent or improper flushing of the chamber, parents and children should never try to manipulate the shunt system on their own unless they are explicitly instructed to do so by their physician.

To get a better idea of what a shunt looks like, ask your neurosurgeon or nurse to show you samples of the shunts they use. Have them write down for you the name and model of the shunt your child has. This is important information for you to know and can be helpful to any nurse or neurosurgeon who checks your child's shunt. It is especially important to know if the shunt has an on/off control valve because it is possible to shut the valve off accidentally. If the valve were shut off, it would result in increased pressure in the head that could cause the child to go into a coma.



Lumbo-peritoneal shunt

Normal Pressure Hydrocephalus

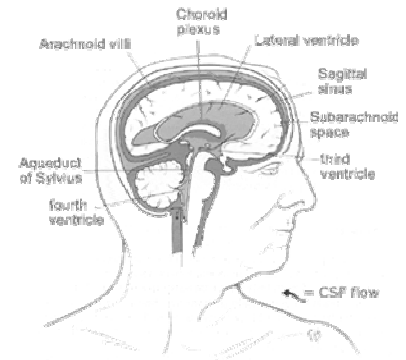
Normal Pressure Hydrocephalus (NPH) is a type of hydrocephalus which normally occurs in older adults. NPH is an accumulation of cerebrospinal fluid (CSF), which causes the ventricles of the brain to enlarge.

The enlarged ventricles of an NPH may not cause increased intracranial pressure, as is the case with most types of hydrocephalus. The abnormal accumulation of CSF, causing enlarged

ventricles, is thought to stretch the nerve tissue of the brain causing a triad of symptoms. NPH normally occurs in adults 60-years and older, and in as many as 10% of all patients with symptoms of dementia. One quarter million Americans with some of the same symptoms as dementia, Alzheimer's, or Parkinson's may actually have NPH.

The treatment of choice for NPH patients who show a posi-

tive response to diagnostic testing is the placement of a CSF shunt (see page 2). This technique is very effective in improving the troubling symptoms of NPH.



Adult with Normal Pressure Hydrocephalus

Surgery and Hospitalization

The surgical procedure is carried out under sterile conditions in the operating room. Although the operation is relatively short, careful preparation for the surgery adds extra time. In order to help prevent infection, some of the hair on the head may need to be shaved. The head and body are washed with special soap. Sterile linen is used to cover the patient and to maintain the sterile environment throughout the surgery.

A small incision (cut) is made in the scalp (the skin covering the head). A small hole is then made in the skull. A tiny opening is made in the dura, a protective covering of the brain. These openings are

made to accommodate the ventricular catheter (proximal catheter) being placed into the lateral ventricle. The neurosurgeon then makes two or three small incisions in order to place the shunt valve (usually above or behind the ear). The peritoneal or atrial catheter (distal catheter) is tunneled under the skin to the abdominal or neck incision. Finally, the end of the catheter is carefully placed either in the peritoneal cavity or in a vein of the neck leading to the atrium of the heart. Following the operation, small sterile bandages are applied to each incision.

Immediately after surgery, the patient will go to

the post-anesthesia care unit. The patient will remain there for close observation for about an hour and then go to his/her room. The length of hospitalization varies from patient to patient. Most patients leave the hospital within two to seven days, depending on their clinical progress.

Although this is the usual procedure when a shunt is placed, each patient may have a slightly different experience based upon their neurosurgeon, hospital, and the need to individualize the care for the patient.

Follow-up Care

Most patients with hydrocephalus have every right to look forward to a normal future. However, because this condition is “on-going,” patients do require long-term, follow-up care by a neurosurgeon. Having medical check-ups at intervals recommended by the neurosurgeon is sensible. The patient, or his/her family, must assume a share of the responsibility for follow-up care. The neurosurgeon will also keep a watchful eye on the patient and pick up subtle change that may indicate a shunt malfunction.

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From everyone at the Guardians of Hydrocephalus Research Foundation we would like to show our appreciation to those who continue to help maintain this organization. With your help we can continue distributing information and connecting people suffering with hydrocephalus with doctors that can help them. If you would like to be a part of our organization or have a question for us feel free to contact us over the phone or through our web site. Using our web site our members can email us with questions they have or talk to other members through a bulletin board service. Again we would like to thank you all for your participation !

We're on the Web !
www.GHRForg.org

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