



PRESS RELEASE

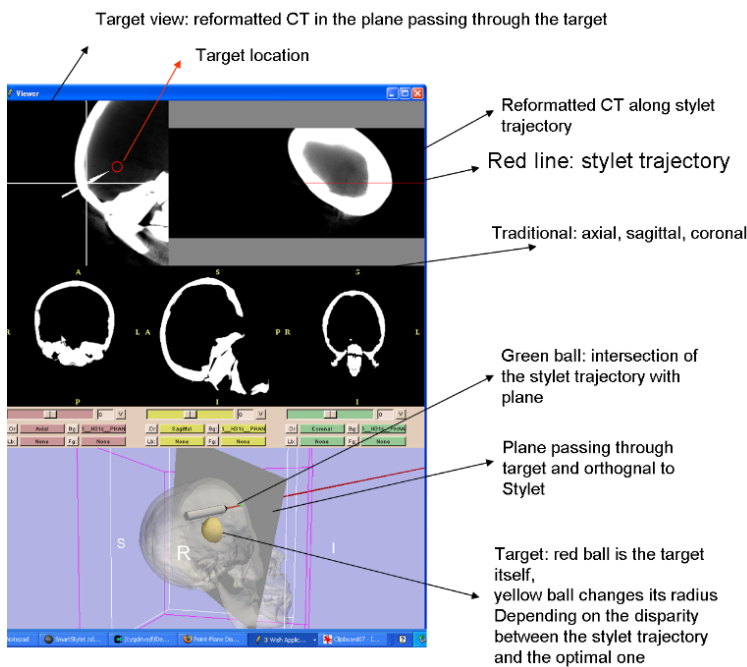
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Image-Guidance System to Benefit Stroke and Brain Injury Victims

Ascension and CIMIT To Demonstrate New Methodology for Relieving Intracranial Pressure at Neurological Conference

BURLINGTON, VERMONT, USA; April 27, 2010: **CIMIT** (*The Center for Integration of Medicine and Innovative Technology*) **Image Guidance Laboratory** and **Ascension Technology Corporation** will demonstrate new technology to improve ventriculostomy at the 78th Annual Meeting of the American Association of Neurological Surgeons (AANS) In Philadelphia, PA, May 3-5, 2010 (<http://www.aans.org/annual/2010/>).



CT imagery reformatted for image-guided navigation of a catheter to a ventricle in the brain.

Elevated intracranial pressure (ICP) following traumatic brain injury is a major cause of patient deterioration and death. Ventriculostomy is a life-saving procedure routinely performed to relieve rising ICP. Typically a catheter is advanced through the brain into the ventricular system so excess fluid can be drained to re-establish normal ICP. In clinical practice, the procedure is done “free-hand” at the bedside. Catheter placement is frequently inaccurate, requiring post-procedure CT imaging and readjustment. This lack of precision may delay the management of dangerous ICP and may cause additional neurological morbidity.

According to Vaibhav Patil, M.D. at the CIMIT Image Guidance Laboratory, “Catheter misplacement can be high as 50%. Using Ascension’s tracking technology, we are developing a Smart Stylet image-guidance system to improve bedside placement of the extraventricular drain (EVD) catheter.”

A prototype of the new guidance system, which will be exhibited as a “Work in Progress” at AANS, is composed of four components:

- A disposable stylet that is inserted into a catheter to guide its placement,
- An Ascension 1.3mm sensor, embedded in the catheter’s distal tip, for intracranial tracking, registered to fiducials on a pre-acquired CAT scan or real-time ultrasound imagery,
- A disposable ventriculostomy catheter for insertion through a burr hole in the skull to reach a target in the brain,
- Planning and navigation software running on a PC to give the physician virtual and real-time views of the brain, along with the trajectory of the Smart Stylet.

Imagery and steering directions overlaid on the system’s monitor will let the physician navigate and guide the catheter to the desired location in the brain. For drainage applications, the catheter is left in place and secured using standard surgical techniques. Depending on the procedure, other instruments can then be inserted through the catheter.

Once fully developed, the system will provide fast, accurate guidance for bedside insertion of a catheter probe into the brain by a non specialist for ventricular drainage and reduction of life-threatening intracranial pressure.

At AANS, **Ascension and CIMIT Image Guidance Lab** will demonstrate the device in **Booth #2143**.

About Ascension

Ascension Technology Corporation is a global leader in magnetic 3D localization and guidance for medical procedures. Its third generation magnetic sensors represent the key enabling technology for image-guided procedures. More information about Ascension trackers along with streaming video of medical applications is available at www.ascension-tech.com.

About CIMIT

The Center for Integration of Medicine and Innovative Technology (CIMIT), Cambridge, MA, works in concert with industry, academia, and government to rapidly improve patient care. It provides innovators with resources to explore, develop and implement novel technological solutions for healthcare problems. For more info, visit: www.cimit.org.

For information about the Smart Stylet project, contact Dr. Vaibhav Patil: patil@bwh.harvard.edu.

This procedure is an example of what can be accomplished with 3D tracking and imaging technology in compliance with FDA/CE/IRB directives.

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