



## SMART MEDICAL TECHNOLOGIES – LOCALIZED BRAIN HYPOTHERMIA DEVICE

The technique of brain cooling has been shown to provide significant clinical benefits during neurosurgery or following brain injury. Most methods and devices used for this purpose, however, also cause generalized hypothermia, which can have unwanted side effects, including interference with normal blood clotting and organ function.

Under contract to the Walter Reed Army Institute of Research (WRAIR) Neurosciences Department, SMT has developed a prototype device that provides for rapid cooling of the brain (localized hypothermia) as a means of minimizing secondary brain damage from injuries resulting from closed or penetrating head injury, stroke, and other hypoxic or ischemic events.



The device functions by diverting arterial blood flow through an external cooling unit and then re-infusing the cooled blood into the carotid artery.

SMT has produced a scaled-down version of its localized hypothermia device designed to facilitate experimental studies in animal models of head injury. In preliminary studies, the device has been shown to provide rapid cooling of the brain without altering core body temperature.



If SMT's device proves effective in preventing the loss of neurons and other cells following acute head injury, SMT intends to develop the unit for human use under FDA medical device regulations.

In its human application, the portable nature of the device facilitates flexibility for use inside and outside the surgery room, including possible applications in emergency care and trauma medicine.

To the company's knowledge, there are no other devices available or in development that are intended for use in an emergency medicine setting that do not result in generalized hypothermia.

To learn more about the Localized Brain Hypothermia Device, please contact Smart Medical Technologies at 949-459-9050, or visit our website at <http://www.smartmedtech.com>.