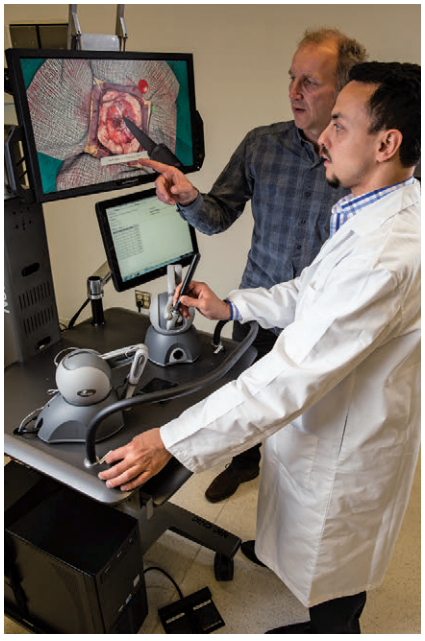
NRC·CNRC

NeuroTouch

Surgical simulation you can see, hear and feel

NRC's surgical simulator elevates neurosurgery training to a new level

- See lifelike renderings of brain tissue, blood vessels and tumours
- Hear realistic sounds from instruments
- Feel tactile feedback at your fingertips



Learn, teach and practice brain surgery

NeuroTouch is a virtual-reality (VR) simulator with haptic feedback developed to train and assess technical skills in neurosurgery. It features the surgical workspace of an open neurosurgical procedure by replicating the stereoscopic view and ergonomics of an operating room (OR) microscope.

Features

- Extensive range of exercises derived from actual patient images
- User-friendly graphical interface with touchscreen
- Adjustable ergonomic design
- Switch between stereoscopic microscope view and 2D indirect endoscopic view
- Realistic scope lens blurring and rinsing
- Primary instrument set with realistic handles
- Automatic recognition as you switch instruments during the exercise
- Immediate and cumulative metrics to track proficiency goals
- 2Sim!, proprietary physics-based software engine, simulates surgical procedures in any specialty

Modules available in NeuroTouch

Progressive instrument exercises:

- Suction
- Ultrasonic aspirator
- Bipolar forceps
- Microscissors
- Microdrill
- Microdebrider
- Endoscope

Fundamental skills exercises:

- Burr Hole Selection
- Endonasal Navigation
- Hemostasis
- Tumour Debulking
- Tumour Resection
- Microdissection

Procedures involving instrument exchanges:

- Subcortical glioma resection
- Convexity meningioma resection
- Endoscopic third ventriculostomy
- Transsphenoidal access
- Ethmoidectomy
- Laminectomy

Benefits of virtual reality simulators

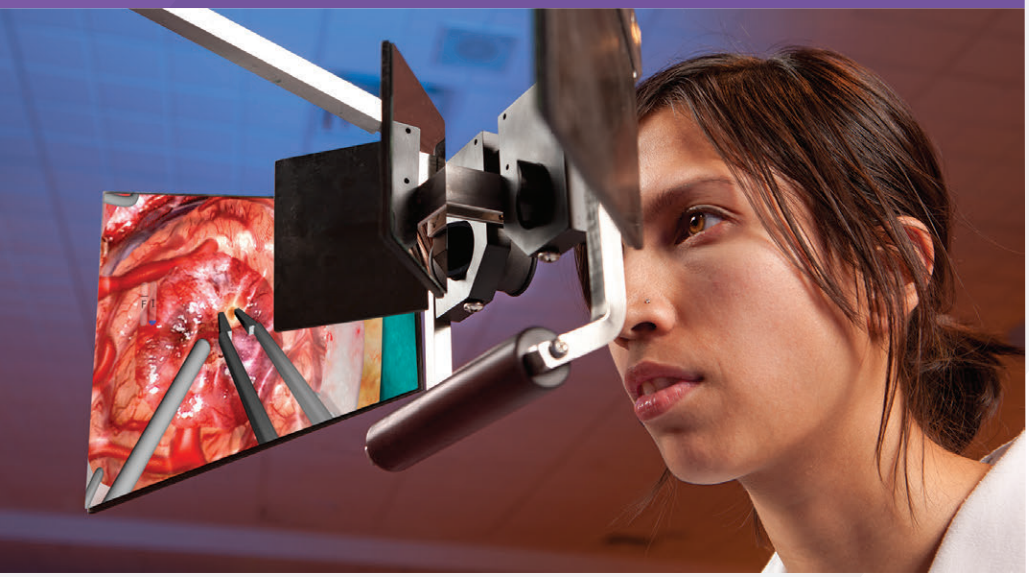
Train residents, from basic instrument handling and fundamental surgical techniques to realistic procedures, before setting foot in the OR.

Review immediate feedback on performance and track progress for each user through objective metrics of exercise completion, errors, procedure duration, instrument force, etc.

Benefit from optimized resident training in a safe training environment.

Help shape the future of neurosurgical training

NRC uses advanced medical information and communication technologies to develop highly realistic, affordable, real time simulation-based technologies.



"To my knowledge, in the world, there is nothing close to this in neurosurgical simulation."

– Rolando Del Maestro, MD
Montreal Neurological Institute and Hospital

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