The Department of Neurosurgery at Barrow Neurological Institute epitomizes its creed of accepting challenges, rejecting norms, and pushing boundaries. With Michael T. Lawton, MD, at the helm, Barrow focuses on providing every patient with the most advanced neurosurgical care. Our highly skilled and experienced neurosurgeons represent all subspecialties within the field of neurosurgery and perform more brain surgeries than any other hospital in the United States.

Barrow neurosurgery patients have access to invaluable research and hundreds of clinical trials—enabling better treatment options, sooner. Our surgeons have pioneered neurosurgical procedures and techniques in vascular (cardiac standstill, AVM grading, and complex bypass surgery), spine (fusion and instrumentation techniques, thoracoscopic spine surgery, and robotics), and tumor (Phase 0 clinical trials, transfacial and skull base resection techniques). They’ve made game-changing discoveries in neuroscience, including isolating the gene that causes the inherited form of cerebral cavernous malformations.

Barrow neurosurgeons are committed to sharing the knowledge they’ve built over the years through a steadfast pursuit of academic excellence and resident education.

**What We Treat:**

- Acoustic Neuroma
- Aneurysms
- Arteriovenous Malformations
- Brachial Plexus Injuries
- Brain Tumors
- Carotid Artery Disease
- Cavernous Malformations
- Degenerative Spine Disease
- Epilepsy
- Hydrocephalus
- Intracranial Stenosis and Moyamoya Disease
- Meningioma
- Parkinson’s Disease and Movement Disorders
- Peripheral Nerve Disorders
- Pituitary Tumors and Disorders
- Scoliosis and Spinal Deformities
- Spine Disorders
- Spinal Trauma
- Spinal Tumors
- Stroke
- Trigeminal Neuralgia

**Brain and Cerebrovascular Procedures:**

- Aneurysm Clipping
- Aneurysm Embolization
- Asleep Deep Brain Stimulation (DBS)
- AVM Resection
- Bypass Surgery
- Carotid Angioplasty and Stenting
- Carotid Endarterectomy
- Craniocervical Junction Surgery
- CyberKnife Radiosurgery
- Embolization of AVM and AV Fistula
- Endoscopic Cranial Surgery
- Endoscopic Transsphenoidal Pituitary Surgery
- Endovascular Neurosurgery
- Epilepsy Surgery
- Gamma Knife Radiosurgery
- Skull Base Surgery
- Stereotactic Laser Ablation

**Spine Procedures:**

- Adult and Pediatric Scoliosis Surgery
- Minimally Invasive and Hybrid Scoliosis Correction
- Custom 3-D Printed Implants for Fusion Surgery
- Less-Invasive Spine Tumor Surgery
- Mini-Open Thoracic Herniated Disc Surgery
- Minimally Invasive Lateral Surgery
- Minimally Invasive Spine Surgery
- Navigation-Guided Spinal Procedures
- Robotic-Assisted Spine Surgery
Department of Neurosurgery

Michael T. Lawton, MD
Aneurysms and Blood Vessel Disorders
Arteriovenous Malformation
Cavernous Malformation
Acoustic Neuroma
Skull Base Surgery

Felipe Albuquerque, MD
Aneurysms and Blood Vessel Disorders
Endovascular Neurosurgery
Hereditary Hemorrhagic Telangiectasia
Meningioma
Stroke / Transient Ischemic Attacks

Kaith Almefty, MD
Meningioma
Acoustic Neuroma
Skull Base Surgery
Schwannoma
Spine Surgery

F. David Barranco, MD
Brain Tumors
Cervical Spine Surgery
Lumbar Spine Surgery
Pituitary Tumors and Disorders
Radiosurgery

Steve Chang, MD
Brain Tumors
Cervical Spine Surgery
Minimally Invasive Spine Surgery
Robotic Spine Surgery
Spine Tumors

Tsinsue Chen, MD
Deep Brain Stimulation
Trigeminal Neuralgia
Hemifacial Spasm
Brain Tumors
Spine Tumors

Andrew Ducruet, MD
Endovascular Neurosurgery
Aneurysms and Blood Vessel Disorders
Arteriovenous Malformation
Dural Arteriovenous Fistula
Stroke / Transient Ischemic Attacks

Brian Fitzpatrick, MD
Hydrocephalus
Lumbar Spine Surgery
Minimally Invasive Spine Surgery
Normal Pressure Hydrocephalus

David Fusco, MD
Cervical Spine Surgery
Cyberknife
Lumbar Spine Surgery
Minimally Invasive Spine Surgery
Artificial Disc Surgery

Mark Garrett, MD
Brain Tumors
Spine Tumors
Cranial and Lumbar Spine Trauma
Minimally Invasive Spine Surgery

Ashutosh Jadhav, MD
Intracranial Stenosis
Intracranial Stenosis
Stroke

Andrew Little, MD
Minimally Invasive Spine Surgery
Complex Spinal Deformity
Correction
Cranial and Spinal Trauma
Brain and Spinal Tumors

Latarja Almefty, MD
Craniovertebral Junction
Spine Surgery
Minimally Invasive Cranial Surgery

Randall Porter, MD
Minimally Invasive Spine Surgery
Pituitary Tumors and Disorders
Brain Tumors
Meningioma
Arnold Chiari Malformation
Radiosurgery

Frederick Marciano, MD, PhD
Brain Tumors
Cervical Spine Surgery
Lumbar Spine Surgery
Minimally Invasive Spine Surgery
Spinal Cord Tumors

Zaman Mirzadeh, MD, PhD
Malignant and Benign Brain Tumors
Cancer Pain
Neurocritical Care
Spinal Cord Stimulation
Pain Management

Laura Snyder, MD
Minimally Invasive Lumbosacral Surgery
Spinal Surgery
Artificial Disc Surgery
Robotic Spine Surgery

Laura Snyder, MD
Minimally Invasive Lumbosacral Surgery
Spinal Surgery
Artificial Disc Surgery
Robotic Spine Surgery

Taro Kaibara, MD
Minimally Invasive Spine Surgery
Cervical Spine Surgery
Lumbar Spine Surgery
Spinal Nerve Root Lesions

Rory Murphy, MD
Brain Tumors
Cervical Myelopathy
Cervical Spine Surgery
Brain Tumors
Spinal Cord Tumors
Spinal Cord Injury/Peripheral Nerve Surgery

Mark Garrett, MD
Cervical Spine Surgery
Brain Tumors
Meningioma
Glioblastoma Multiforme
Radiosurgery

Luis Tumialan, MD
Minimally Invasive Lumbosacral Surgery
Cervical Surgery
Robotic-Assisted Spinal Surgery
Anterior Cervical Fusion
Minimally Invasive Management of Spinal Cord Tumors

Francisco Ponce, MD
Deep Brain Stimulation
Parkinson’s Disease and Movement Disorders
Spinal Cord Disorders
Spinal Cord Tumors
Spine Tumors

Jay Turner, MD, PhD
Scoliosis and Spinal Deformities
Spine Tumors
Minimally Invasive Spine Surgery
Robotic Spine Surgery
Craniovertebral Junction Surgery

Juan Uribe, MD
Cervical Spine Surgery
Minimally Invasive Spine Surgery
Robotic Spine Surgery
Scoliosis and Spinal Deformities
Thoracic Spine Surgery

John Wanebo, MD
Aneurysms and Blood Vessel Disorders
Brain Tumors
Cervical Spine Surgery
Minimally Invasive Spine Surgery
Moyamoya Disease

David Wilson, MD
Brain Tumors
Spine Tumors
Minimally Invasive Cranial Techniques
Degenerative Spinal Disorders

U. Kumar Kakarla, MD
Scoliosis: Pediatric and Adult
Cervical Spine Surgery
Thoracic Spine Surgery
Lumbar Spine Surgery
Disc Herniation

Bryan Lee, MD
Minimally Invasive Spine Surgery
Complex Spinal Deformity Correction
Cranial and Spinal Trauma
Brain and Spinal Tumors

Andrew Little, MD
Minimally Invasive Spine Surgery
Pituitary Tumors and Disorders
Brain Tumors
Meningioma
Arnold Chiari Malformation
Radiosurgery

Kris Smith, MD
Brain Tumors
Cervical Spine Surgery
Glioblastoma
Gamma Knife
Glioblastoma Multiforme
Meningioma

Laura Snyder, MD
Minimally Invasive Cranial Surgery
Cranial and Cervical Surgeries
Nerve Surgery

Zaman Mirzadeh, MD, PhD
Malignant and Benign Brain Tumors
Cancer Pain
Neurocritical Care
Spinal Cord Stimulation
Pain Management

Laura Snyder, MD
Minimally Invasive Cranial Surgery
Cranial and Cervical Surgeries
Nerve Surgery

Luis Tumialan, MD
Minimally Invasive Lumbosacral Surgery
Cervical Surgery
Robotic-Assisted Spinal Surgery
Anterior Cervical Fusion
Minimally Invasive Management of Spinal Cord Tumors