



THE UNIVERSITY of TEXAS

HEALTH SCIENCE CENTER AT HOUSTON

Office of Technology Management

SUBCUTANEOUS VENTRICULAR PERITONEAL SHUNT SYSTEM FOR THE TREATMENT OF HYDROCEPHALUS

Market: In 2005, neurosurgical and neurointerventional surgical products totaled near \$1.1 billion in the United States alone. By 2012, sales of these types of products are expected to reach more than \$1.4 billion.

Competitors and Current Problems: Current procedures for treating hemorrhagic-induced hydrocephalus (abnormal accumulation of cerebrospinal fluid (CSF) in the ventricles, or cavities, of the brain) usually require clearance of the blood from the ventricular system before a permanent ventricular peritoneal (VP) shunt system can be placed. The clearance of blood from the ventricular system can take up to six weeks, resulting in a lengthy stay for the patient in the ICU and increased costs to the health care system. This delay is a result of the Neurosurgeons' inability to implant a traditional shunt system while the CSF contains a significant amount of blood products. When a traditional shunt system is placed too early, it frequently ends in shunt failure as a result of clotting of the valve system by cellular debris and thrombi. It is also accompanied by the constant risk of CSF infection from the long term externalized ventricular catheter.

The Technology: The University of Texas Health Science Center at Houston (UTHSC-H) has a patent pending on a technology for an entirely subcutaneous CSF Shunting/Drainage System for patients with hydrocephalus as a result of an intracranial hemorrhage. This completely subcutaneous VP shunting device is implanted while the patient still has significant amounts of blood in the CSF. Such procedure does not result in a clogged VP shunt valve because thrombolytic agents are injected into the shunt system's tubing via a subcutaneous pump. Once the ventricular catheter is placed, the implantable pump delivers the agent upstream from the pressure regulating valve (which regulates fluid flow through the distal catheter), thus alleviating the risk of shunt malfunction. Furthermore, the completely subcutaneous nature of this device reduces the risk of infection to patients and eliminates the possibility of disconnection. Overall, this innovative VP shunting device provides for the cost-effective, safe and rapid treatment of patients suffering from intracranial hemorrhage-induced hydrocephalus.

NON-CONFIDENTIAL TECHNOLOGY DESCRIPTION

The preceding is intended to be a non-confidential summary of a novel technology created at the University of Texas Health Science center at Houston (UTHSCH), for which the University has obtained patent protection.

UTHSCH Ref. No. 2004-0022

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Patent Status: Filed U.S. Patent Application No. 11/219,434

License Available: World-wide; exclusive or non-exclusive

To obtain further information about this technology, please contact:
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