

CHHABRA 'SLIT N SPRING' HYDROCEPHALUS SHUNT SYSTEM

Chhabra Hydrocephalus Shunt System is today a widely used low cost system all over the world. It is used in more than 50 countries of all continents. Almost 1/5th Population of the world is benefitted by this simple & low cost system.

"The inexpensive Chhabra Shunt performed as well as the expensive Codman Shunt, with no statistically significant difference in any outcome category"

Warf C. Benjamin: Comparison of 1 year outcomes for the Chhabra and Codman-Hakim Micro Precision Shunt Systems in Uganda: a prospective study in 195 children.

J Neurosurgery (Pediatrics 4) 102:358-362, 2005

Indian Patent No. 162530 of 1985

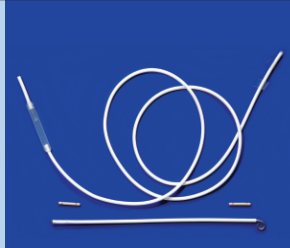
f FEATURES & ADVANTAGES

The Chhabra Shunt system incorporates a new strategic development in shunt technology and ensures that its valve will suffer neither from deformation nor from overstretching. Even under conditions of stress, the valve maintains its optimum functional capability.



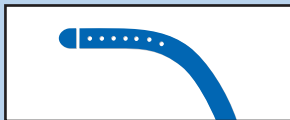
The slit valve of the shunt is girdled by a stainless steel spring, which protects as well as supports the slit valve and helps in maintaining the opening pressure. This simple but highly efficient design further ensures against leakage and backflow.

The main reservoir, with valve and distal catheter, is manufactured in unitised form to facilitate implantation. If required, the length of the distal catheter can be adjusted by trimming it. The spare connector, if the need arises, can be used to establish continuity of the distal catheter.



The Reservoir assembly is available in two types:

- Regular reservoir: The most widely and commonly used type.
- Large Flushing reservoir: For adults only.



The tip of the ventricular catheter is made of Tantalum impregnated silicone rubber. The connectors are made of peek plastic, which is one of the most durable materials with antistick properties.

The holes in the proximal end of the Ventricular Catheter are so designed and of such a size that the blockage rate of the proximal end, in this system, is minimal.

The lumen size of the different catheters and connectors has been so chosen as to facilitate the drainage of CSF even with high proteins. This quality, particularly, is highly desirable for patients belonging to developing countries.

The high priority, that was given to this factor, has resulted in a system in which large amounts of proteins do not significantly alter or affect its function.

Catheters are kink-resistant. They are also radio-opaque, because of which the post operative identification of the shunt and the observation of its condition and the monitoring of the system is possible. This quality gives it a distinct advantage over systems that cannot be subsequently located, and observed on an x-ray.

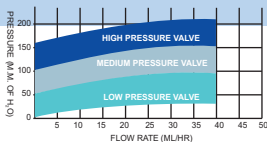
Note: For Indication, Contraindications, Method of use, Warnings, Precautions & Complications please refer to Instruction for use supplied with the shunt.

be all free from disease & sufferings

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f FLOW REGULATING CHARACTERISTICS

Chhabra system is available in three pressure type models. A medium pressure system allows a flow of 20 ml/hr at a pressure gradient of 10 cm of water. It is the physiological rate of CSF formation and absorption. The detailed characteristics of all three types of systems are being given in the chart below.



p PRE-IMPLANTATION PRECAUTION

The most important precaution before the implantation of the shunt is that the whole system must invariably be flushed with distilled water or saline. This is done to ensure that the slit valves open up to their normal size again before the shunt is implanted. Silicone rubber has a slight tendency to stick when it is in a dry state. The flushing process brings the valves back to their normal operational condition. After implantation the moisture of the CSF itself keeps the valve in normal condition.

p PRESENTATION

Chhabra shunt is manufactured in three types which are suitable for both ventriculo-atrial and ventriculoperitoneal shunting. For domestic market a version with a smaller distal catheter (30 cm) is available. The model with a larger distal catheter (75 cm) is labeled as VP and the model with smaller distal catheter (30 cm) is labeled as VA. The following six models are available.

Description of type	Code No.
Ventriculo Peritoneal High Pressure with Regular Reservoir VPHP	SH201
Ventriculo Peritoneal Medium Pressure with Regular Reservoir VPMP	SH202

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Ventriculo Peritoneal Low Pressure with Regular Reservoir VPLP	SH203
Ventriculo Peritoneal High Pressure with Large Flushing Reservoir VPHP	SH231
Ventriculo Peritoneal Medium Pressure with Large Flushing Reservoir VPMP	SH232
Ventriculo Peritoneal Low Pressure with Large Flushing Reservoir VPLP	SH233
Ventriculo Artrial High Pressure with Regular Flushing Reservoir VAHP	SH204
Ventriculo Artrial Medium Pressure with Regular Flushing Reservoir VAMP	SH205
Ventriculo Artrial Low Pressure with Regular Flushing Reservoir VALP	SH206

The system is supplied complete with a ventricular catheter, a unitised shunt assembly with a distal catheter and two straight connectors in peel-open packs. The pack is sterilized by EO.

The information given in this brochure is not exhaustive and is for guidance only. The surgeon is advised to use the method which his own practice and discretion dictate to be best for patient.

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