# **UCSF Medical Center**

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http://neurosurgery.ucsf.edu/index.php/about\_us\_faculty.html

UCSF's Neurosurgery Service ranks in the top five of US News & World Report's 2010 roster of best neurosurgery services in the United States and is the top-ranked program on the West coast.

The adult neurosurgery services include the specialty programs of adult brain tumors, cerebrovascular disease, epilepsy, movement disorders, pain and trigeminal neuralgia, peripheral nerve disorders, and radiosurgery. These programs all incorporate multi-disciplinary teams that include neuroradiologists, radiation oncologists, neurologists, and other specialists to provide patients with comprehensive care.

The clinical neuro-oncology service specializes in treating patients with brain tumors of all grades and has an international reputation for excellence in testing experimental treatments for brain tumors. It is also the center of operations for the North American Brain Tumor Consortium – an organization of nine institutions that conduct clinical trials of new therapies for brain tumor patients.

The neurospinal disorders service operates in conjunction with the orthopedic spine service in the UCSF Spine Center. They provide highly specialized care for all disorders affecting the spine and peripheral nerves, including advanced spine tumor and adult deformity surgery, as well as minimally invasive spine surgery.

The Department's brain and spinal injury program is based at San Francisco General Hospital, where neurosurgeons specializing in traumatic brain and spinal cord injury provide advanced critical care, such as brain-tissue oxygen monitoring, cerebral blood flow monitoring, jugular venous saturation monitoring, and continuous electroencephalograms (EEG).

Pediatric neurosurgery services are based at both the UCSF Children's Hospital and Children's Hospital & Research Center Oakland. A team of pediatric neurosurgeons and neuro-oncologists provide treatment for pediatric central nervous system tumors, spina bifida, cerebrovascular disorders, epilepsy, and neurospinal disorders in children. They also have expertise in Gamma Knife radiosurgery procedures for pediatric patients. Children's Hospital & Research Center Oakland is a major pediatric neurotrauma center and is also home to a comprehensive program for spasticity.

### Centers

The Brain Tumor Center at UCSF is one of the largest and most comprehensive programs for brain tumor treatment in the United States. It includes the Division of Neurooncology, the Brain Tumor Research Center, and the Division of Translational Research. The Center also offers social services and neuropsychological consultation, and has close ties with organizations sponsoring support groups and other resources for patients and their families.

A multidisciplinary team specializes in treating all types of brain tumors, including:

#### Adult Brain Tumors

Pediatric Brain Tumors Gliomas Medulloblastoma Glioblastoma (grade IV glioma) Astrocytoma Anaplastic astrocytoma (grade III glioma) Ependymoma Low-grade astrocytoma (grade II glioma) Brainstem glioma Pilocytic astrocytoma (grade I glioma) Craniopharyngioma Oligodendroglioma Spinal cord tumors Ependymoma Mixed Glioma

Skull Base Tumors Meningiomas Acoustic neuroma (vestibular schwannoma) pituitary neuroendocrine tumors Nasal carcinomas Chordomas Chondosarcomas Glommus

#### Pineal Region Tumor Metastatic Tumor

Treatment planning and adjuvant therapy for brain tumors is managed by adult and pediatric neurooncologists in the Division of Neuro-oncology. Treatment options include brachytherapy, convectionenhanced delivery of therapeutic agents, radiosurgery, and medical therapy. The Division also has an international reputation for excellence in testing experimental therapies for brain tumors, and approximately 200 patients are enrolled in clinical trials each year. Currently, the Division of Neurooncology is expanding its clinical research effort to include patient-focused outcomes research, with an emphasis on quality of life, symptom clusters, cognitive function, caregiver research, and patient and care giver education. More about clinical neuro-oncology and clinical trials for brain tumors **>** 

UCSF's Acoustic Neuroma and Hearing Preservation Program includes physicians from the Departments of Neurological Surgery, Otolaryngology – Head [&] Neck Surgery, and Radiation Oncology who are devoted to caring for patients with acoustic neuromas and hearing loss, and who are continually striving to translate their scientific advances into more-effective therapies.

Children who come to UCSF with a brain tumor are cared for by our pediatric neurological surgery and pediatric neuro-oncology specialists in the UCSF Children's Medical Center. The Center, which has dedicated pediatric preoperative and postoperative facilities, is a member of the National Association of Children's Hospitals and Related Institutions (NACHRI), a national nonprofit association of children's hospitals and health systems committed to excellence in children's services.

### Staff

Mitchel S. Berger MD, Department Chairman Adult and pediatric brain tumors; neurophysiologic brain mapping; glioma marker profiling

Adib Abla MD Surgical and endovascular treatment of cerebrovascular disorders; hemodynamics of brain aneurysms

Manish Aghi MD, PhD Adult brain tumors; pituitary tumors; neuro-endoscopy of the anterior skull base; glioblastoma angiogenesis; oncolytic viruses

Arturo Alvarez-Buylla PhD Neural stem cells and regeneration; developmental neuroscience

Christopher P. Ames MD Spinal tumors, sacral tumors, chordoma, sarcoma, chondrosarcoma, spinal deformity, scoliosis, ankylosing spondylitis, giant cell tumor

Tarun Arora MD CNS tumors; spinal disorders; cerebrovascular disorders; neurotrauma

Kurtis Auguste MD Pediatric epilepsy surgery and general pediatric neurosurgery

Anuradha Banerjee MD Pediatric neuro-oncology; pediatric brain tumor clinical trials

Krys Bankiewicz MD, PhD Convection drug-delivery systems; gene therapy for Parkinson's disease

Scott C. Baraban PhD Cellular mechanisms of epileptogenesis

Michael S. Beattie PhD Animal models of brain and spinal cord injury

Scott Berta MD General neurosurgery

Lewis S. Blevins, Jr. MD Pituitary disorders

Jacqueline C. Bresnahan PhD Animal models of brain and spinal cord injury

Nicholas A. Butowski MD Adult Neuro-oncology; clinical trials

Soonmee Cha MD Perfusion magnetic resonance imaging

Edward F. Chang MD Mapping for brain tumors; epilepsy; movement disorders; pain; trigeminal neuralgia

Susan M. Chang MD Adult neuro-oncology; clinical trials

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Joseph F. Costello PhD Functional genomics

Sanjay Dhall MD Neurospinal Disorders; spine trauma

Aaron Diaz PhD Brain tumor heterogeneity and microenvironment; computational biology

Adam Ferguson PhD Brain and spinal cord injury

Grant E. Gauger MD Surgical treatment of brain and spinal cord injury and trauma; heavy particle radiobiology

Nalin Gupta MD, PhD Surgical management of pediatric brain tumors and neurological disorders; cellcell interactions between brain tumor and normal cells

Shawn Hervey-Jumper MD Surgical treatment of adult brain tumors; brain mapping

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neuroendocrine tumors; treatment with immunotoxins by convection-enhanced delivery

Paul S. Larson MD Stereotactic and functional neurosurgery; neuroimaging

Sun Ik Lee MD General neurosurgery, degenerative spine pathologies, minimally invasive spine surgery

Daniel A. Lim MD, PhD Neural stem cells, neurogenesis, and stereotactic and functional neurosurgery

Jialing Liu PhD Neurogenesis and functional recovery after stroke

Geoffrey Manley MD, PhD Basic, translational, and clinical traumatic brain-injury research

Michael W. McDermott MD Adult brain tumors, meningiomas, radiosurgery, and image-directed surgery including endoscopy; biology of meningiomas

Catherine Miller MD Neurospinal disorders, complex spine surgery

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Praveen V. Mummaneni MD Minimally invasive spine surgery; degenerative spine disease; adult spinal deformity; spinal tumors; spinal trauma

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Hideho Okada MD, PhD Brain tumor immunotherapy

Michael Oldham PhD Genetics, computational biology

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Claudia Petritsch PhD Brain cancer stem cells; asymmetric stem cell division; novel tumor suppressor genes

Joanna Phillips MD, PhD Neuropathology

Russell O. Pieper PhD Signal transduction; models of human gliomagenesis; drug resistance

Michael D. Prados MD, FACP Neuro-oncology clinical trials for adults and children

Keith Quattrocchi MD, PhD, FACS Degenerative disease of the spine; adult brain tumors; neuronavigational surgery

Caroline Racine PhD Neuropsychology

Corey Raffel MD, PhD Pediatric neurosurgery

Margaret Riordan MD Skull base neurosurgery, brain tumors, cranial trauma

Roberto Rodriguez Rubio MD Neuroanatomy, skull base and cerebrovascular surgery, cadaveric surgical simulation, stereotactic morphometry, neuroanatomical volumetric models

Philip A. Starr MD, PhD Surgical treatment of movement disorders; basal ganglia physiology in movement disorders

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Doris Wang MD, PhD Surgical treatment of movement disorders; functional neurosurgery

Philip R. Weinstein MD Professor emeritus

John K. Wiencke PhD Epidemiological and clinical studies in neuroepidemiology

Margaret R. Wrensch MPH, PhD Genetic and molecular epidemiology of adult brain cancer.

## **Publications**

see UCSF Medical Center Publications.

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