




Steven D. Chang, MD

Robert C. and Jeannette Powell Neurosciences Professor and, by courtesy, of Otolaryngology - Head & Neck Surgery (OHNS) and of Neurology and Neurological Sciences
Neurosurgery

 NIH Biosketch available Online

CLINICAL OFFICE (PRIMARY)

- **Stanford Neuroscience Health Center**

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ACADEMIC CONTACT INFORMATION

- **Alternate Contact**

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Bio

BIO

Dr. Chang is a Professor and Vice Chairman of Strategic Development and Innovation in the Department of Neurosurgery at Stanford. He is also the inaugural holder of the Robert C. And Jeannette Powell Professorship in the Neurosciences at Stanford University School of Medicine. His clinical work and research focuses on the treatment of brain tumors and cerebrovascular disease.

After receiving his Medical Degree and completing his Neurosurgery residency training at Stanford University, Dr. Chang joined Stanford's Department of Neurosurgery in 2000. He was named full professor in 2008, and that same year was appointed as the Powell Professor in the Neurosciences.

Dr. Chang has a national and international reputation as an expert in both microsurgery and radiosurgery for treatment of brain, spine, and skull base tumors, and is the Co-Director of the Surgical Neuro-Oncology Program. His radiosurgery practice focuses on the use of the Cyberknife to treat neoplasms of the brain and spine. He was instrumental in the rapid growth of the Stanford Cyberknife Radiosurgery Program and is currently Co-Director of this program. Dr. Chang also specializes in the treatment arteriovenous malformations and cavernous malformations of the brain and spine, and surgical treatment of intracranial aneurysms. A fellowship trained cerebrovascular neurosurgeon, Dr. Chang specializes in multi-modality therapy for these vascular lesions. He is also an expert in both microsurgery and radiosurgery for treatment of trigeminal neuralgia.

Dr. Chang's research focuses on clinical outcomes for radiosurgery of brain and spine tumors. His lab has active research projects involving genetic analysis of arteriovenous malformation patients. He is the Director of the Stanford Neurogenetics Oncology Program and the Director of the Stanford Neuromolecular Innovations Program. He is the author or co-author of more than 300 peer-reviewed publications and book chapters.

CLINICAL FOCUS

- Cancer > Neuro Oncology
- Brain / Central Nervous System Tumors
- Brain / Central Nervous System Tumors - Neuro Oncology
- Brain / Central Nervous System Tumors - Neurosurgery
- Neurological Surgery

- Neurosurgery
- Skull Base Tumors
- Skull Base Tumors - Head and Neck Surgery
- Spinal Cancer
- Spinal Cancer - Neurosurgery
- Spinal Cancer - Surgery
- Acoustic Neuroma
- Glioma, Astrocytic
- Glioma
- Glioblastoma
- Glioblastoma with Sarcomatous Component
- Astrocytoma
- Ependymoma
- Medulloblastoma
- Meningioma
- Intracranial Aneurysm
- Carotid Stenosis
- Arteriovenous Malformations
- Intracranial Arteriovenous Malformations
- ACTH-Secreting Pituitary Adenoma
- Adenoma, Prolactin-Secreting, Pituitary
- Diabetes Insipidus, Pituitary
- Growth Hormone-Secreting Pituitary Adenoma
- Hypothalamic-Pituitary Neoplasms
- Neoplasms, Hypothalamic-Pituitary
- PRL-Secreting Pituitary Adenoma
- Pituitary ACTH Hypersecretion
- Pituitary ACTH-Producing Cells
- Pituitary ACTH-Secreting Cells
- Pituitary Adenoma, Prolactin-Secreting
- Pituitary Adrenocorticotropin-Secreting Cells
- Pituitary Apoplexy
- Pituitary Diseases
- Pituitary FSH Hypersecretion
- Pituitary Gland
- Pituitary Growth Hormone-Secreting Cells
- Pituitary Irradiation
- Pituitary Neoplasms
- Prolactin-Producing Pituitary Adenoma

- Prolactin-Secreting Pituitary Adenoma
- Vestibular Schwannoma
- brain metastasis
- Cyberknife
- Radiosurgery, Stereotactic
- Stereotactic Techniques
- spinal avm
- spinal tumor
- Spinal Meningioma
- spinal schwannoma
- Trigeminal Neuralgia
- Hemifacial Spasm
- Glossopharyngeal Nerve Diseases
- AVM (Arteriovenous Malformation) Intracranial
- Stroke
- Brain Tumor, Primary
- Brain Tumor, Recurrent
- Brain Tumors
- Malignant Primary Brain Tumors
- Primary Malignant Brain Tumors
- Aneurysm, Cerebral
- Acoustic Neuroma, Cerebellopontine Angle
- Aneurysm, Anterior Cerebral Artery
- Aneurysm, Middle Cerebral Artery
- Aneurysm, Posterior Cerebral Artery
- Anterior Cerebral Artery Aneurysm
- Cerebral Cavernous Hemangioma
- Cerebral Hemorrhage
- Cerebral Vasculitis
- Middle Cerebral Artery Aneurysm
- Posterior Cerebral Artery Aneurysm
- Vascular Malformations, Brain
- Brain Aneurysm
- Brain Neoplasms
- Brain Revascularization
- Neurogenetics
- Neuroproteomics
- Neurocutaneous Syndromes
- Glomus Tumor

- Craniopharyngioma
- Pituitary tumor

ACADEMIC APPOINTMENTS

- Professor - University Medical Line, Neurosurgery
- Professor - University Medical Line (By courtesy), Otolaryngology (Head and Neck Surgery)
- Professor - University Medical Line (By courtesy), Neurology and Neurological Sciences
- Member, Bio-X
- Member, Cardiovascular Institute
- Member, Wu Tsai Neurosciences Institute

ADMINISTRATIVE APPOINTMENTS

- Co-Surgical Director, Pituitary Program, Stanford, (2006-2007)
- Capital Asset Management Committee, Stanford, (2005-2010)
- Topic Review Editor, Editorial Board, Neurosurgery, (2005-2010)
- Editorial Board, World Neurosurgery, (2010-2012)
- Editorial Board, Journal of Radiosurgery and SBRT, (2010- present)
- Neuroscience Service Line Committee, Stanford, (2003- present)
- Co-Director, Stanford Cyberknife Program, Stanford, (2003- present)
- Director, Stanford Neuromolecular Innovation Program, (2009- present)
- Director, Stanford Neurogenetics Program, (2010- present)
- Robert C. and Jeannette Powell Professor in the Neurosciences, Stanford University, (2008- present)
- Vice Chairman, Neurosurgery Strategic Development and Innovation, Stanford University School of Medicine, (2015- present)

HONORS AND AWARDS

- Robert C. and Jeannette Powell Professor in the Neurosciences, Stanford University (2008-)

BOARDS, ADVISORY COMMITTEES, PROFESSIONAL ORGANIZATIONS

- Member, Stanford Neurosciences Destination Service Line Committee (2002 - present)

PROFESSIONAL EDUCATION

- Residency: Stanford University Dept of Neurosurgery (1999) CA
- Internship: Stanford University Dept of General Surgery (1994) CA
- Medical Education: Stanford University School of Medicine (1993) CA
- Board Certification: Neurological Surgery, American Board of Neurological Surgery (2003)
- Fellowship: Stanford University Cerebrovascular Surgery Fellowship (2000) CA
- Fellowship, Stanford University Stereotactic Radiosurgery Fellowship , CA (1996)
- Executive MBA, Pepperdine University School of Business , CA (2020)
- MD, Stanford University , Medicine (1993)
- AB, Stanford University , Quantitative Economics (1989)
- BS, Stanford University , Biology (1989)

COMMUNITY AND INTERNATIONAL WORK

- Stanford Brain Tumor Support Group
- Neurofibromatosis Support Group
- Stanford Meningioma Support Group, Stanford
- Stanford Acoustic Neuroma Support Group, Stanford

LINKS

- Stanford Neuromolecular Innovation Program: <http://snip.stanford.edu/>
- Stanford Neurogenetic Oncology Program: <http://stanfordhospital.org/clinicsmedServices/COE/neuro/neurogenetics/>
- Stanford Cyberknife Program: <https://stanfordhealthcare.org/medical-clinics/cyberknife-stereotactic-radiosurgery-program.html>
- Stanford Acoustic Neuroma Support Group: http://stanfordhospital.org/clinicsmedServices/COE/cyberknife/acoustic_neuroma.html
- Stanford Meningioma Support Group: <http://stanfordhospital.org/clinicsmedServices/COE/cyberknife/meningiomaSupport.html>
- Get a Second Opinion: <https://stanfordhealthcare.org/second-opinion/overview.html>

Research & Scholarship

CURRENT RESEARCH AND SCHOLARLY INTERESTS

The Stanford Neurogenetic Innovation Program (SNIP) brings together clinical experts with the goal of developing new technologies to improve the diagnosis and treatment of patients affected by neurological conditions. Dr. Steven D. Chang, M.D., Professor of Neurosurgery, is leading SNIP's research efforts, which can be divided into three broad categories: (1) Neural Stem Cells, (2) New Blood Vessel Growth and Response to Radiosurgery, and (3) Nanotechnology and Microfluidic Biochips

1. Neural Stem Cells

SNIP researchers recently found that the ability of stem cells in the brain to regenerate themselves and produce new nerves is a process guided by signals from neighboring cells, in particular the cells that make up our blood vessels. SNIP researchers have succeeded in isolating stem cells from brain tumor tissue. It is possible that errors in the programming of these tumor stem cells may result in abnormal growth of tissue and the development of brain tumors. Similar to neural stem cells, these tumor stem cells are located around the blood vessels that feed the tumor. SNIP researchers are currently studying the stem cells present in brain tumors and vascular malformations to determine what changes occurred in these cells to cause them to produce or promote disease. With this knowledge, it may soon be possible to discover new therapies for affected patients, prevent recurrent tumor growth, identify genetic risk factors, and develop preventative therapies to protect against development of disease.

2. New Blood Vessel Growth and Response to Radiosurgery

Understanding the process by which new blood vessels grow in the brain is important for research on (1) stroke recovery, (2) Blood vascular malformations that are characterized by overgrowth or dysfunction of vascular elements, e.g. arteriovenous malformations, and (3) brain tumors, which grow on the basis of new blood vessel formation to feed the tumor. SNIP researchers have recently found that circulating cells, previously thought only to have functions in our immune system, are recruited to areas of new blood vessel growth in the brain. SNIP researchers hope to develop new therapies that travel through the bloodstream to affect this process in order to directly treat vascular malformations and brain tumors. SNIP researchers are examining genetic variation in key genes responsible for vascular health and response to radiation injury to explain patient variations in response to radiosurgery.

SNIP researchers are also leading efforts in biomarker discovery, a process that focuses on the isolation of circulating factors in the bloodstream of patients that may relate to specific characteristics of their tumor or vascular malformation. These biomarkers are being obtained on all patients undergoing neurosurgery for removal of their tumor or vascular malformation. Differences in biomarkers are being related to characteristics of the specimen obtained from surgery to determine whether these noninvasive measurements can reveal information specific to radiation susceptibility. Dr. Chang hopes to one day offer his patients a simple blood test that he can use to determine whether a particular patient will benefit from neurosurgery versus radiosurgery, i.e. the goal of practicing personalized medicine.

3. Nanotechnology and Microfluidic Biochips

Microfluidic systems can perform conventional chemical and molecular processes on a biochip, allowing for sample metering, mixing, reactions and detection processes that usually require a laboratory full of equipment to be integrated and miniaturized onto chips no larger than the size of a standard glass slide. SNIP researchers are now focusing on prototyping new biochips to directly isolate specific cell populations and biomarkers using nanotechnology in order to develop tools that can enable SNIP clinicians to improve the diagnostics and treatment options available to patients affected by neurological conditions.

CLINICAL TRIALS

- A Study of a Deuterated Psilocin Analog (CYB003) in Humans With Major Depressive Disorder, Recruiting
- Panitumumab-IRDye800 in Diagnosing Participants With Malignant Glioma Undergoing Surgery, Recruiting
- Cyberknife Radiosurgery and Quality of Life, Not Recruiting
- Performance and Safety of Biology-Guided Radiotherapy Using the RefleXion Medical Radiotherapy System (BIOGUIDE-X), Not Recruiting
- Phase I Compare OS in Post-CyberKnife Radiosurgery Tx in 1-3 VS 4 or More Brain Metastases, Not Recruiting
- Stanford Program to Accelerate Robotic Children's Surgery, Not Recruiting
- Transarterial Chemoembolization Compared With Stereotactic Body Radiation Therapy or Stereotactic Ablative Radiation Therapy in Treating Patients With Residual or Recurrent Liver Cancer Undergone Initial Transarterial Chemoembolization, Not Recruiting

Publications

PUBLICATIONS

- **Management of neurovascular compromise of the vestibulocochlear nerve: A systematic review and illustrative case series** *WORLD NEUROSURGERY-X*
Ong, V., Harary, P. M., Persad, A. R., Hori, Y. S., Emrich, S. C., Ustrzynski, L., Tayag, A., Park, D. J., Chang, S. D.
2026; 29
- **Treatment outcomes of stereotactic radiosurgery for thyroid cancer spine metastases-systematic review.** *Neurosurgical review*
Izhar, M., Hori, Y. S., Ahmad, Z., Kattaa, A. H., Park, D. J., Chang, S. D.
2026; 49 (1)
- **Treatment outcomes of stereotactic radiosurgery for sarcoma brain metastases-systematic review.** *Journal of neuro-oncology*
Izhar, M., Kattaa, A. H., Hori, Y. S., Lam, F. C., Kalra, N., Zagzoog, N., Tayag, A., Ustrzynski, L., Emrich, S. C., Park, D. J., Chang, S. D.
2026; 177 (2)
- **Stereotactic radiosurgery (SRS) for primary intradural spinal tumors: A systematic review and meta-analysis.** *Neurosurgical review*
Nordin, E. O., Sanker, V., Heesen, P., Hariharan, S., Ciobanu-Caraus, O., Cavagnaro, M. J., Jeon, I., Park, D., Chang, S., Ratliff, J. K., Desai, A.
2026; 49 (1)
- **Comparing laminectomy and unilateral hemilaminectomy in spinal hemangioblastoma resection: A multicenter study.** *Brain & spine*
Wach, J., Basaran, A. E., Vychoopen, M., Tihan, T., Wostrack, M., Butenschoen, V. M., Meyer, B., Siller, S., Schmidt, N. O., Onken, J., Vajkoczy, P., Santos, A. N., Rauschenbach, et al
2026; 6: 106004

- **Neuromodulation for treatment resistant autism: systematic review.** *Journal of clinical neuroscience : official journal of the Neurosurgical Society of Australasia*
Osama, T. A., Hori, Y. S., Vanleuven, J., Persad, A. R., Ustrzynski, L., Emrich, S. C., Tayag, A., Purger, D., Park, D. J., Chang, S. D.
2026; 148: 111970
- **Radiation therapy combined with tyrosine kinase inhibitors in 826 patients with HER2-positive breast cancer brain metastases: a systematic review and network meta-analysis.** *Neurosurgical review*
Zare, A., Khaboushan, A. S., Mohammadzadeh, I., Mortezaei, A., Zare, A., Hajikarimloo, B., Ghalehtaki, R., Park, D. J., Chang, S. D.
2026; 49 (1): 182
- **Clinical and radiological outcomes of orbital metastases treated with stereotactic radiosurgery: a single-institution retrospective series and review of the literature.** *Journal of neurosurgery*
Zamarud, A., Hori, Y. S., Kattaa, A. H., Persad, A. R., Yoo, K., Tayag, A., Ustrzynski, L., Emrich, S. C., Hancock, S. L., Park, D. J., Chang, S. D.
2026: 1-7
- **Surgical resection versus stereotactic radiosurgery for succinate dehydrogenase-related hereditary head and neck paragangliomas.** *Journal of neuro-oncology*
Harary, P. M., Hori, Y. S., Lam, F. C., Abu-Reesh, D., Emrich, S. C., Tayag, A., Ustrzynski, L., Alyono, J., Holsinger, F. C., Dodd, R. L., Gibbs, I. C., Li, G., Park, et al
2026; 176 (2): 168
- **Artificial intelligence (AI) uses in stereotactic radiosurgery (SRS): outcome prediction with brain metastasis (BM) - A systematic review.** *Journal of clinical neuroscience : official journal of the Neurosurgical Society of Australasia*
Desai, S. P., Hori, Y. S., Kattaa, A. H., Izhar, M., Lam, F. C., Abu Reesh, D., Tayag, A., Ustrzynski, L., Emrich, S. C., Gu, X., Park, D. J., Chang, S. D.
2026; 145: 111854
- **CyberKnife stereotactic radiosurgery, stereotactic radiation therapy and stereotactic body radiation therapy: Technical and clinical updates** *JOURNAL OF RADIOSURGERY AND SBRT*
Kattaa, A. H., Park, D. J., Pollom, E., Rahimy, E., Chang, S. D., Wang, L., Byun, J., Soltys, S. G.
2026; 10 (1): 43-50
- **Association of plasma homocysteine levels with the presence of intracranial aneurysms and the risk of rupture: A systematic review and meta-analysis.** *Journal of clinical neuroscience : official journal of the Neurosurgical Society of Australasia*
Akhavan-Sigari, A., Olson, V., Pachón-Londoño, M. J., Moussalem, C. K., Wang, Z., Park, D. J., Krishna, C., Chang, S. D., Meyer, F. B., Bendok, B. R.
2025; 145: 111830
- **Hepatoblastoma brain metastasis treated with stereotactic radiosurgery: Illustrative case and literature search.** *Surgical neurology international*
Izhar, M., Kattaa, A. H., Hori, Y. S., Lam, F. C., Tayag, A., Ustrzynski, L., Emrich, S. C., Gibbs, I. C., Park, D. J., Chang, S. D.
2025; 16: 526
- **Prognostic relevance of MIB-1 labeling index in VHL-associated and sporadic spinal hemangioblastomas: a subgroup analysis from a multicentric study.** *Acta neuropathologica communications*
Wach, J., Basaran, A. E., Alhalabi, O. T., Beck, J., Butenschoen, V. M., Chang, S. D., Czabanka, M., Czernicki, T., Dammann, P., Doria-Medina, R., Eicker, S. O., Barrantes-Freer, A., Gizaw, et al
2025
- **Radiosurgical management of pathology-proven low-grade glioma: a systematic review across the pre- and post-molecular classification era.** *Journal of neurosurgical sciences*
Mizutani, Y., Hori, Y. S., Harary, P. M., Annagiri, S., Jain, R., Liu, J., Izhar, M., Reesh, D. A., Lam, F. C., Emrich, S. C., Ustrzynski, L., Tayag, A., Park, et al
2025
- **Enhancing radiation sensitivity in malignant brain tumors with chloroquine: a systematic review.** *Journal of neuro-oncology*
Harary, P. M., Hori, Y. S., Annagiri, S., Abe, K., Tatekoshi, Y., Hosoda, R., Saga, Y., Park, D. J., Kuno, A., Chang, S. D.
2025; 176 (1): 106
- **Efficacy and Safety of CyberKnife Stereotactic Radiosurgery for Occipital Condyle Metastasis** *NEUROSURGERY PRACTICE*
Park, D. J., Voruganti, H., Annagiri, S., Shaghaghian, E., Hori, Y. S., Persad, A. R., Yoo, K. H., Abu-Reesh, D., Lam, F. C., Tayag, A., Ustrzynski, L., Emrich, S. C., Han, et al

2025; 6 (4)

- **Efficacy and Safety of CyberKnife Stereotactic Radiosurgery for Occipital Condyle Metastasis.** *Neurosurgery practice*
Park, D. J., Voruganti, H., Annagiri, S., Shaghaghian, E., Hori, Y. S., Persad, A. R., Yoo, K. H., Abu-Reesh, D., Lam, F. C., Tayag, A., Ustrzynski, L., Emrich, S. C., Han, et al
2025; 6 (4): e000169
- **Stereotactic radiosurgery for craniopharyngioma: a systematic review and meta-analysis.** *Neurosurgical review*
Fathollahi, M. A., Soltani Khaboushan, A., Iranmehr, A., Dabbagh Ohadi, M. A., Park, D. J., Chang, S. D.
2025; 49 (1): 2
- **Treatment outcomes of cerebral arteriovenous malformations in patients with Hereditary hemorrhagic Telangiectasia: A case series from a Single-Center experience.** *Journal of clinical neuroscience : official journal of the Neurosurgical Society of Australasia*
Izhar, M., Al Gharyani, M. F., Hori, Y. S., Kattaa, A. H., Lam, F. C., Kalra, N., Zagzoog, N., Tayag, A., Ustrzynski, L., Emrich, S. C., Park, D. J., Chang, S. D.
2025; 143: 111750
- **Stereotactic radiosurgery (SRS) for primary spinal bone tumors: a systematic review and meta-analysis.** *Neurosurgical review*
Nordin, E. O., Sanker, V., Heesen, P., Dravid, A., Hariharan, S., Ciobanu-Caraus, O., Cavagnaro, M. J., Jeon, I., Park, D., Chang, S., Ratliff, J. K., Desai, A.
2025; 48 (1): 760
- **Peripheral neural crest tumor brain metastases management: a single-institution retrospective study.** *Journal of neuro-oncology*
Kattaa, A. H., Persad, A. R., Hori, Y. S., Harary, P. M., Izhar, M., Ustrzynski, L., Emrich, S. C., Tayag, A., Hiniker, S. M., Park, D. J., Chang, S. D.
2025; 176 (1): 65
- **Initial Clinical Outcomes in the Treatment of Brain Metastasis With Gyroscopic Radiosurgery at a Single Institution.** *Cureus*
McCleary, T. L., Marianayagam, N. J., Yuan, L., Yoo, K. H., Sekar, V., Persad, A., Park, D. J., Meola, A., Klassen, P. D., Chang, S. D.
2025; 17 (11): e97282
- **STEREOTACTIC RADIOSURGERY AND IMMUNOTHERAPY FOR BRAIN METASTASES SECONDARY TO RENAL CELL CARCINOMA**
Wang, J., Yoo, K., Park, D., Chang, S.
OXFORD UNIV PRESS INC.2025: v114
- **Treatment outcomes for hypoglossal schwannomas: insights from a single-institution experience and literature review.** *Journal of neurosurgery*
Kattaa, A. H., Park, D. J., Persad, A. R., Hori, Y. S., Kassu, R. A., Nasta, S. R., Voruganti, H., Akhavan-Sigari, A., Lam, F. C., AbuReesh, D., Han, S. S., Emrich, S. C., Ustrzynski, et al
2025: 1-11
- **Characterizing the Microenvironment of Cerebral Arteriovenous Malformations to Test Novel Treatment Modalities.** *Brain sciences*
Wazhi, K., Lam, F. C., Guru, S., Hori, Y. S., AbuReesh, D., Shoemaker, L., Park, D. J., Chang, S. D.
2025; 15 (11)
- **Stereotactic radiosurgery for hepatitis C virus-related hepatocellular carcinoma brain metastasis: A retrospective analysis and systematic review** *WORLD NEUROSURGERY-X*
Izhar, M., Hori, Y. S., Kattaa, A. H., Lam, F. C., Kalra, N., Zagzoog, N., Tayag, A., Ustrzynski, L., Emrich, S. C., Pollom, E. L., Soltys, S. G., Gephart, M., Park, et al
2025; 28
- **Current State-of-the-Art Animal Models of Pediatric Brain Tumors.** *Brain sciences*
Gudavalli, T., Lam, F. C., Guru, S., AbuReesh, D., Hori, Y. S., Hiniker, S., Park, D. J., Chang, S. D.
2025; 15 (10)
- **LINAC stereotactic radiosurgery for vestibular schwannomas.** *Handbook of clinical neurology*
Ahmad, M., Dadey, D. Y., Chang, S. D., Adler, J. R.
2025; 212: 267-276
- **Morphological Variability of Dural Venous Sinus Grooves and Internal Bony Findings: Clinical and Surgical Considerations** *JOURNAL OF NEUROLOGICAL SURGERY PART B-SKULL BASE*
Cardona, J. J., Park, D. J., Chang, S. D., Iwanaga, J., Tubbs, R.

2025

- **Functional Outcome After Initial and Multiple Intracerebral Hemorrhage in Patients With a Brainstem Cavernous Malformation: An International Multicenter Collaboration.** *Neurosurgery*
Wiplinger, C., Santos, A. N., Park, D. J., Hori, Y. S., Rauschenbach, L., Dinger, T. F., Engel, A., Li, Y., Piedade, G. S., Moussalem, C., Schmidt, B., Wiplinger, T. M., Siegel, et al
2025
- **Development and Validation of a Deep Learning-Based Auto-Segmentation Module for Vestibular Schwannoma**
Szalkowski, G., Zhang, K., Ye, X., Wang, L., Chuang, C. Y., Liu, L., Park, D., Hori, Y., Lam, F., Reesh, D. A., Soltys, S., Pollom, E., Rahimy, et al
WILEY.2025
- **Optimizing patient positioning for exoscopic cranial surgery.** *Neurosurgical focus: Video*
Harary, P. M., Park, D. J., Chang, S. D., Schulder, M.
2025; 13 (2): V20
- **LLM-Enhanced Multi-Modal Framework for Predicting Pain Relief of Stereotactic Body Radiotherapy for Spine Metastases Using Clinical Factors and Imaging Reports**
Zhang, K., Ye, X., Szalkowski, G., Yang, Z., Chuang, C., Wang, L., Liu, L., Soltys, S., Pollom, E., Rahimy, E., Byun, J., Park, D., Hori, et al
WILEY.2025
- **Deep Learning-Based Ventricular Auto-Segmentation for Dosimetric Analysis in Intraventricular Tumor SRS**
Chuang, C. Y., Gu, X., Hori, Y., Cardona, J. J., Lam, F., Reesh, D. A., Soltys, S., Pollom, E., Rahimy, E., Byun, J., Szalkowski, G., Wang, L., Liu, et al
WILEY.2025
- **Stereotactic radiosurgery for brain metastases from non-uterine Leiomyosarcoma: A retrospective case series** *WORLD NEUROSURGERY-X*
Cardona, J. J., Hori, Y. S., Kattaa, A. H., Harary, P. M., Lam, F. C., Abu-Reesh, D., Ustrzynski, L., Emrich, S. C., Tayag, A., Hayden-Gephart, M., Park, D. J., Chang, S. D.
2025; 28
- **Repeat stereotactic radiosurgery for treatment of brain metastases locally recurrent following initial radiosurgery.** *Journal of neuro-oncology*
Hall, J. C., Goel, K., Lozko, Y., Chang, S. D., Park, D. J., Hori, Y. S., Lam, F. C., AbuReesh, D., Jackson, S., Li, G., Hayden-Gephart, M., Kaneko, T., Nagpal, et al
2025
- **Stereotactic radiosurgery for brain metastases from extra-renal clear cell carcinoma: A series of four patients and review of the literature.** *Journal of clinical neuroscience : official journal of the Neurosurgical Society of Australasia*
Harary, P. M., Hori, Y. S., Kattaa, A. H., Lam, F. C., Abu-Reesh, D., Emrich, S. C., Tayag, A., Ustrzynski, L., Pollom, E. L., Park, D. J., Gephart, M. H., Chang, S. D.
2025; 141: 111602
- **A Comparison of Whole-Brain Dose During Stereotactic Radiosurgery for Multiple Metastases Across Technology Platforms.** *Cureus*
Marianayagam, N. J., Wang, Z., Gutierrez, A. N., Wiczorek, D. J., Paddick, I., Hori, Y. S., Park, D. J., Chang, S. D., Key, S., Weidlich, G. A., Adler, J.
2025; 17 (9): e92442
- **Deep Learning Based Automated Delineation of Vestibular Schwannomas: Geometric and Dosimetric Validation**
Szalkowski, G. A., Zhang, K., Ye, X., Wang, L., Chuang, C., Liu, L., Park, D., Hori, Y., Lam, F., Reesh, D., Soltys, S. G., Pollom, E. L., Rahimy, et al
ELSEVIER SCIENCE INC.2025
- **Global Growth and Distribution of CyberKnife Stereotactic Radiosurgery: A Bibliometric Analysis.** *Neurosurgery practice*
Annagiri, S., Hori, Y. S., Persad, A. R., Ustrzynski, L., Emrich, S. C., Tayag, A., Park, D. J., Adler, J. R., Chang, S. D.
2025; 6 (3): e000150
- **A Large Language Model-Augmented Multimodal Framework for Predicting Pain Relief Outcomes Following Stereotactic Body Radiotherapy (SBRT) in Spinal Metastases: Integrating Clinical Factors and Imaging Reports**
Zhang, K., Ye, X., Szalkowski, G. A., Yang, Z., Chuang, C., Wang, L., Liu, L., Soltys, S. G., Pollom, E. L., Rahimy, E., Byun, J., Park, D., Hori, et al
ELSEVIER SCIENCE INC.2025
- **Long-Term Safety and Efficacy of SRS for Nonmalignant CNS Indications in Children and Young Adults**
Smith, E. J., Baniel, C. C., Wang, Y. P., Chang, S. D., Gibbs, I. C., Oh, J., Pollom, E. L., Rahimy, E., Soltys, S. G., Hiniker, S. M.

ELSEVIER SCIENCE INC.2025

● **Clinical Target Volume Delineation in Stereotactic Radiosurgery for Sacral Spine Metastases**

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● **Management of Succinate Dehydrogenase-Mutant Paraganglioma with Stereotactic Radiosurgery**

Harary, P. M., Hori, Y., Zamarud, A., Lam, F., Reesh, D., Emrich, S. C., Tayag, A., Ustrzynski, L., Pollom, E. L., Soltys, S. G., Li, G., Park, D., Chang, et al

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● **Global Growth and Distribution of CyberKnife Stereotactic Radiosurgery: A Bibliometric Analysis** *NEUROSURGERY PRACTICE*

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● **Correction: Treatment of Refractory Bipolar Depression With Stereotactic Radiosurgery Targeting the Subgenual Cingulate Cortex.** *Cureus*

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● **Repeat Stereotactic Radiosurgery for Spinal Metastases Following Initial Radiosurgery: Comparison of Same Versus Adjacent Vertebral Levels**

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