



Vycor ViewSite TC®: Endoscopic Intraparenchymal Brain Tumor Resection with Image Guidance

The recent renewed interest in endoscopic techniques within the field of Neurosurgery has led to the rise of novel technological developments and approaches. The Vycor ViewSite TC brain access system is an instrument which couples the rich and detailed visualization features of the endoscope with the accuracy and safety of modern neuronavigation, while providing the surgeon with stable retraction. Although it can also be used for clot removals, the ViewSite TC is specially useful in the management of deep-seated brain lesions, whether the goal is resection or biopsy. When attached to an image guidance probe, the apparatus is inserted into the patient's nervous tissue, thus creating a working tunnel to the lesion whilst enabling real time navigation.



Figure 1: the ViewSite TC Brain Access System seen in detail.



Figure 2: different formats are available, enabling the surgeon to choose a model that is best suited for the patient's needs.

Part Number	Width	Height	Length
TC120803	12mm	8mm	3cm
TC120805	12mm	8mm	5cm
TC120807	12mm	8mm	7cm
TC171103	17mm	11mm	3cm
TC171105	17mm	11mm	5cm
TC171107	17mm	11mm	7cm
TC211503	21mm	15mm	3cm
TC211505	21mm	15mm	5cm
TC211507	21mm	15mm	7cm
TC282003	28mm	20mm	3cm
TC282005	28mm	20mm	5cm
TC282007	28mm	20mm	7cm

Table 1: a wide variety of dimensions is available.

Minimally Invasive Neurosurgery

Illustrative Case

A 54 year old woman presented with intense, progressive headache and left-sided weakness. She had a history of prior brain surgery for a Glioblastoma Multiforme. The patient was evaluated by Dr. Daniel Prevedello, MD, Director of the Minimally Invasive Cranial Surgery Program at the Ohio State University (OSU)*. Head MRI investigation revealed a large neoplastic mass infiltrating the right parietal subcortical region and ipsilateral corpus callosum. A small, right parietal craniotomy was performed under image guidance. Next, the ViewSite TC coupled with the navigation probe (figure 4) was introduced into the parietal lobe, posterior to the motor area, granting access to the tumor (figure 5). Under endoscopic visualization, the lesion was progressively resected in piecemeal fashion. As the deeper portions of the tumor were removed, the port was slowly retracted allowing the more superficial components to present themselves into the working channel. This procedure was followed by rigorous hemostasis. Postoperative scans confirm the subtotal resection (figure 3), since the corpus callosum infiltration was not addressed. Pathology confirmed the presumed diagnostic of Glioblastoma Multiforme and after an uneventful recovery, the patient was sent to adjuvant treatment.

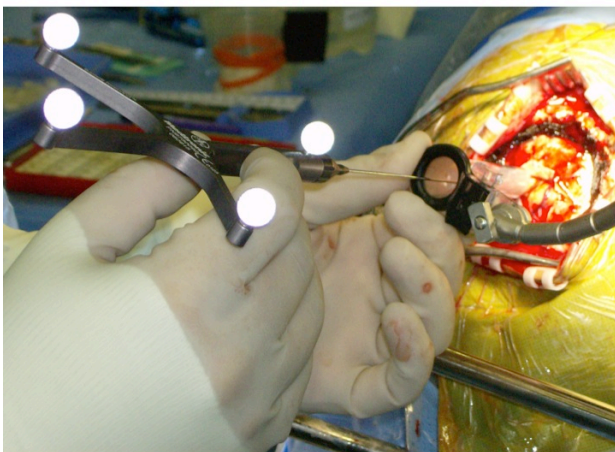


Figure 4: orientation of the navigation probe within the ViewSite TC port.

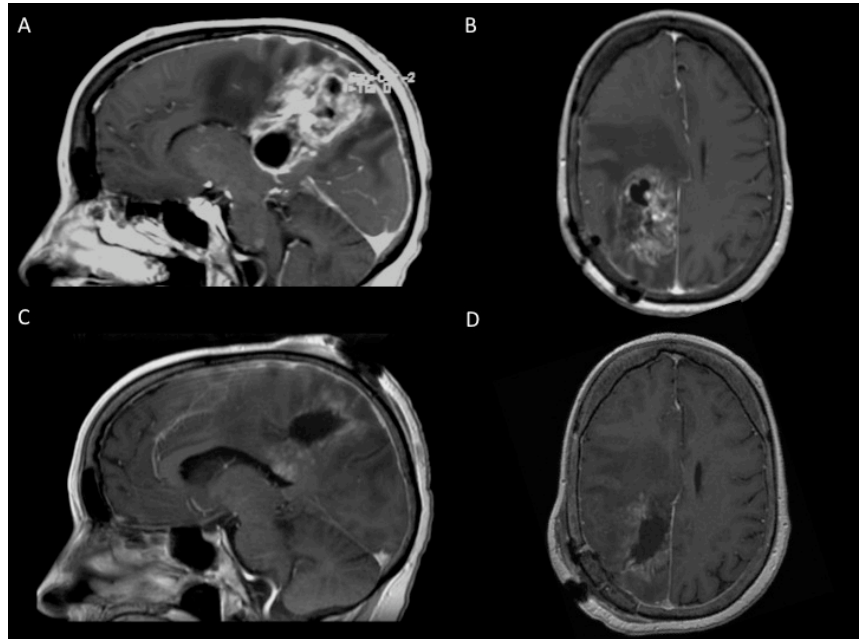


Figure 3: preoperative sagittal (A) and axial (B) T1 MRI w/ contrast shows a large tumor infiltrating the right parietal subcortical region with corpus callosum invasion. Postoperative sagittal (C) and axial (D) scans demonstrate the subtotal resection of the lesion.

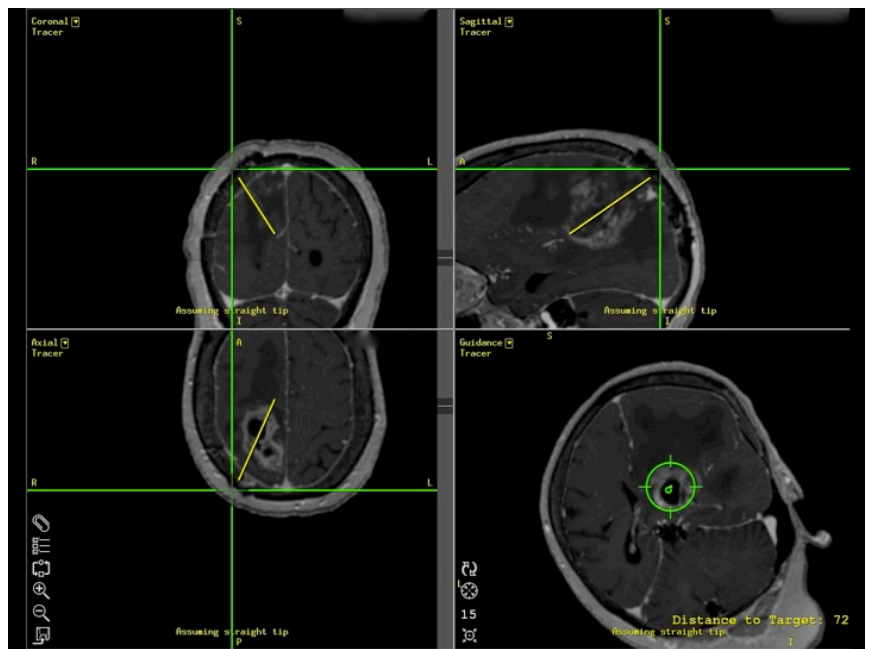


Figure 5: intraoperative neuronavigation image demonstrates the trajectory and depth achieved by the port system.

* Participation by Dr. Prevedello in this report does not constitute nor imply endorsement by the Ohio State University of Vycor Medical or any of its products.