The learning process in neurosurgery is a large and difficult task based on experimentation, being ventriculostomy not an exception. We have developed a virtual reality system to help training novel surgeons on this kind of operation. The system consists of the simulation of the surgery using a haptic device and a subsequent 3D visual inspection of the surgical trajectory. Our main objective was to prove that the tactile sensation produced by our system was enough realistic for the surgeons. We carried out a demonstration session in a medical workshop where all surgeons attending the workshop used the system with a very enthusiastic response about the perception experimented through the system.