

Neurosurgical Techniques

- [Prevalence and antibiotic resistance of pathogens isolated from neurosurgical patients with postoperative central nervous system infections in a tertiary hospital in North China](#)
- [Comparison of endoscopic versus microscopic transsphenoidal surgery in patients with pituitary adenomas: a propensity score matched study](#)
- [Evaluation of the clinical effectiveness of bundled care interventions on pressure ulcer incidence in neurosurgical patients](#)
- [Blood-Brain Barrier Disruption Predicts Poor Outcome in Subarachnoid Hemorrhage: A Dynamic Contrast-Enhanced MRI Study](#)
- [PTEN Mutations Associated with Increased Recurrence and Decreased Survival in Patients with Prostate Cancer Spinal Metastasis](#)
- [Spinal Arachnoid Cysts: A Single-Center Preliminary Surgical Experience with a Rare and Challenging Disease](#)
- [Advancing Neurosurgical Oncology and AI Innovations in Latin American Brain Cancer Care: Insights from a Center of Excellence](#)
- [Using a syringe as tubular retractor and working channel in minimally invasive cranial and spinal neurosurgery](#)

□ Cranial Neurosurgery

Craniotomy-based Techniques

see [Craniotomy](#)

Approaches

[Approaches](#)

Stereotactic and Minimally Invasive

- Frame-based stereotactic biopsy
- Frameless neuronavigation-guided biopsy
- Endoscopic-assisted craniotomy
- Laser interstitial thermal therapy (LITT)
- BrainPath tubular retractor system
- Robotic-assisted stereotaxy

□ Functional Neurosurgery

- Deep Brain Stimulation (DBS)
- Vagal Nerve Stimulation (VNS)
- Responsive Neurostimulation (RNS)

- Focused ultrasound thalamotomy
- Stereotactic lesioning (pallidotomy, thalamotomy)
- Intrathecal drug delivery systems (baclofen pumps)
- Corpus callosotomy
- Hemispherectomy / hemispherotomy

□ Spinal Neurosurgery

Decompression Techniques

- Laminectomy
- Laminotomy
- Foraminotomy
- Discectomy (open, microdiscectomy, endoscopic)

Stabilization and Fusion

- Posterior lumbar interbody fusion (PLIF)
- Transforaminal lumbar interbody fusion (TLIF)
- Anterior cervical discectomy and fusion (ACDF)
- Lateral lumbar interbody fusion (LLIF/XLIF)
- Minimally invasive spinal fusion (MIS-TLIF, OLIF)
- Pedicle screw fixation
- Vertebroplasty / kyphoplasty

Tumor Resection

- Intramedullary tumor resection
- Extradural or intradural-extramedullary tumor excision

□ Pediatric Neurosurgery

- Endoscopic third ventriculostomy (ETV)
- Choroid plexus coagulation
- Craniostyostosis surgery (strip craniectomy, cranial vault remodeling)
- Myelomeningocele repair
- Posterior fossa decompression for Chiari malformation

□ Neurovascular Techniques

- Aneurysm clipping
- Aneurysm coiling (endovascular)
- Arteriovenous malformation (AVM) resection
- Carotid endarterectomy

- Bypass surgery (STA-MCA bypass)
- Cerebral revascularization
- Decompressive craniectomy for stroke or trauma

□ Hydrocephalus and CSF Management

- Ventriculoperitoneal (VP) shunt placement
- Endoscopic third ventriculostomy (ETV)
- Lumbar or cisternal drain placement
- Ommaya reservoir insertion

□ Oncologic Techniques

- En bloc tumor resection
- Supratotal resection strategies
- Fluorescence-guided surgery (5-ALA, fluorescein)
- Intraoperative MRI or ultrasound-guided resection
- Cavitron ultrasonic surgical aspirator (CUSA)

⚙ Adjunct Technologies

- Intraoperative navigation (neuronavigation)
- Intraoperative neuromonitoring (IONM)
- Intraoperative MRI/CT
- Ultrasound guidance
- Exoscope and microscope-assisted techniques
- Endoscopic neurosurgery

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Last update: **2025/05/23 22:35**

