



**CEDARS-SINAI MEDICAL CENTER.**  
**Maxine Dunitz Neurosurgical Institute**

**Ray M. Chu, MD**

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**Education:**

**Stanford University**, Palo Alto, California  
Biological Science 1994

**University of California San Diego**, San Diego, California  
Medical Degree 1998

**Post-Graduate Training:**

**University of Minnesota**, Minneapolis, Minnesota  
Internship, General Surgery 1998-1999

**University of Minnesota**, Minneapolis, Minnesota  
Resident, Neurosurgery 1999-2004

**Academic Appointments:**

Teaching Assistant, Core Laboratory  
Department of Biological Sciences  
Stanford University  
Palo Alto, California 1992-1993

Senior Teaching Assistant, Core Laboratory  
Department of Biological Sciences  
Stanford University  
Palo Alto, California 1993-1994

Course Instructor  
Department of Anatomy  
UCSD Medical School  
San Diego, California 1997-1998

### **Administrative Appointments:**

Attending Neurosurgeon, Maxine Dunitz Neurosurgical Institute  
Department of Surgery  
Cedars-Sinai Medical Center  
Los Angeles, California 2004-Present

### **Professional Societies and Memberships:**

American Association of Neurological Surgeons 2000-Present  
Congress of Neurological Surgeons 2000-Present

### **Certificates and Licensure:**

Minnesota State Medical License 2000-Present  
California State Medical License 2003-Present

### **University and Hospital Committees:**

Graduate Medical Education Committee,  
Fairview University Medical Center 2001-2002  
Operating Room Committee,  
Fairview University Medical Center 2002-2003  
Institutional Review Board Member,  
Cedars-Sinai Medical Center 2005-Present  
Centricity (Electronic Medical Record) Neurosurgery Representative,  
Cedars-Sinai Medical Center Present  
MD-RN Collaboration Neurosurgery Representative,  
Cedars-Sinai Medical Center Present

### **Research Experience:**

Co-Investigator:  
The Brain Tumor Registry: Immunologic, Vascular, and Genetic  
Assessment of Brain Tumors. 2004-Present

Co-Investigator:  
Phase III Randomized Evaluation of Convection  
Enhanced Delivery of IL13-PE38QQR Compared to Gliadel® Wafer  
With Survival Endpoint in Glioblastoma Multiforme Patients at First  
Recurrence Protocol # IL13PEI-301-R01. 2004-Present

Co-Investigator:  
Phase I Study of Intracranial Dendritic Cell Immunotherapy for  
Patients with Recurrent Malignant Glioma. 2004-Present

Co-Investigator:  
Phase II Trial of Tumor Lysate-Pulsed Dendritic Cell Immunotherapy  
for Patients with Atypical or Malignant Primary or Metastatic Brain  
Tumors of the Central Nervous System. 2004-Present

Principal Investigator:  
A Randomized Phase 3 Study of Enzastaurin versus Lomustine in  
the Treatment of Recurrent Intracranial Glioblastoma Multiforme. 2006

Principal Investigator:  
Brain Tumor Database Collaboration with the National Cancer Institute. 2006

**Publications in Scientific Journals:**

1. Brody BL, Williams RA, Thomas RG, Kaplan RM, **Chu RM**, Brown SI: Age-related macular degeneration: A randomized clinical trial of a self-management intervention. Ann Behav Med. 21(4):322-329, 1999.
2. **Chu RM**, Tummala RP, Hall WA: Focal intracranial infections due to Propionibacterium acnes. Neurosurgery 49:717-720, 2001.
3. Nussbaum ES, **Chu RM**, Tummala RP: Cerebral revascularization other than carotid endarterectomy. Medlink Neurology electronic journal, 2001.
4. Tummala RP, **Chu RM**, Madison MT, Myers M, Tubman D, Nussbaum ES: Outcomes after aneurysm rupture during endovascular coil embolization. Neurosurgery 49:1059-1066, 2001.
5. Nussbaum ES, Sebring LA, Neglia JP, **Chu RM**, Mattsen ND, Erickson DL: Delayed cerebrovascular complications of intrathecal colloidal gold. Neurosurgery 49:1308-1312, 2001.
6. Tummala RP, **Chu RM**, Liu H, Truwit CL, Hall WA: Optimizing brain tumor resection: High-field interventional MR imaging. Neuroimaging Clin N Am. 11:673-683, 2001.
7. **Chu RM**, Tummala RP, Kucharczyk J, Truwit CL, Maxwell RE: Minimally invasive procedures: Interventional MR image-guided functional neurosurgery. Neuroimaging Clin N Am. 11:715-725, 2001.
8. Tummala RP, **Chu RM**, Hall WA: High-field functional capabilities for magnetic resonance imaging-guided brain tumor resection. Techniques in Neurosurgery. 7(4):319-325, 2002.
9. Tummala RP, **Chu RM**, Nussbaum ES: Extracranial-intracranial bypass for symptomatic occlusive cerebrovascular disease not amenable to carotid endarterectomy. Neurosurg Focus. 14(3):article 8, 2003.
10. Tummala RP, **Chu RM**, Liu H, Hall WA: Application of diffusion tensor imaging to magnetic resonance-guided brain tumor resection. Pediatric Neurosurg. 39(1):39-43, 2003.
11. **Chu RM**, Tummala RP, Hall WA: Intraoperative magnetic resonance imaging-guided neurosurgery. Neurosurg Q. 13:234-250, 2003.

### **Book Chapters and Invited Articles:**

1. **Chu RM**, Tummala RP, Partington MD: Neurosurgical considerations in achondroplasia and their management. Loftus C, Batjer HH (eds): Textbook of Neurological Surgery: Principles and Practice. Lippincott, New York, 2003.
2. **Chu RM**, Black KL: Current surgical management of high grade glioma. Schmidek H, Sweet W (eds): Operative Neurosurgical Techniques. Elsevier, Philadelphia, 2006.

### **Scientific, Poster, and Oral Poster Presentations:**

1. Nussbaum ES, Tummala RP, **Chu RM**, Madison MT: Outcome following aneurysm rupture during GDC coiling. Joint Meeting of the AANS/CNS Section on Cerebrovascular Surgery and the ASITN. New Orleans, LA, February 2000.
2. **Chu RM**, Nussbaum ES, Casey SO, Michel E, Sebring LA: Safety and efficacy of gadolinium angiography in patients with renal insufficiency. Congress of Neurological Surgeons Annual Meeting. San Antonio, TX, September 2000.
3. **Chu RM**, Nussbaum ES, Sebring LA, Neglia JP, Erickson DL: Delayed complications of intrathecal colloidal gold. Congress of Neurological Surgeons Annual Meeting. San Antonio, TX, September 2000.
4. Tummala RP, **Chu RM**, Nussbaum ES: Large and giant intracranial aneurysms: Contemporary management using a multimodality approach. Minnesota Surgical Society. St. Paul, MN, March 2001.
5. **Chu RM**, Tummala RP, and Nussbaum ES: Extracranial-Intracranial bypass for symptomatic occlusive cerebrovascular disease not amenable to carotid endarterectomy. Congress of Neurological Surgeons Annual Meeting. San Diego, CA, September 2001.
6. **Chu RM**, Tummala RP, O'Fallon MT, Nagib MG: Posthemorrhagic hydrocephalus in prematurity and extreme prematurity: A ten-year single center experience. AANS/CNS Section on Pediatric Neurological Surgery Annual Meeting. New York, NY, November 2001.
7. **Chu RM**, Tummala RP, Levine SL, Nussbaum ES: The combined subtemporal presigmoid approach to skull base lesions. 13<sup>th</sup> Annual Meeting of the North American Skull Base Society. San Diego, CA, February 2002.
8. **Chu RM**, Tummala RP, McCollow K, Lo SS, Cho K, Hall WA: Stereotactic radiosurgery versus conventional fractionated stereotactic radiotherapy for vestibular schwannomas. 13<sup>th</sup> Annual Meeting of the North American Skull Base Society. San Diego, CA, February 2002.
9. Tummala RP, **Chu RM**, Nussbaum ES: Extracranial-Intracranial bypass for symptomatic occlusive cerebrovascular disease not amenable to carotid endarterectomy. Joint Meeting of the AANS/CNS Section on Cerebrovascular Surgery and the ASITN. Dallas, TX, February 2002.

10. Tummala RP, **Chu RM**, Madison MT, Nussbaum ES: Migration of Guglielmi detachable coils after endovascular treatment of intracranial aneurysms. Joint Meeting of the AANS/CNS Section on Cerebrovascular Surgery and the ASITN. Dallas, TX, February 2002.
11. Walski-Easton S, Tummala RP, **Chu RM**, Mendez A, Sebring LA, Nussbaum ES: Familial Moyamoya disease in Caucasians. Joint Meeting of the AANS/CNS Section on Cerebrovascular Surgery and the ASITN. Dallas, TX, February 2002.
12. Tummala RP, **Chu RM**, Nussbaum ES: The role of cerebrovascular biomodeling in neurosurgical resident education. Joint Meeting of the AANS/CNS Section on Cerebrovascular Surgery and the ASITN. Dallas, TX, February 2002.
13. Tummala RP, **Chu RM**, Nussbaum ES: Surgical treatment of previously coiled intracranial aneurysms. American Association of Neurological Surgeons Annual Meeting. Chicago, IL, April 2002.
14. Nagib MG, Tummala RP, **Chu RM**, O'Fallon MT: Congenital brain tumors: A single center experience. Neurosurgical Society of America. Charleston, SC, May 2002.
15. Sethi KA, **Chu RM**, Tummala RP, Lam C: Craniosynostosis in the perinatal rat with the use of methyl-2-cyanoacrylate: A neuroanatomic study. Congress of Neurological Surgeons. Philadelphia, PA, September 2002.
16. Tummala RP, Sethi KA, **Chu RM**, Flores EP: Treatment of spinal epidural abscess: A twelve-year, single-center experience and review. Congress of Neurological Surgeons Annual Meeting. Philadelphia, PA, September 2002.
17. Tummala RP, **Chu RM**, Levine S, Nussbaum ES: The combined subtemporal-presigmoid transtentorial approach to vascular lesions. Joint Meeting of the AANS/CNS Section on Cerebrovascular Surgery and the ASITN. Phoenix, AZ, February 2003.
18. Tummala RP, **Chu RM**, Rustamzadeh E, Nussbaum ES: The use of dexmedetomidine as a sedative in cerebrovascular patients. Joint Meeting of the AANS/CNS Section on Cerebrovascular Surgery and the ASITN. Phoenix, AZ, February 2003.
19. Nussbaum ES, Tummala RP, **Chu RM**, Nussbaum ES: Microvascular decompression of an injured cortical draining vein: Technical note. Joint Meeting of the AANS/CNS Section on Cerebrovascular Surgery and the ASITN. Phoenix, AZ, February 2003.
20. Rustamzadeh ER, **Chu RM**, Hall WA: Intraoperative MRI guidance for syringosubarachnoid shunt placement. American Association of Neurological Surgeons Annual Meeting. San Diego, CA, April 2003.
21. **Chu RM**, Tummala RP, Drygas J, Hall WA: LINAC stereotactic radiosurgery for trigeminal neuralgia. Congress of Neurological Surgeons Annual Meeting. Denver, CO, September 2003.