

# Stanford

---



## Gary K. Steinberg, MD, PhD

Bernard and Ronni Lacroute-William Randolph Hearst Professor of Neurosurgery and Neurosciences and Professor, by courtesy, of Neurology

### CLINICAL OFFICES

- **Stanford Neuroscience Health Center**

213 Quarry Rd

4th Fl MC 5958

Palo Alto, CA 94304

**Tel** (650) 723-5575

**Fax** (650) 725-0390

### ACADEMIC CONTACT INFORMATION

- **Alternate Contact**

Stephanie Ekoniak - Executive Assistant

**Email** [sekoniak@stanford.edu](mailto:sekoniak@stanford.edu)

**Tel** (650) 725-5562

### Bio

---

#### BIO

Dr. Gary Steinberg is the Director of the Stanford Moyamoya Center, the founder and Co-Director of the Stanford Stroke Center, and the former Chair of the Department of Neurosurgery. As a cerebrovascular and skull base neurosurgeon, he specializes in treating brain aneurysms, moyamoya disease, brain and spinal AVMs and other vascular malformations, carotid artery disease, meningiomas, skull base tumors, stroke, and hereditary hemorrhagic telangiectasia.

Dr. Steinberg has practiced neurosurgery at Stanford for more than 31 years. He has pioneered microsurgical techniques to repair intracranial vascular malformations and certain aneurysms that were previously considered untreatable. He has also refined revascularization techniques for patients with cerebrovascular arterial occlusions, as well as moyamoya disease. He is leading novel clinical trials of stem cell therapy for stroke and spinal cord injury.

#### CLINICAL FOCUS

- Cerebrovascular and Spinal Vascular Surgery
- Intracranial Aneurysms
- Intracranial/Intraspinal AVMs, AV fistulas, Cavernous Malformations
- Moyamoya Disease and Occlusive Cerebrovascular Disease
- Carotid Endarterectomy
- Neurological Surgery

#### ACADEMIC APPOINTMENTS

- Professor, Neurosurgery
- Professor (By courtesy), Neurology
- Member, Bio-X
- Member, Cardiovascular Institute
- Member, Wu Tsai Neurosciences Institute

## ADMINISTRATIVE APPOINTMENTS

- Chair, Stanford University School of Medicine - Neurosurgery, (1995-2020)
- Founder and Co-Director, Stanford Stroke Center, (1991- present)
- Director, Stanford Moyamoya Center, (1991- present)

## PROFESSIONAL EDUCATION

- Residency: Stanford University Dept of Neurosurgery (1987) CA
- Residency: Stanford University Dept of General Surgery (1983) CA
- Medical Education: Stanford University School of Medicine (1980) CA
- Residency: Santa Clara Valley Medical Center (1986) CA
- Board Certification: Neurological Surgery, American Board of Neurological Surgery (1989)
- Fellowship: Institute Of Neurology (1981) England

## LINKS

- My Lab Site: <http://med.stanford.edu/steinberg-lab.html>
- Video Story: Choosing Medicine: <https://stanfordhealthcare.org/stanford-health-care-now/why-i-got-into-medicine/why-medicine-gary-steinberg-md-phd.html>
- Video Story: Alumni Award: <https://youtu.be/Sd2KV1Qtyb4>
- Medical Record Review: <https://stanfordhealthcare.org/second-opinion/medical-record-review.html>

## Research & Scholarship

---

### CURRENT RESEARCH AND SCHOLARLY INTERESTS

Our laboratory is interested in elucidating the pathophysiology of acute cerebral ischemia and in developing neuroprotective treatments, as well as methods to restore neurologic function after stroke. Using rodent wild type, knock out and transgenic models of focal and global ischemia, we are investigating the physiologic processes leading from decreased blood flow after arterial occlusion to irreversible brain injury. A major focus of our work concerns the role of oxidative stress, inflammation and gene expression on necrotic and apoptotic mechanisms of ischemic cell death. Alterations in cerebral blood flow, neuronal metabolic activity, electrophysiology, and gene/protein expression are examined in relation to neurologic behavior. We are also studying the brain microenvironment during recovery after stroke and the effects of stem cell transplantation and optogenetic stimulations in promoting recovery of function.

We have been successful in attenuating ischemic cerebral damage by inducing mild brain hypothermia (30-33 degrees C) or overexpression of various genes (glucose transporter, bcl-2, hsp70, calbindin, catalase, glutathione peroxidase, SOD) either before or after stroke. Transplantation of human neural stem cells after experimental stroke results in survival, targeted migration and differentiation into appropriate neuronal and glial cell types, while anti-inflammatory treatment enhances native neurogenesis and gliogenesis following stroke. Additionally, stem cell transplantation and optogenetic stimulation restores motor-sensory behavior after stroke and we are exploring the underlying circuit plasticity and molecular changes that are responsible for recovering neurologic function.

Methodologies utilized in the laboratory include microsurgery, light and confocal microscopy, stereology, molecular biology techniques, FACS, magnetic resonance imaging, electrophysiology, cerebral blood flow measurements, gene transfer therapy, optogenetics, stem cell transplantation and rodent behavioral analysis.

Our clinical research efforts focus on novel approaches for treating intracranial aneurysms, intracranial and spinal vascular malformations, occlusive cerebrovascular disease such as Moyamoya disease and stroke. These include advances in microsurgery, interventional neuroradiology, stereotactic radiosurgery, 3D imaging, surgical navigation, revascularization techniques, the use of mild brain hypothermia and other clinical neuroprotective agents, and stem cell transplantation for stroke and spinal cord injury.

## CLINICAL TRIALS

- A Safety and Tolerability Study of Neural Stem Cells (NR1) in Subjects With Chronic Ischemic Subcortical Stroke (ISS), Recruiting
- Carotid Revascularization and Medical Management for Asymptomatic Carotid Stenosis Trial, Recruiting
- Dose Escalation Study of AST-OPC1 in Spinal Cord Injury, Recruiting
- A Study of Modified Stem Cells in Stable Ischemic Stroke, Not Recruiting
- A Study of Modified Stem Cells in Traumatic Brain Injury (TBI), Not Recruiting
- Familial Intracranial Aneurysm Study II, Not Recruiting
- Study of Modified Stem Cells (SB623) in Patients With Chronic Motor Deficit From Ischemic Stroke, Not Recruiting

## Teaching

---

### STANFORD ADVISEES

#### Postdoctoral Faculty Sponsor

Hansen Chen, Varun Gupta, Pardes Habib, Hee Jae Ko, Richard Kopchock III, Yulia Zatulovskaia

### GRADUATE AND FELLOWSHIP PROGRAM AFFILIATIONS

- Neurosciences (Phd Program)

## Publications

---

### PUBLICATIONS

- **Short- and long-term outcomes of moyamoya patients post-revascularization** *JOURNAL OF NEUROSURGERY*  
Teo, M., Abhinav, K., Bell-Stephens, T. E., Madhugiri, V. S., Sussman, E. S., Azad, T., Ali, R., Esparza, R., Zhang, M., Steinberg, G. K.  
2023; 138 (5): 1374-1384
- **Decoding the molecular crosstalk between grafted stem cells and the stroke-injured brain.** *Cell reports*  
Azevedo-Pereira, R. L., Manley, N. C., Dong, C., Zhang, Y., Lee, A. G., Zatulovskaia, Y., Gupta, V., Vu, J., Han, S., Berry, J. E., Bliss, T. M., Steinberg, G. K.  
2023; 42 (4): 112353
- **Comprehensive Profiling of Secreted Factors in the Cerebrospinal Fluid of Moyamoya Disease Patients.** *Translational stroke research*  
Abhinav, K., Lee, A. G., Pendharkar, A. V., Bigder, M., Bet, A., Rosenberg-Hasson, Y., Cheng, M. Y., Steinberg, G. K.  
2023
- **Radiosurgery as a microsurgical adjunct: outcomes after microsurgical resection of intracranial arteriovenous malformations previously treated with stereotactic radiosurgery.** *Journal of neurosurgery*  
Bigder, M., Choudhri, O., Gupta, M., Gummidipundi, S., Han, S. S., Church, E. W., Chang, S. D., Levy, R. P., Do, H. M., Marks, M. P., Steinberg, G. K.  
2021: 1-12
- **Basal ganglia cavernous malformations: case series and systematic review of surgical management and long-term outcomes.** *Journal of neurosurgery*  
Li, Y. n., Khahera, A. n., Kim, J. n., Mandel, M. n., Han, S. S., Steinberg, G. K.  
2021: 1-9
- **Brain-wide neural dynamics of poststroke recovery induced by optogenetic stimulation.** *Science advances*  
Vahdat, S., Pendharkar, A. V., Chiang, T., Harvey, S., Uchino, H., Cao, Z., Kim, A., Choy, M., Chen, H., Lee, H. J., Cheng, M. Y., Lee, J. H., Steinberg, et al  
2021; 7 (33)
- **Unique Subtype of Microglia in Degenerative Thalamus After Cortical Stroke.** *Stroke*  
Cao, Z. n., Harvey, S. S., Chiang, T. n., Foltz, A. G., Lee, A. G., Cheng, M. Y., Steinberg, G. K.  
2021: STROKEAHA120032402
- **Clinical Course of Unilateral Moyamoya Disease.** *Neurosurgery*  
Church, E. W., Bell-Stephens, T. E., Bigder, M. G., Gummidipundi, S., Han, S. S., Steinberg, G. K.

2020

- **Treatment of posterior circulation fusiform aneurysms.** *Journal of neurosurgery*  
Church, E. W., Bigder, M. G., Sussman, E. S., Gummidipundi, S. E., Han, S. S., Heit, J. J., Do, H. M., Dodd, R. L., Marks, M. P., Steinberg, G. K.  
2020: 1–7
- **Time-Course Characterization of Blood-Brain Barrier Disruption in Secondary Thalamic Injury After Stroke**  
Cao, Z., Harvey, S., Pendharkar, A., Chiang, T., Cheng, M., Steinberg, G.  
LIPPINCOTT WILLIAMS & WILKINS.2020
- **Functional Outcomes After Revascularization Procedures in Patients With Hemorrhagic Moyamoya Disease** *NEUROSURGERY*  
Abhinav, K., Furtado, S., Nielsen, T. H., Iyer, A., Gooderham, P. A., Teo, M., Lee, J., Han, S. S., Steinberg, G. K.  
2020; 86 (2): 257–65
- **Incidental De Novo Cerebral Microhemorrhages are Predictive of Future Symptomatic Macrohemorrhages After Surgical Revascularization in Moyamoya Disease.** *Neurosurgery*  
Li, Y. n., Esene, I. n., Mandel, M. n., Bigder, M. n., Steinberg, G. K.  
2020
- **Direct versus indirect bypass procedure for the treatment of ischemic moyamoya disease: results of an individualized selection strategy.** *Journal of neurosurgery*  
Nielsen, T. H., Abhinav, K. n., Sussman, E. S., Han, S. S., Weng, Y. n., Bell-Stephens, T. n., Heit, J. J., Steinberg, G. K.  
2020: 1–12
- **Trans-Lamina Terminalis Approach to Laser-Assisted Resection of Thalamo-mesencephalic Cavernous Malformation.** *World neurosurgery*  
Bigder, M. G., Li, Y. n., Mandel, M. n., Steinberg, G. n.  
2020
- **Revisiting Stem Cell-Based Clinical Trials for Ischemic Stroke.** *Frontiers in aging neuroscience*  
He, J. Q., Sussman, E. S., Steinberg, G. K.  
2020; 12: 575990
- **Two-year safety and clinical outcomes in chronic ischemic stroke patients after implantation of modified bone marrow-derived mesenchymal stem cells (SB623): a phase 1/2a study** *JOURNAL OF NEUROSURGERY*  
Steinberg, G. K., Kondziolka, D., Wechsler, L. R., Lunsford, L., Kim, A. S., Johnson, J. N., Bates, D., Poggio, G., Case, C., McGrogan, M., Yankee, E. W., Schwartz, N. E.  
2019; 131 (5): 1462–72
- **Multimodal management of arteriovenous malformations of the basal ganglia and thalamus: factors affecting obliteration and outcome** *JOURNAL OF NEUROSURGERY*  
Madhugiri, V. S., Teo, M. C., Westbroek, E. M., Chang, S. D., Marks, M. P., Do, H. M., Levy, R. P., Steinberg, G. K.  
2019; 131 (2): 410–19
- **Microsurgical laser resection of brainstem cavernous malformations.** *Neurosurgical focus: Video*  
Church, E. W., Steinberg, G. K.  
2019; 1 (1): V7
- **Functional Outcomes After Revascularization Procedures in Patients With Hemorrhagic Moyamoya Disease.** *Neurosurgery*  
Abhinav, K., Furtado, S. V., Nielsen, T. H., Iyer, A., Gooderham, P. A., Teo, M., Lee, J., Han, S. S., Steinberg, G. K.  
2019
- **Surgical Treatment of Recurrent Previously Coiled and/or Stent-Coiled Intracerebral Aneurysms: A Single-Center Experience in a Series of 75 Patients** *WORLD NEUROSURGERY*  
Liu, J. J., Nielsen, T. H., Abhinav, K., Lee, J., Han, S. S., Marks, M. P., Do, H. M., Dodd, R. L., Steinberg, G. K.  
2019; 124: E649–E658
- **Surgical Treatment of Recurrent Previously Coiled and/or Stent-Coiled Intracerebral Aneurysms: A Single-Center Experience in a Series of 75 Patients.** *World neurosurgery*  
Liu, J. J., Nielsen, T. H., Abhinav, K., Lee, J., Han, S. S., Marks, M. P., Do, H. M., Dodd, R. L., Steinberg, G. K.  
2019

- **Two-year safety and clinical outcomes in chronic ischemic stroke patients after implantation of modified bone marrow-derived mesenchymal stem cells (SB623): a phase 1/2a study.** *Journal of neurosurgery*  
Steinberg, G. K., Kondziolka, D., Wechsler, L. R., Lunsford, L. D., Kim, A. S., Johnson, J. N., Bates, D., Poggio, G., Case, C., McGrogan, M., Yankee, E. W., Schwartz, N. E.  
2018; 1–11
- **Multimodal management of arteriovenous malformations of the basal ganglia and thalamus: factors affecting obliteration and outcome.** *Journal of neurosurgery*  
Madhugiri, V. S., Teo, M. K., Westbroek, E. M., Chang, S. D., Marks, M. P., Do, H. M., Levy, R. P., Steinberg, G. K.  
2018; 1–10
- **Stem Cell-Based Immunomodulation After Stroke: Effects on Brain Repair Processes** *STROKE*  
Boshuizen, M. S., Steinberg, G. K.  
2018; 49 (6): 1563–70
- **Engineered stem cell mimics to enhance stroke recovery.** *Biomaterials*  
George, P. M., Oh, B. n., Dewi, R. n., Hua, T. n., Cai, L. n., Levinson, A. n., Liang, X. n., Krajina, B. A., Bliss, T. M., Heilshorn, S. C., Steinberg, G. K.  
2018; 178: 63–72
- **Long-Term Effectiveness of Gross-Total Resection for Symptomatic Spinal Cord Cavernous Malformations.** *Neurosurgery*  
Azad, T. D., Veeravagu, A. n., Li, A. n., Zhang, M. n., Madhugiri, V. n., Steinberg, G. K.  
2018
- **Strategies for and Outcome of Repeat Revascularization Surgery for Moyamoya Disease: An American Institutional Series** *NEUROSURGERY*  
Teo, M., Johnson, J., Steinberg, G. K.  
2017; 81 (5): 852–59
- **Brainstem arteriovenous malformations: lesion characteristics and treatment outcomes.** *Journal of neurosurgery*  
Madhugiri, V. S., Teo, M. K., Vavao, J., Bell-Stephens, T., Steinberg, G. K.  
2017: 1-11
- **Electrical preconditioning of stem cells with a conductive polymer scaffold enhances stroke recovery.** *Biomaterials*  
George, P. M., Bliss, T. M., Hua, T. n., Lee, A. n., Oh, B. n., Levinson, A. n., Mehta, S. n., Sun, G. n., Steinberg, G. K.  
2017; 142: 31–40
- **Clinical Outcomes of Transplanted Modified Bone Marrow-Derived Mesenchymal Stem Cells in Stroke A Phase 1/2a Study** *STROKE*  
Steinberg, G. K., Kondziolka, D., Wechsler, L. R., Lunsford, L. D., Coburn, M. L., Billigen, J. B., Kim, A. S., Johnson, J. N., Bates, D., King, B., Case, C., McGrogan, M., Yankee, et al  
2016; 47 (7): 1817-1824
- **Optogenetic Approaches to Target Specific Neural Circuits in Post-stroke Recovery** *NEUROTHERAPEUTICS*  
Cheng, M. Y., Aswendt, M., Steinberg, G. K.  
2016; 13 (2): 325-340
- **Enhanced phasic GABA inhibition during the repair phase of stroke: a novel therapeutic target** *BRAIN*  
Hiu, T., Farzampour, Z., Paz, J. T., Wang, E. H., Badgely, C., Olson, A., Micheva, K. D., Wang, G., Lemmens, R., Tran, K. V., Nishiyama, Y., Liang, X., Hamilton, et al  
2016; 139: 468-480
- **Novel Stroke Therapeutics: Unraveling Stroke Pathophysiology and Its Impact on Clinical Treatments.** *Neuron*  
George, P. M., Steinberg, G. K.  
2015; 87 (2): 297-309
- **Is local hypoperfusion the reason for transient neurological deficits after STA-MCA bypass for moyamoya disease?** *JOURNAL OF NEUROSURGERY*  
Mukerji, N., Cook, D. J., Steinberg, G. K.  
2015; 122 (1): 90-94
- **Disease Variant Landscape of a Large Multiethnic Population of Moyamoya Patients by Exome Sequencing.** *G3 (Bethesda, Md.)*  
Shoemaker, L. D., Clark, M. J., Patwardhan, A., Chandratillake, G., Garcia, S., Chen, R., Morgan, A. A., Leng, N., Kirk, S., Chen, R., Cook, D. J., Snyder, M., Steinberg, et al

2015; 6 (1): 41-49

- **Optogenetic neuronal stimulation promotes functional recovery after stroke** *PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA*  
Cheng, M. Y., Wang, E. H., Woodson, W. J., Wang, S., Sun, G., Lee, A. G., Arac, A., Fenno, L. E., Deisseroth, K., Steinberg, G. K.  
2014; 111 (35): 12913-12918
- **Flexible Omnidirectional Carbon Dioxide Laser as an Effective Tool for Resection of Brainstem, Supratentorial, and Intramedullary Cavernous Malformations** *NEUROSURGERY*  
Choudhri, O., Karamchandani, J., Gooderham, P., Steinberg, G. K.  
2014; 10 (1): 34-44
- **Less invasive pedicled omental-cranial transposition in pediatric patients with moyamoya disease and failed prior revascularization.** *Neurosurgery*  
Navarro, R., Chao, K., Gooderham, P. A., Bruzoni, M., Dutta, S., Steinberg, G. K.  
2014; 10: 1-14
- **A Novel Phase 1/2A Study of Intraparenchymal Transplantation of Human Modified Bone Marrow-Derived Cells in Patients With Stable Ischemic Stroke**  
Steinberg, G. K., Kondziolka, D., Schwartz, N. E., Wechsler, L., Lunsford, D., Coburn, M. L., Billigen, J. B., Keren-Gill, H., McGrogan, M., Case, C., Mori, K., Yankee, E. W.  
COGNIZANT COMMUNICATION CORP.2014: 784
- **Cavernous malformation of brainstem, thalamus, and basal ganglia: a series of 176 patients.** *Neurosurgery*  
Pandey, P., Westbroek, E. M., Gooderham, P. A., Steinberg, G. K.  
2013; 72 (4): 573-589
- **Optogenetic Stimulation Of Motor Cortex Neurons Promotes Recovery After Stroke**  
Cheng, M. Y., Woodson, W. J., Wang, E. H., Wang, S., Sun, G., Lee, A. G., Arac, A., Fenno, L., Deisseroth, K., Steinberg, G. K.  
LIPPINCOTT WILLIAMS & WILKINS.2013
- **Multimodality management of Spetzler-Martin Grade III arteriovenous malformations** *JOURNAL OF NEUROSURGERY*  
Pandey, P., Marks, M. P., Harraher, C. D., Westbroek, E. M., Chang, S. D., Do, H. M., Levy, R. P., Dodd, R. L., Steinberg, G. K.  
2012; 116 (6): 1279-1288
- **Arterial Spin-Labeling MRI Can Identify the Presence and Intensity of Collateral Perfusion in Patients With Moyamoya Disease** *STROKE*  
Zaharchuk, G., Do, H. M., Marks, M. P., Rosenberg, J., Moseley, M. E., Steinberg, G. K.  
2011; 42 (9): 2485-U183
- **Management of Pediatric Intracranial Arteriovenous Malformations: Experience With Multimodality Therapy** *NEUROSURGERY*  
Darsaut, T. E., Guzman, R., Marcellus, M. L., Edwards, M. S., Tian, L., Do, H. M., Chang, S. D., Levy, R. P., Adler, J. R., Marks, M. P., Steinberg, G. K.  
2011; 69 (3): 540-556
- **Human neural stem cells enhance structural plasticity and axonal transport in the ischaemic brain** *BRAIN*  
Andres, R. H., Horie, N., Slikker, W., Keren-Gill, H., Zhan, K., Sun, G., Manley, N. C., Pereira, M. P., Sheikh, L. A., McMillan, E. L., Schaar, B. T., Svendsen, C. N., Bliss, et al  
2011; 134: 1777-1789
- **Predictors of Clinical and Angiographic Outcome After Surgical or Endovascular Therapy of Very Large and Giant Intracranial Aneurysms** *NEUROSURGERY*  
Darsaut, T. E., Darsaut, N. M., Chang, S. D., Silverberg, G. D., Shuer, L. M., Tian, L., Dodd, R. L., Do, H. M., Marks, M. P., Steinberg, G. K.  
2011; 68 (4): 903-915
- **Transplanted Stem Cell-Secreted VEGF Effects Post-Stroke Recovery, Inflammation, and Vascular Repair.** *Stem cells (Dayton, Ohio)*  
Horie, N., Pereira, M. P., Niizuma, K., Sun, G., Keren-Gill, H., Encarnacion, A., Shamlou, M., Hamilton, S. A., Jiang, K., Huhn, S., Palmer, T. D., Bliss, T. M., Steinberg, et al  
2011
- **Intraoperative blood flow analysis of direct revascularization procedures in patients with moyamoya disease** *JOURNAL OF CEREBRAL BLOOD FLOW AND METABOLISM*  
Lee, M., Guzman, R., Bell-Stephens, T., Steinberg, G. K.  
2011; 31 (1): 262-274

- **Predictors of Clinical and Angiographic Outcome Following Surgical or Endovascular Therapy of Very Large and Giant Intracranial Aneurysms**  
Darsaut, T. E., Darsaut, N. M., Chang, S. D., Silverberg, G. D., Shuer, L. M., Tian, L., Dodd, R. L., Do, H. M., Marks, M. P., Steinberg, G. K.  
LIPPINCOTT WILLIAMS & WILKINS.2010: E266
- **Transplantation of human neural progenitor cells induces axonal plasticity in the host brain after stroke**  
Andres, R. H., Horie, N., Sun, G., Shichinohe, H., Mcmillan, E., Svendsen, C. N., Schaar, B. T., Bliss, T. M., Steinberg, G. K.  
NATURE PUBLISHING GROUP.2009: S38
- **Transplanted Human Neural Progenitor Cells Enhance Endogenous Dendritic Plasticity And Axonal Sprouting After Stroke In Rat**  
Horie, N., Andres, R. H., Keren-Gill, H., Slikker, W., Sun, G., McMillan, E., Svendsen, C., Bliss, T., Steinberg, G. K.  
LIPPINCOTT WILLIAMS & WILKINS.2009: E150
- **Long-term monitoring of transplanted human neural stem cells in developmental and pathological contexts with MRI** *PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA*  
Guzman, R., Uchida, N., Bliss, T. M., He, D., Christopherson, K. K., Stellwagen, D., Capela, A., Greve, J., Malenka, R. C., Moseley, M. E., Palmer, T. D., Steinberg, G. K.  
2007; 104 (24): 10211-10216
- **High flow bypass for revascularization in occlusive atherosclerotic cerebrovascular disease.** *Journal of clinical neuroscience : official journal of the Neurosurgical Society of Australasia*  
Gauden, A. J., Steinberg, G. K.  
2023; 118: 176
- **Combined high-flow bypass and endovascular sacrifice for dysplastic cavernous internal carotid artery aneurysm for recurrent epistaxis.** *Journal of clinical neuroscience : official journal of the Neurosurgical Society of Australasia*  
Gauden, A. J., Dodd, R., Steinberg, G. K.  
2023; 118: 175
- **Combined near infrared photoacoustic imaging and ultrasound detects vulnerable atherosclerotic plaque.** *Biomaterials*  
Schneider, M. K., Wang, J., Kare, A., Adkar, S. S., Salmi, D., Bell, C. F., Alsaigh, T., Wagh, D., Coller, J., Mayer, A., Snyder, S. J., Borowsky, A. D., Long, et al  
2023; 302: 122314
- **Short- and Long-Term MRI Assessed Hemodynamic Changes in Pediatric Moyamoya Patients After Revascularization.** *Journal of magnetic resonance imaging : JMRI*  
Zhao, M. Y., Tong, E., Duarte Armindo, R., Fettahoglu, A., Choi, J., Bagley, J., Yeom, K. W., Moseley, M., Steinberg, G. K., Zaharchuk, G.  
2023
- **Corrigendum to: "Ten-Year Experience With Laparoscopic Pedicled Omental Flap for Cerebral Revascularization in Patients With Moyamoya Disease"** *J Pediatr Surg* 57 (2022) 710-715. *Journal of pediatric surgery*  
Salimi-Jazia, F., Wood, L. S., Jones, R. E., Chandler, J., Rafeeqi, T., Dutta, S., Steinberg, G., Bruzoni, M.  
2023
- **Pediatric Moyamoya Revascularization Perioperative Care: A Modified Delphi Study.** *Neurocritical care*  
Sun, L. R., Jordan, L. C., Smith, E. R., Aldana, P. R., Kirschen, M. P., Guillems, K., Gupta, N., Steinberg, G. K., Fox, C., Harrar, D. B., Lee, S., Chung, M. G., Dirks, et al  
2023
- **Vascular anomaly, lipoma, and polymicrogyria associated with schizencephaly: developmental and diagnostic insights. Illustrative case.** *Journal of neurosurgery. Case lessons*  
Kumar, K. K., Toland, A., Fischbein, N., Morrell, M., Heit, J. J., Born, D. E., Steinberg, G. K.  
2023; 5 (21)
- **Prediction of delayed cerebral ischemia after cerebral aneurysm rupture using explainable machine learning approach.** *Interventional neuroradiology : journal of peritherapeutic neuroradiology, surgical procedures and related neurosciences*  
Taghavi, R. M., Zhu, G., Wintermark, M., Kuraitis, G. M., Sussman, E. S., Pulli, B., Biniam, B., Ostmeier, S., Steinberg, G. K., Heit, J. J.  
2023: 15910199231170411
- **Correction to: Comprehensive Profiling of Secreted Factors in the Cerebrospinal Fluid of Moyamoya Disease Patients.** *Translational stroke research*  
Abhinav, K., Lee, A. G., Pendharkar, A. V., Bigder, M., Bet, A., Rosenberg-Hasson, Y., Cheng, M. Y., Steinberg, G. K.  
2023

- **Percutaneous cervical sympathetic block to treat cerebral vasospasm and delayed cerebral ischemia: a review of the evidence.** *Journal of neurointerventional surgery*  
Bombardieri, A. M., Albers, G. W., Rodriguez, S., Pileggi, M., Steinberg, G. K., Heit, J. J.  
2022
- **Percutaneous cervical sympathetic block to treat cerebral vasospasm and delayed cerebral ischemia: a review of the evidence** *JOURNAL OF NEUROINTERVENTIONAL SURGERY*  
Bombardieri, A., Albers, G. W., Rodriguez, S., Pileggi, M., Steinberg, G. K., Heit, J. J.  
2022
- **Cervical sympathectomy to treat cerebral vasospasm: a scoping review.** *Regional anesthesia and pain medicine*  
Bombardieri, A. M., Heifets, B. D., Treggiari, M., Albers, G. W., Steinberg, G. K., Heit, J. J.  
2022
- **Revascularization improves vascular hemodynamics - a study assessing cerebrovascular reserve and transit time in Moyamoya patients using MRI.** *Journal of cerebral blood flow and metabolism : official journal of the International Society of Cerebral Blood Flow and Metabolism*  
Zhao, M. Y., Armindo, R. D., Gauden, A. J., Yim, B., Tong, E., Moseley, M., Steinberg, G. K., Zaharchuk, G.  
2022: 271678X221140343
- **Ten-year safety of pluripotent stem cell transplantation in acute thoracic spinal cord injury** *JOURNAL OF NEUROSURGERY-SPINE*  
McKenna, S. L., Ehsanian, R., Liu, C. Y., Steinberg, G. K., Jones, L., Lebkowski, J. S., Wirth III, E., Fessler, R. G.  
2022; 37 (3): 321-330
- **Intracranial Artery Morphology in Pediatric Moya Moya Disease and Moya Moya Syndrome.** *Neurosurgery*  
Yedavalli, V. S., Quon, J. L., Tong, E., van Staaldunin, E. K., Mouches, P., Kim, L. H., Steinberg, G. K., Grant, G. A., Yeom, K. W., Forkert, N. D.  
2022
- **A phase 1/2a dose-escalation study of oligodendrocyte progenitor cells in individuals with subacute cervical spinal cord injury.** *Journal of neurosurgery. Spine*  
Fessler, R. G., Ehsanian, R., Liu, C. Y., Steinberg, G. K., Jones, L., Lebkowski, J. S., Wirth, E. D., McKenna, S. L.  
2022: 1-9
- **ONE-YEAR EFFICACY AND SAFETY OUTCOMES IN PATIENTS WITH CHRONIC TRAUMATIC BRAIN INJURY: FINAL ANALYSIS OF THE PHASE 2 STEMTRA TRIAL**  
Weintraub, A., Okonkwo, D., Steinberg, G., Kawabori, M., Imai, H., Yasuhara, T., Kim, A., Kondziolka, D., Achrol, A., Nejadnik, B., Bates, D., McAllister, P. MARY ANN LIEBERT, INC.2022: A80
- **Using PET/MRI to measure cerebrovascular reactivity in Moyamoya disease**  
Zhao, M., Fan, A., Steinberg, G., Zaharchuk, G.  
SAGE PUBLICATIONS INC.2022: 84
- **Moyamoya disease: diagnosis and interventions.** *The Lancet. Neurology*  
Ihara, M., Yamamoto, Y., Hattori, Y., Liu, W., Kobayashi, H., Ishiyama, H., Yoshimoto, T., Miyawaki, S., Clausen, T., Bang, O. Y., Steinberg, G. K., Tournier-Lasserre, E., Koizumi, et al  
2022
- **Ten-year safety of pluripotent stem cell transplantation in acute thoracic spinal cord injury.** *Journal of neurosurgery. Spine*  
McKenna, S. L., Ehsanian, R., Liu, C. Y., Steinberg, G. K., Jones, L., Lebkowski, J. S., Wirth, E., Fessler, R. G.  
2022: 1-10
- **Using arterial spin labeling to measure cerebrovascular reactivity in Moyamoya disease: Insights from simultaneous PET/MRI.** *Journal of cerebral blood flow and metabolism : official journal of the International Society of Cerebral Blood Flow and Metabolism*  
Zhao, M. Y., Fan, A. P., Chen, D. Y., Ishii, Y., Khalighi, M. M., Moseley, M., Steinberg, G. K., Zaharchuk, G.  
2022: 271678X221083471
- **Intraoperative Blood Flow Changes Predict Angiographic Outcomes After Direct Cerebral Revascularization For Moyamoya Disease**  
Ahmed, S., Lee, H., Steinberg, G.  
LIPPINCOTT WILLIAMS & WILKINS.2022
- **Optogenetic Stimulation Of Cortico-thalamic Circuits Promotes Oligodendrogenesis In The Degenerative Thalamus After Stroke**  
Cao, Z., Chiang, T., Kim, A., Cheng, M. Y., Steinberg, G. K.



LIPPINCOTT WILLIAMS & WILKINS.2022

- **Optogenetic Stimulation Effects On Cortico-thalamic Circuit Plasticity After Stroke**  
Chiang, T., Vahdat, S., Pendharkar, A., Harvey, S., Uchino, H., Cao, Z., Kim, A., Choy, M., Chen, H., Lee, H., Cheng, M. Y., Lee, J., Steinberg, et al  
LIPPINCOTT WILLIAMS & WILKINS.2022
- **Ten-year experience with laparoscopic pedicled omental flap for cerebral revascularization in patients with Moyamoya disease.** *Journal of pediatric surgery*  
Salimi-Jazi, F., Wood, L. S., Jones, R. E., Chandler, J., Rafeeqi, T., Dutta, S., Steinberg, G., Bruzoni, M.  
2022
- **The Safety and Efficacy of Induced Hypertension and Hypervolemia in Preventing Neurological Complications After Combined Direct and Indirect Bypass in Hemorrhagic Onset Moyamoya Disease.** *World neurosurgery*  
Li, Y., Wang, A. R., Steinberg, G.  
1800
- **Corrigendum: Revisiting Stem Cell-Based Clinical Trials for Ischemic Stroke.** *Frontiers in aging neuroscience*  
He, J. Q., Sussman, E. S., Steinberg, G. K.  
2022; 14: 875925
- **Application of FLOW 800 in extracranial-to-intracranial bypass surgery for moyamoya disease.** *Neurosurgical focus: Video*  
Yim, B., Gauden, A. J., Steinberg, G. K.  
2022; 6 (1): V16
- **Cavernous malformations of the hypothalamus: a single-institution series of 12 cases and review of the literature** *JOURNAL OF NEUROSURGERY*  
Khaheera, A. S., Li, Y., Steinberg, G. K.  
2021; 135 (6): 1617-1626
- **Direct brainstem somatosensory evoked potentials for cavernous malformations.** *Journal of neurosurgery*  
Le, S., Nguyen, V., Lee, L., Cho, S. C., Malvestio, C., Jones, E., Dodd, R., Steinberg, G., Lopez, J.  
2021: 1-7
- **MRI quantification of brain oxygenation and relationship with cerebrovascular reactivity in Moyamoya disease using simultaneous [O-15]-water PET/MRI**  
Fan, A. P., Chen, D., Shin, D. D., Zhao, M. Y., Park, J., Shen, B., Khalighi, M. M., Holley, D., Halbert, K., Steinberg, G. K., Zaharchuk, G.  
SAGE PUBLICATIONS INC.2021: 64-65
- **Surgical treatment of brainstem cavernous malformations: an international Delphi consensus.** *Journal of neurosurgery*  
Dammann, P., Abl, A. A., Al-Shahi Salman, R., Andrade-Barazarte, H., Benes, V., Cenzato, M., Connolly, E. S., Cornelius, J. F., Couldwell, W. T., Sola, R. G., Gomez-Paz, S., Hauck, E., Hernesniemi, et al  
2021: 1-11
- **Increased Autoimmunity in Individuals With Down Syndrome and Moyamoya Disease** *FRONTIERS IN NEUROLOGY*  
Santoro, J. D., Lee, S., Wang, A. C., Ho, E., Nagesh, D., Khoshnood, M., Tanna, R., Durazo-Arvizu, R. A., Manning, M. A., Skotko, B. G., Steinberg, G. K., Rafii, M. S.  
2021; 12: 724969
- **Age-dependent Intracranial Artery Morphology in Healthy Children.** *Clinical neuroradiology*  
Quon, J. L., Mouches, P., Kim, L. H., Jabarkheel, R., Zhang, Y., Steinberg, G. K., Grant, G. A., Edwards, M. S., Yeom, K. W., Forkert, N. D.  
2021
- **Arteriovenous Malformations-Current Understanding of the Pathogenesis with Implications for Treatment.** *International journal of molecular sciences*  
Schimmel, K., Ali, M. K., Tan, S. Y., Teng, J., Do, H. M., Steinberg, G. K., Stevenson, D. A., Spiekerkoetter, E.  
2021; 22 (16)
- **A neurovascular-unit-on-a-chip for the evaluation of the restorative potential of stem cell therapies for ischaemic stroke.** *Nature biomedical engineering*  
Lyu, Z., Park, J., Kim, K., Jin, H., Wu, H., Rajadas, J., Kim, D., Steinberg, G. K., Lee, W.  
2021
- **Stem Cells for Aging-Related Disorders.** *Stem cell reviews and reports*  
Borlongan, M. C., Farooq, J., Sadanandan, N., Wang, Z., Cozene, B., Lee, J., Steinberg, G. K.  
2021

- **Early Experience With Virtual and Synchronized Augmented Reality Platform for Preoperative Planning and Intraoperative Navigation: A Case Series.** *Operative neurosurgery (Hagerstown, Md.)*  
Louis, R. G., Steinberg, G. K., Duma, C., Britz, G., Mehta, V., Pace, J., Selman, W., Jean, W. C.  
2021
- **Patient-specific virtual reality technology for complex neurosurgical cases: illustrative cases.** *Journal of neurosurgery. Case lessons*  
Anthony, D., Louis, R. G., Shekhtman, Y., Steineke, T., Frempong-Boadu, A., Steinberg, G. K.  
2021; 1 (23): CASE21114
- **Editorial: Stem Cells and Aging** *FRONTIERS IN AGING NEUROSCIENCE*  
Borlongan, C. V., Steinberg, G. K.  
2021; 13: 690613
- **Commentary: Direct vs Indirect Revascularization in a North American Cohort of Moyamoya Disease.** *Neurosurgery*  
Ahmed, S. U., Lee, H., Steinberg, G. K.  
2021
- **Direct and Combined Revascularization Versus Indirect Revascularization in the Treatment of Moyamoya Disease: A Systematic Review and Meta-Analysis**  
Lee, K. S., Teo, M., Zhang, J., Steinberg, G. K.  
OXFORD UNIV PRESS.2021
- **Establishing a Data Science Unit in an Academic Medical Center: An Illustrative Model.** *Academic medicine : journal of the Association of American Medical Colleges*  
Desai, M., Boulos, M., Pomann, G. M., Steinberg, G. K., Longo, F. M., Leonard, M., Montine, T., Blomkalns, A. L., Harrington, R. A.  
2021
- **Ischemic Postconditioning Protects Against Hemorrhagic Transformation Induced by Hyperglycemia in Ischemic Stroke**  
Chen Hansen, Cheng, M. Y., Bliss, T., Zhao Heng, Steinberg, G.  
LIPPINCOTT WILLIAMS & WILKINS.2021
- **Incidence and Outcomes of Posterior Circulation Involvement in Moyamoya Disease.**  
Tigchelaar, S. S., Wang, A., Li Yiping, Steinberg, G.  
LIPPINCOTT WILLIAMS & WILKINS.2021
- **Racial Differences in Adult Moyamoya Disease: Clinical Presentation, Angiographic Characteristics, and Outcomes After Revascularization.**  
Wang, A. R., Li Yiping, Steinberg, G. K.  
LIPPINCOTT WILLIAMS & WILKINS.2021
- **Incidence and Progression of Posterior Circulation Involvement in Moyamoya Disease.**  
Li Yiping, Wang, A. R., Steinberg, G. K.  
LIPPINCOTT WILLIAMS & WILKINS.2021
- **Decoding the Cross-Talk Between Grafted Neural Stem Cells and Host Brain to Predict the Molecular Mechanisms of Stem Cell-Induced Functional Recovery After Stroke.**  
Tigchelaar, S. S., Azevedo-Pereira, R. L., Dong Chen, Liang Xibin, Bliss, T., Steinberg, G.  
LIPPINCOTT WILLIAMS & WILKINS.2021
- **Influence of Thyroid Disease on Presentation and Outcomes of Moyamoya Disease.**  
Wang, A. R., Li Yiping, Steinberg, G. K.  
LIPPINCOTT WILLIAMS & WILKINS.2021
- **Functional and Molecular Characterization of Endothelial and Vascular Smooth Muscle Cells Derived From Moyamoya Disease-Induced Pluripotent Stem Cells.**  
Rao, S., Uchino, H., Pendharkar, A., Zhang Qian, Cheng, M. Y., Steinberg, G.  
LIPPINCOTT WILLIAMS & WILKINS.2021
- **Clinicoradiological Outcomes of Surgical Revascularization for Moyamoya Disease With Minimum 10-Year Follow-Up.**  
Yiping, L., Wang, A. R., Steinberg, G. K.  
LIPPINCOTT WILLIAMS & WILKINS.2021

- **Cell Therapy for Chronic TBI: Interim Analysis of the Randomized Controlled STEMTRA Trial.** *Neurology*  
Kawabori, M., Weintraub, A. H., Imai, H., Zinkevych, L., McAllister, P., Steinberg, G. K., Frishberg, B. M., Yasuhara, T., Chen, J. W., Cramer, S. C., Achrol, A. S., Schwartz, N. E., Suenaga, et al  
2021
- **Brain Arteriovenous Malformation Presurgical Planning with Open-source Horos™ Software.** *World neurosurgery*  
Mandel, M., Li, Y., Figueiredo, E. G., Teixeira, M. J., Steinberg, G. K.  
2021
- **Acetazolamide-Challenged Arterial Spin Labeling Detects Augmented Cerebrovascular Reserve After Surgery for Moyamoya** *Stroke*  
Rao, V. L., et al  
2021
- **Introduction. Translational research advances in the evaluation and management of moyamoya disease.** *Neurosurgical focus*  
Smith, E. R., Lanzino, G., Steinberg, G. K., Xu, B.  
2021; 51 (3): E1
- **Comparison of diffusion MRI and CLARITY fiber orientation estimates in both gray and white matter regions of human and primate brain.** *NeuroImage*  
Leuze, C., Goubran, M., Barakovic, M., Aswendt, M., Tian, Q., Hsueh, B., Crow, A., Weber, E. M., Steinberg, G. K., Zeineh, M., Plowey, E. D., Daducci, A., Innocenti, et al  
2020; 228: 117692
- **Staged Surgical Resection of Brain Arteriovenous Malformations.** *World neurosurgery*  
Sussman, E. S., Gummidipundi, S. E., Pendharkar, A. V., Church, E. W., Ho, A. L., Han, S. S., Steinberg, G. K.  
2020
- **Efficacy and safety of embolization of dural arteriovenous fistulas via the ophthalmic artery.** *Interventional neuroradiology : journal of peritherapeutic neuroradiology, surgical procedures and related neurosciences*  
Mayercik, V. A., Sussman, E. S., Pulli, B., Dodd, R. L., Do, H. M., Telischak, N. A., Marks, M. P., Steinberg, G. K., Chang, S. D., Heit, J. J.  
2020: 1591019920969270
- **Predicting PET Cerebrovascular Reserve with Deep Learning by Using Baseline MRI: A Pilot Investigation of a Drug-Free Brain Stress Test.** *Radiology*  
Chen, D. Y., Ishii, Y., Fan, A. P., Guo, J., Zhao, M. Y., Steinberg, G. K., Zaharchuk, G.  
2020: 192793
- **Optogenetic Stimulation Reduces Neuronal Nitric Oxide Synthase Expression After Stroke.** *Translational stroke research*  
Pendharkar, A. V., Smerin, D., Gonzalez, L., Wang, E. H., Levy, S., Wang, S., Ishizaka, S., Ito, M., Uchino, H., Chiang, T., Cheng, M. Y., Steinberg, G. K.  
2020
- **In Reply: Early Diffusion Magnetic Resonance Imaging Changes in Normal-Appearing Brain in Pediatric Moyamoya Disease.** *Neurosurgery*  
Quon, J. L., Kim, L. H., MacEachern, S. J., Maleki, M., Steinberg, G. K., Madhugiri, V., Edwards, M. S., Grant, G. A., Yeom, K. W., Forkert, N. D.  
2020
- **Minimally invasive foramen magnum ductectomy and obexostomy for treatment of craniocervical junction-related syringomyelia in adults: case series and midterm follow-up.** *Journal of neurosurgery. Spine*  
Mandel, M., Ferreira da Silva, I. A., Paiva, W., Li, Y., Steinberg, G. K., Teixeira, M. J.  
2020: 1–10
- **Investigating the Pathogenesis of Moyamoya Disease Using Patient Derived Induced Pluripotent Stem Cells**  
Rao, S., Zhang, Q., Uchino, H., Pendharkar, A., Cheng, M., Steinberg, G.  
LIPPINCOTT WILLIAMS & WILKINS.2020
- **Arterial-spin labeling MRI identifies residual cerebral arteriovenous malformation following stereotactic radiosurgery treatment** *JOURNAL OF NEURORADIOLOGY*  
Heit, J. J., Thakur, N. H., Iv, M., Fischbein, N. J., Wintermark, M., Dodd, R. L., Steinberg, G. K., Chang, S. D., Kapadia, K. B., Zaharchuk, G.  
2020; 47 (1): 13–19
- **Validation and Application for the Berlin Grading System of Moyamoya Disease in Adult Patients** *NEUROSURGERY*  
Teo, M., Furtado, S., Kaneko, O. F., Azad, T. D., Madhugiri, V., Do, H. M., Steinberg, G. K.  
2020; 86 (2): 203–11

- **Automated Assessment of Behavioral Function After Experimental Stroke**  
Chiang, T., Harvey, S., Pendharkar, A. V., Cheng, M. Y., Steinberg, G. K.  
LIPPINCOTT WILLIAMS & WILKINS.2020
- **Microsurgical Resection of an Orbital Arteriovenous Malformation With Intraoperative Digital Subtraction Angiography.** *Ophthalmic plastic and reconstructive surgery*  
Rosenblatt, T. R., Myung, D. n., Fischbein, N. J., Steinberg, G. K., Kossler, A. L.  
2020
- **Inflammatory Responses in the Secondary Thalamic Injury After Cortical Ischemic Stroke.** *Frontiers in neurology*  
Cao, Z., Harvey, S. S., Bliss, T. M., Cheng, M. Y., Steinberg, G. K.  
2020; 11: 236
- **Initial experience with the Scepter Mini dual-lumen balloon for transophthalmic artery embolization of anterior cranial fossa dural arteriovenous fistulae.** *Journal of neurointerventional surgery*  
Pulli, B. n., Sussman, E. S., Mayercik, V. n., Steinberg, G. K., Do, H. M., Heit, J. J.  
2020
- **Contralateral Vasospasm in an Uncomplicated Elective Anterior Communicating Artery Aneurysm Clipping.** *World neurosurgery*  
Knight, J. A., Bigder, M. G., Brigido, M. M., Li, Y. n., Steinberg, G. K.  
2020
- **Simultaneous Phase-Contrast MRI and PET for Noninvasive Quantification of Cerebral Blood Flow and Reactivity in Healthy Subjects and Patients With Cerebrovascular Disease** *JOURNAL OF MAGNETIC RESONANCE IMAGING*  
Ishii, Y., Thamm, T., Guo, J., Khalighi, M., Wardak, M., Holley, D., Gandhi, H., Park, J., Shen, B., Steinberg, G. K., Chin, F. T., Zaharchuk, G., Fan, et al  
2020; 51 (1): 183–94
- **In Reply: Validation and Application for the Berlin Grading System of Moyamoya Disease in Adult Patients.** *Neurosurgery*  
Teo, M. n., Steinberg, G. K.  
2020
- **Recurrence of cavernous malformations after surgery in childhood.** *Journal of neurosurgery. Pediatrics*  
Prolo, L. M., Jin, M. C., Loven, T. n., Vogel, H. n., Edwards, M. S., Steinberg, G. K., Grant, G. A.  
2020: 1–10
- **In Reply to the Letter to the Editor Regarding "Contralateral Vasospasm in an Uncomplicated Elective Anterior Communicating Artery Aneurysm Clipping".** *World neurosurgery*  
Bigder, M. G., Steinberg, G. K.  
2020; 142: 540
- **Contralateral acute vascular occlusion following revascularization surgery for moyamoya disease** *JOURNAL OF NEUROSURGERY*  
Sussman, E. S., Madhugiri, V., Teo, M., Nielsen, T. H., Furtado, S., Pendharkar, A., Ho, A. L., Esparza, R., Azad, T. D., Zhang, M., Steinberg, G. K.  
2019; 131 (6): 1702–8
- **Seven-Year Experience with Laparoscopic Pedicled Omental Flap for Cerebral Revascularization in Patients with Moyamoya Disease**  
Wood, L. Y., Jones, R. E., Chandler, J. M., Taylor, J., Dutta, S., Steinberg, G., Bruzoni, M.  
ELSEVIER SCIENCE INC.2019: E126–E127
- **Arterial spin labeling underestimates cerebral blood flow in regions with fast arrival times: a simultaneous [O-15] PET/MRI study with acetazolamide challenge**  
Ishii, Y., Thamm, T., Guo, J., Khalighi, M. M., Wardak, M., Park, J. H., Steinberg, G. K., Chin, F. T., Zaharchuk, G., Fan, A. P.  
SAGE PUBLICATIONS INC.2019: 54–55
- **Immunopanning purification of primary human astrocytes and comparison with mouse astrocytes**  
Zhang, Y., Sloan, S. A., Clarke, L. E., Caneda, C., Plaza, C. A., Blumenthal, P. D., Vogel, H., Edwards, M. S., Li, G., Duncan, J. A., Steinberg, G. K., Cheshier, S. H., Shuer, et al  
WILEY.2019: E86–E87
- **Early Diffusion Magnetic Resonance Imaging Changes in Normal-Appearing Brain in Pediatric Moyamoya Disease.** *Neurosurgery*  
Quon, J. L., Kim, L. H., MacEachern, S. J., Maleki, M., Steinberg, G. K., Madhugiri, V., Edwards, M. S., Grant, G. A., Yeom, K. W., Forkert, N. D.

2019

- **Cerebrovascular events after surgery versus conservative therapy for moyamoya disease: a meta-analysis.** *Acta neurologica Belgica*  
Wouters, A., Smets, I., Van den Noortgate, W., Steinberg, G. K., Lemmens, R.  
2019
- **Stability of Blood Biomarkers of Traumatic Brain Injury** *JOURNAL OF NEUROTRAUMA*  
Rezaii, P., Grant, G., Zeineh, M., Richardson, K., Coburn, M., Bet, A., Weber, A., Jiang, B., Li, Y., Ubungen, K., Routh, G., Wheatcroft, A., Paulino, et al  
2019: 1–10
- **STAIR X.** *Stroke*  
Demchuk, A. M., Albers, G. W., Nogueira, R. G., STAIR X Consortium \*, STAIR X (Stroke Treatment Academic Industry Roundtable) writing contributors, Alexandrov, A. V., Arbe-Barnes, S., Baron, J., Boltze, J., Broderick, J. P., Broschat, K., Campbell, B. C., Derdeyn, C. P., Elkind, et al  
2019: STROKEAHA119024337
- **Stability of Blood Biomarkers of Traumatic Brain Injury.** *Journal of neurotrauma*  
Rezaii, P., Grant, G., Zeineh, M., Richardson, K. J., Coburn, M. L., Bet, A. M., Weber, A., Jiang, B., Li, Y., Ubungen, K., Routh, G., Wheatcroft, A. M., Paulino, et al  
2019
- **Meningeal Mast Cells as Key Effectors of Stroke Pathology.** *Frontiers in cellular neuroscience*  
Arac, A., Grimbaldston, M. A., Galli, S. J., Bliss, T. M., Steinberg, G. K.  
2019; 13: 126
- **Meningeal Mast Cells as Key Effectors of Stroke Pathology** *FRONTIERS IN CELLULAR NEUROSCIENCE*  
Arac, A., Grimbaldston, M. A., Galli, S. J., Bliss, T. M., Steinberg, G. K.  
2019; 13
- **Arterial spin-labeling cerebral perfusion changes after revascularization surgery in pediatric moyamoya disease and syndrome** *JOURNAL OF NEUROSURGERY-PEDIATRICS*  
Quon, J. L., Kim, L. H., Lober, R. M., Maleki, M., Steinberg, G. K., Yeom, K. W.  
2019; 23 (4): 486–92
- **Validation and Application for the Berlin Grading System of Moyamoya Disease in Adult Patients.** *Neurosurgery*  
Teo, M., Furtado, S., Kaneko, O. F., Azad, T. D., Madhugiri, V., Do, H. M., Steinberg, G. K.  
2019
- **Long-term follow up data on difficult to treat intracranial arteriovenous malformations treated with the CyberKnife** *JOURNAL OF CLINICAL NEUROSCIENCE*  
Gupta, R., Moore, J. M., Amorin, A., Appelboom, G., Chaudhary, N., Iyer, A., Soltys, S. G., Gibbs, I. C., Steinberg, G. K., Chang, S. D.  
2019; 61: 120–23
- **Pathogenesis of aneurysms on major vessels in moyamoya disease and management outcome** *JOURNAL OF CLINICAL NEUROSCIENCE*  
Furtado, S. V., Medress, Z. A., Teo, M., Steinberg, G. K.  
2019; 61: 219–24
- **Identifying Hypoperfusion in Moyamoya Disease With Arterial Spin Labeling and an [O-15]-Water Positron Emission Tomography/Magnetic Resonance Imaging Normative Database** *STROKE*  
Fan, A. P., Khalighi, M. M., Guo, J., Ishii, Y., Rosenberg, J., Wardak, M., Park, J., Shen, B., Holley, D., Gandhi, H., Haywood, T., Singh, P., Steinberg, et al  
2019; 50 (2): 373–80
- **Grafted Human Neural Stem Cell-Secreted Matrilin-2 Improves Functional Recovery in Ischemic-Stroke Rats**  
Azevedo-Pereira, R. L., Vu, J., Du, F., Bliss, T., Steinberg, G. K.  
LIPPINCOTT WILLIAMS & WILKINS.2019
- **Optogenetic Stimulation of Excitatory Motor Cortex Neurons Promotes Functional Recovery After Stroke**  
Pendharkar, A., Harvey, S. S., Chiang, T., Cheng, M. Y., Steinberg, G. K.  
LIPPINCOTT WILLIAMS & WILKINS.2019
- **Cellular and Molecular Characterization of Microglia in Secondary Thalamic Injury After Ischemic Stroke**  
Cao Zhijuan, Harvey, S., Chiang, T., Foltz, A., Cheng, M., Steinberg, G.

LIPPINCOTT WILLIAMS & WILKINS.2019

- **Post-Ischemic Cortical Excitability and Gene Expression are Modulated by Transplanted Human Neural Stem Cells**  
Azevedo-Pereira, R. L., Weerakkody, T., Vu, J., Du, F., Liang Xibin, Huguenard, J., Bliss, T. M., Steinberg, G. K.  
LIPPINCOTT WILLIAMS & WILKINS.2019
- **A Review of Magnetic Particle Imaging and Perspectives on Neuroimaging** *AMERICAN JOURNAL OF NEURORADIOLOGY*  
Wu, L. C., Zhang, Y., Steinberg, G., Qu, H., Huang, S., Cheng, M., Bliss, T., Du, F., Rao, J., Song, G., Pisani, L., Doyle, T., Conolly, et al  
2019; 40 (2): 206–12
- **A Review of Magnetic Particle Imaging and Perspectives on Neuroimaging.** *AJNR. American journal of neuroradiology*  
Wu, L. C., Zhang, Y., Steinberg, G., Qu, H., Huang, S., Cheng, M., Bliss, T., Du, F., Rao, J., Song, G., Pisani, L., Doyle, T., Conolly, et al  
2019
- **Identifying Hypoperfusion in Moyamoya Disease With Arterial Spin Labeling and an [15O]-Water Positron Emission Tomography/Magnetic Resonance Imaging Normative Database.** *Stroke*  
Fan, A. P., Khalighi, M. M., Guo, J., Ishii, Y., Rosenberg, J., Wardak, M., Park, J. H., Shen, B., Holley, D., Gandhi, H., Haywood, T., Singh, P., Steinberg, et al  
2019: STROKEAHA118023426
- **Multimodal image registration and connectivity analysis for integration of connectomic data from microscopy to MRI.** *Nature communications*  
Goubran, M. n., Leuze, C. n., Hsueh, B. n., Aswendt, M. n., Ye, L. n., Tian, Q. n., Cheng, M. Y., Crow, A. n., Steinberg, G. K., McNab, J. A., Deisseroth, K. n., Zeineh, M. n.  
2019; 10 (1): 5504
- **Spatial Gradient Based Segmentation of Vessels and Quantitative Measurement of the Inner Diameter and Wall Thickness from ICG Fluorescence Angiographies**  
Naber, A., Berwanger, D., Steinberg, G. K., Nahm, W., MahadevanJansen, A.  
SPIE-INT SOC OPTICAL ENGINEERING.2019
- **Milestones in stereotactic radiosurgery for the central nervous system** *JOURNAL OF CLINICAL NEUROSCIENCE*  
Mitrasinovic, S., Zhang, M., Appelboom, G., Sussman, E., Moore, J. M., Hancock, S. L., Adler, J. R., Kondziolka, D., Steinberg, G. K., Chang, S. D.  
2019; 59: 12–19
- **Pregnancy after direct cerebral bypass for moyamoya disease.** *Journal of neurosurgery*  
Church, E. W., Qaiser, R. n., Bell-Stephens, T. E., Bigder, M. G., Chow, E. K., Han, S. S., El-Sayed, Y. Y., Steinberg, G. K.  
2019: 1–7
- **Milestones in stereotactic radiosurgery for the central nervous system.** *Journal of clinical neuroscience : official journal of the Neurosurgical Society of Australasia*  
Mitrasinovic, S., Zhang, M., Appelboom, G., Sussman, E., Moore, J. M., Hancock, S. L., Adler, J. R., Kondziolka, D., Steinberg, G. K., Chang, S. D.  
2019; 59: 12–19
- **Arterial-Spin Labeling MRI Identifies Residual Cerebral Arteriovenous Malformation Following Stereotactic Radiosurgery Treatment.** *Journal of neuroradiology. Journal de neuroradiologie*  
Heit, J. J., Thakur, N. H., Iv, M. n., Fischbein, N. J., Wintermark, M. n., Dodd, R. L., Steinberg, G. K., Chang, S. D., Kapadia, K. B., Zaharchuk, G. n.  
2019
- **Arterial spin-labeling cerebral perfusion changes after revascularization surgery in pediatric moyamoya disease and syndrome.** *Journal of neurosurgery. Pediatrics*  
Quon, J. L., Kim, L. H., Lober, R. M., Maleki, M. n., Steinberg, G. K., Yeom, K. W.  
2019: 1–7
- **Consensus Paper: Experimental Neurostimulation of the Cerebellum.** *Cerebellum (London, England)*  
Miterko, L. N., Baker, K. B., Beckinghausen, J. n., Bradnam, L. V., Cheng, M. Y., Cooperrider, J. n., DeLong, M. R., Gornati, S. V., Hallett, M. n., Heck, D. H., Hoebeek, F. E., Kouzani, A. Z., Kuo, et al  
2019
- **Utility of a Quantitative Approach Using Diffusion Tensor Imaging for Prognostication Regarding Motor and Functional Outcomes in Patients With Surgically Resected Deep Intracranial Cavernous Malformations.** *Neurosurgery*  
Abhinav, K. n., Nielsen, T. H., Singh, R. n., Weng, Y. n., Han, S. S., Iv, M. n., Steinberg, G. K.  
2019

- **Simultaneous phase-contrast MRI and PET for noninvasive quantification of cerebral blood flow and reactivity in healthy subjects and patients with cerebrovascular disease.** *Journal of magnetic resonance imaging : JMRI*  
Ishii, Y. n., Thamm, T. n., Guo, J. n., Khalighi, M. M., Wardak, M. n., Holley, D. n., Gandhi, H. n., Park, J. H., Shen, B. n., Steinberg, G. K., Chin, F. T., Zaharchuk, G. n., Fan, et al  
2019
- **Long-term follow up data on difficult to treat intracranial arteriovenous malformations treated with the CyberKnife.** *Journal of clinical neuroscience : official journal of the Neurosurgical Society of Australasia*  
Gupta, R., Moore, J. M., Amarin, A., Appelboom, G., Chaudhary, N., Iyer, A., Steinberg, G. K., Chang, S. D., Soltys, S., Gibbs, I.  
2018
- **Long-Term Effectiveness of Gross-Total Resection for Symptomatic Spinal Cord Cavernous Malformations** *NEUROSURGERY*  
Azad, T. D., Veeravagu, A., Li, A., Zhang, M., Madhugiri, V., Steinberg, G. K.  
2018; 83 (6): 1201–8
- **Pathogenesis of aneurysms on major vessels in moyamoya disease and management outcome.** *Journal of clinical neuroscience : official journal of the Neurosurgical Society of Australasia*  
Furtado, S. V., Medress, Z. A., Teo, M., Steinberg, G. K.  
2018
- **Blood Pressure Elevation and Risk of Moyamoya Syndrome in Patients With Trisomy 21** *PEDIATRICS*  
Santoro, J. D., Lee, S., Mlynash, M., Thuy Nguyen, L., Lazzareschi, D. V., Kraler, L. D., Mayne, E. W., Steinberg, G. K.  
2018; 142 (4)
- **Blood Pressure Elevation and Risk of Moyamoya Syndrome in Patients With Trisomy 21.** *Pediatrics*  
Santoro, J. D., Lee, S., Mlynash, M., Nguyen, T., Lazzareschi, D. V., Kraler, L. D., Mayne, E. W., Steinberg, G. K.  
2018
- **RNA-Sequencing Analysis Revealed a Distinct Motor Cortex Transcriptome in Spontaneously Recovered Mice After Stroke.** *Stroke*  
Ito, M., Aswendt, M., Lee, A. G., Ishizaka, S., Cao, Z., Wang, E. H., Levy, S. L., Smerin, D. L., McNab, J. A., Zeineh, M., Leuze, C., Goubran, M., Cheng, et al  
2018; 49 (9): 2191-2199
- **Engineered stem cell mimics to enhance stroke recovery** *BIOMATERIALS*  
George, P. M., Oh, B., Dewi, R., Hua, T., Cai, L., Levinson, A., Liang, X., Krajina, B. A., Bliss, T. M., Heilshorn, S. C., Steinberg, G. K.  
2018; 178: 63–72
- **RNA-Sequencing Analysis Revealed a Distinct Motor Cortex Transcriptome in Spontaneously Recovered Mice After Stroke** *STROKE*  
Ito, M., Aswendt, M., Lee, A. G., Ishizaka, S., Cao, Z., Wang, E. H., Levy, S. L., Smerin, D. L., McNab, J. A., Zeineh, M., Leuze, C., Goubran, M., Cheng, et al  
2018; 49 (9): 2191–99
- **Embolization before stereotactic radiosurgery for the treatment of brain arteriovenous malformations** *JOURNAL OF NEUROSURGICAL SCIENCES*  
Iyer, A., D'Souza, M., Steinberg, G. K.  
2018; 62 (4): 514–18
- **Nurse Telephonic Triage Service for After-hour Patient Calls in Neurosurgery.** *Annals of surgery*  
Escobedo-Wu, E. L., Dhebar, F., Harsh, G., Steinberg, G., Vyas, A., Katznelson, L., Ho, A. L., Pendharkar, A. V., Sussman, E. S., Rohatgi, N.  
2018; 267 (4): e67–e68
- **Nurse Telephonic Triage Service for After-hour Patient Calls in Neurosurgery** *ANNALS OF SURGERY*  
Escobedo-Wu, E. G., Dhebar, F., Harsh, G., Steinberg, G., Vyas, A., Katznelson, L., Ho, A. L., Pendharkar, A., Sussman, E. S., Rohatgi, N.  
2018; 267 (4): E67–E68
- **Embolization before stereotactic radiosurgery for the treatment of brain arteriovenous malformations.** *Journal of neurosurgical sciences*  
Iyer, A., D'Souza, M., Steinberg, G. K.  
2018
- **The Utility of Collaterals as a Biomarker in Pediatric Unilateral Intracranial Arteriopathy** *PEDIATRIC NEUROLOGY*  
Elbers, J., Armstrong, D., Benseler, S. M., Dlamini, N., Steinberg, G. K., Yeom, K. W.  
2018; 78: 27–34

- **Brain Arteriovenous Malformations and Arteriovenous Fistulas Foreword** *BRAIN ARTERIOVENOUS MALFORMATIONS AND ARTERIOVENOUS FISTULAS*  
Steinberg, G. K., Dumont, A., Lanzino, G., Sheehan, J.  
2018: IX
- **Surgery of Basal Ganglia, Thalamic, and Brainstem Arteriovenous Malformations** *BRAIN ARTERIOVENOUS MALFORMATIONS AND ARTERIOVENOUS FISTULAS*  
Madhugiri, V. S., Teo, M., Steinberg, G. K., Dumont, A., Lanzino, G., Sheehan, J.  
2018: 143–53
- **How Can We Reduce The Risks Of STA-MCA Bypasses?**  
Teo, M., Abhinav, K., Bell-Stephens, T., Madhugiri, Sussman, E., Azad, T. D., Zhang, M., Steinberg, G. K., Kandasamy, R.  
EDITOGRAFICA S R L.2018: 120–31
- **Reduced Intravoxel Incoherent Motion Microvascular Perfusion Predicts Delayed Cerebral Ischemia and Vasospasm After Aneurysm Rupture.** *Stroke*  
Heit, J. J., Wintermark, M. n., Martin, B. W., Zhu, G. n., Marks, M. P., Zaharchuk, G. n., Dodd, R. L., Do, H. M., Steinberg, G. K., Lansberg, M. G., Albers, G. W., Federau, C. n.  
2018
- **Management of Arteriovenous Malformations Associated with Developmental Venous Anomalies: A Literature Review and Report of 2 Cases** *WORLD NEUROSURGERY*  
Zhang, M., Connolly, I. D., Teo, M. K., Yang, G., Dodd, R., Marks, M., Zuccarello, M., Steinberg, G. K.  
2017; 106: 563–69
- **A Focused Review of Clinical and Preclinical Studies of Cell-Based Therapies in Stroke.** *Neurosurgery*  
Sussman, E. S., Steinberg, G. K.  
2017; 64 (CN\_suppl\_1): 92–96
- **A Focused Review of Clinical and Preclinical Studies of Cell-Based Therapies in Stroke**  
Sussman, E. S., Steinberg, G. K.  
OXFORD UNIV PRESS INC.2017: 92–96
- **Translational Stroke Research Vision and Opportunities** *STROKE*  
Bosetti, F., Koening, J. I., Ayata, C., Back, S. A., Becker, K., Broderick, J. P., Carmichael, S., Cho, S., Cipolla, M. J., Corbett, D., Corriveau, R. A., Cramer, S. C., Ferguson, et al  
2017; 48 (9): 2632–37
- **Direct Versus Indirect Bypass for Moyamoya Disease** *NEUROSURGERY CLINICS OF NORTH AMERICA*  
Liu, J. J., Steinberg, G. K.  
2017; 28 (3): 361–+
- **Neurocognitive Performance After Cerebral Revascularization in Adult Moyamoya Disease.** *Stroke*  
Zeifert, P. D., Karzmark, P., Bell-Stephens, T. E., Steinberg, G. K., Dorfman, L. J.  
2017; 48 (6): 1514-1517
- **Optogenetic neuronal stimulation of the lateral cerebellar nucleus promotes persistent functional recovery after stroke.** *Scientific reports*  
Shah, A. M., Ishizaka, S., Cheng, M. Y., Wang, E. H., Bautista, A. R., Levy, S., Smerin, D., Sun, G., Steinberg, G. K.  
2017; 7: 46612-?
- **Ipsilateral Pupillary Dilation Following Carotid Endarterectomy: A Temporary and Benign Phenomenon.** *Neurosurgery*  
Steinberg, J. A., Carter, B. S., Lee, M. B., Steinberg, G. K.  
2017; 80 (5): E239-E244
- **Safety and Efficacy of Human Embryonic Stem Cell Derived Oligodendrocyte Progenitor Cells (AST-OPC1) in Patients with Subacute Cervical Spinal Cord Injury**  
Lebkowski, J. S., Fessler, R., Leslie, D., Steinberg, G., Kurpad, S., Liu, C., Wirth, E.  
CELL PRESS.2017: 229–30
- **The separate effects of lipids and proteins on brain MRI contrast revealed through tissue clearing.** *NeuroImage*  
Leuze, C., Aswendt, M., Ferenczi, E., Liu, C. W., Hsueh, B., Goubran, M., Tian, Q., Steinberg, G., Zeineh, M. M., Deisseroth, K., McNab, J. A.



2017

- **The separate effects of lipids and proteins on brain MRI contrast revealed through tissue clearing.** *NeuroImage*  
Leuze, C., Aswendt, M., Ferenczi, E., Liu, C. W., Hsueh, B., Goubran, M., Tian, Q., Steinberg, G., Zeineh, M. M., Deisseroth, K., McNab, J. A.  
2017
- **Disrupting the CD47-SIRP alpha anti-phagocytic axis by a humanized anti-CD47 antibody is an efficacious treatment for malignant pediatric brain tumors** *SCIENCE TRANSLATIONAL MEDICINE*  
Gholamin, S., Mitra, S. S., Feroze, A. H., Liu, J., Kahn, S. A., Zhang, M., Esparza, R., Richard, C., Ramaswamy, V., Remke, M., Volkmer, A. K., Willingham, S., Ponnuswami, et al  
2017; 9 (381)
- **Interventional therapy for brain arteriovenous malformations before and after ARUBA** *JOURNAL OF CLINICAL NEUROSCIENCE*  
Sussman, E. S., Iyer, A. K., Teo, M., Pendharkar, A. V., Ho, A. L., Steinberg, G. K.  
2017; 37: 54-56
- **Embolization Followed by Radiosurgery for the Treatment of Brain Arteriovenous Malformations (AVMs)** *WORLD NEUROSURGERY*  
Marks, M. P., Marcellus, M. L., Santarelli, J., Dodd, R. L., Do, H. M., Chang, S. D., Adler, J. R., Mlynash, M., Steinberg, G. K.  
2017; 99: 471-476
- **Measuring Cerebral Blood Flow in Moyamoya Angiopathy by Quantitative Magnetic Resonance Angiography Noninvasive Optimal Vessel Analysis.** *Neurosurgery*  
Khan, N., Lober, R. M., Ostergren, L., Petralia, J., Bell-Stephens, T., Navarro, R., Feroze, A., Steinberg, G. K.  
2017
- **Comparison of porcine and bovine collagen dural substitutes in posterior fossa decompression for Chiari I malformation in adults.** *World neurosurgery*  
Lee, C. K., Mokhtari, T. n., Connolly, I. D., Li, G. n., Shuer, L. M., Chang, S. D., Steinberg, G. K., Gephart, M. H.  
2017
- **Long-Delay Arterial Spin Labeling Provides More Accurate Cerebral Blood Flow Measurements in Moyamoya Patients: A Simultaneous Positron Emission Tomography/MRI Study.** *Stroke*  
Fan, A. P., Guo, J. n., Khalighi, M. M., Gulaka, P. K., Shen, B. n., Park, J. H., Gandhi, H. n., Holley, D. n., Rutledge, O. n., Singh, P. n., Haywood, T. n., Steinberg, G. K., Chin, et al  
2017; 48 (9): 2441-49
- **Pipeline embolization device retraction and foreshortening after internal carotid artery blister aneurysm treatment.** *Interventional neuroradiology : journal of peritherapeutic neuroradiology, surgical procedures and related neurosciences*  
Heit, J. J., Telischak, N. A., Do, H. M., Dodd, R. L., Steinberg, G. K., Marks, M. P.  
2017; 23 (6): 614-19
- **Patient Outcomes and Cerebral Infarction after Ruptured Anterior Communicating Artery Aneurysm Treatment.** *AJNR. American journal of neuroradiology*  
Heit, J. J., Ball, R. L., Telischak, N. A., Do, H. M., Dodd, R. L., Steinberg, G. K., Chang, S. D., Wintermark, M. n., Marks, M. P.  
2017; 38 (11): 2119-25
- **Clinical and Arterial Spin Labeling Brain MRI Features of Transitional Venous Anomalies.** *Journal of neuroimaging : official journal of the American Society of Neuroimaging*  
Zhang, M. n., Telischak, N. A., Fischbein, N. J., Steinberg, G. K., Marks, M. n., Zaharchuk, G. n., Heit, J. J., Iv, M. n.  
2017
- **Embolization followed by Radiosurgery for the Treatment of Brain Arteriovenous Malformations (AVMs).** *World neurosurgery*  
Marks, M. P., Marcellus, M. L., Santarelli, J., Dodd, R. L., Do, H. M., Chang, S. D., Adler, J. R., Mlynash, M., Steinberg, G. K.  
2016
- **Surgical outcomes of Majewski osteodysplastic primordial dwarfism Type II with intracranial vascular anomalies** *JOURNAL OF NEUROSURGERY-PEDIATRICS*  
Teo, M., Johnson, J. N., Bell-Stephens, T. E., Marks, M. P., Do, H. M., Dodd, R. L., Bober, M. B., Steinberg, G. K.  
2016; 18 (6): 717-723
- **Response by Steinberg et al to Letter Regarding Article, "Clinical Outcomes of Transplanted Modified Bone Marrow-Derived Mesenchymal Stem Cells in Stroke: A Phase 1/2A Study"** *STROKE*  
Steinberg, G. K., Kondziolka, D., Bates, D.

2016; 47 (12): E269-E269

- **Surgical outcomes of Majewski osteodysplastic primordial dwarfism Type II with intracranial vascular anomalies.** *Journal of neurosurgery. Pediatrics*  
Teo, M., Johnson, J. N., Bell-Stephens, T. E., Marks, M. P., Do, H. M., Dodd, R. L., Bober, M. B., Steinberg, G. K.  
2016; 25 (6): 717-723
- **Interventional therapy for brain arteriovenous malformations before and after ARUBA.** *Journal of clinical neuroscience*  
Sussman, E. S., Iyer, A. K., Teo, M., Pendharkar, A. V., Ho, A. L., Steinberg, G. K.  
2016
- **Quality of Life in Pediatric Moyamoya Disease.** *Pediatric neurology*  
Ball, A. J., Steinberg, G. K., Elbers, J.  
2016; 63: 60-65
- **Editorial: Direct versus indirect bypass for moyamoya disease: ongoing controversy.** *Journal of neurosurgery*  
Teo, M. K., Madhugiri, V. S., Steinberg, G. K.  
2016: 1-3
- **The strokes that killed Churchill, Roosevelt, and Stalin.** *Neurosurgical focus*  
Ali, R., Connolly, I. D., Li, A., Choudhri, O. A., Pendharkar, A. V., Steinberg, G. K.  
2016; 41 (1): E7-?
- **Management of moyamoya syndrome in patients with Noonan syndrome** *JOURNAL OF CLINICAL NEUROSCIENCE*  
Gupta, M., Choudhri, O. A., Feroze, A. H., Do, H. M., Grant, G. A., Steinberg, G. K.  
2016; 28: 107-111
- **OPTOGENETIC STIMULATION OF CEREBELLAR DENTATE NUCLEUS PROMOTES PERSISTENT FUNCTIONAL RECOVERY AFTER STROKE**  
Shunsuke, I., Cheng, M. Y., Shah, A. M., Wang, E. H., Bautista, A. R., Sun, G., Steinberg, G. K.  
SAGE PUBLICATIONS INC.2016: 304
- **Multiple Subsets of Brain Tumor Initiating Cells Coexist in Glioblastoma** *STEM CELLS*  
Rennert, R. C., Achrol, A. S., Januszky, M., Kahn, S. A., Liu, T. T., Liu, Y., Sahoo, D., Rodrigues, M., Maan, Z. N., Wong, V. W., Cheshier, S. H., Chang, S. D., Steinberg, et al  
2016; 34 (6): 1702-1707
- **Optogenetic modulation in stroke recovery** *NEUROSURGICAL FOCUS*  
Pendharkar, A. V., Levy, S. L., Ho, A. L., Sussman, E. S., Cheng, M. Y., Steinberg, G. K.  
2016; 40 (5)
- **Neurorestoration after stroke** *NEUROSURGICAL FOCUS*  
Azad, T. D., Veeravagu, A., Steinberg, G. K.  
2016; 40 (5)
- **Impaired Arm Function and Finger Dexterity in a Nonhuman Primate Model of Stroke Motor and Cognitive Assessments** *STROKE*  
McEntire, C. R., Choudhury, G. R., Torres, A., Steinberg, G. K., Redmond, D. E., Daadi, M. M.  
2016; 47 (4): 1109-1116
- **Treatment of Nystagmus in Brainstem Cavernous Malformation with Botulinum Toxin** *CUREUS*  
Chen, Y., Fredrick, D., Steinberg, G. K., Liao, Y. J.  
2016; 8 (4)
- **Laparoscopic harvesting of omental pedicle flap for cerebral revascularization in children with moyamoya disease** *JOURNAL OF PEDIATRIC SURGERY*  
Bruzoni, M., Steinberg, G. K., Dutta, S.  
2016; 51 (4): 592-597
- **High-Resolution Microfluidic Single-Cell Transcriptional Profiling Reveals Clinically Relevant Subtypes among Human Stem Cell Populations Commonly Utilized in Cell-Based Therapies** *FRONTIERS IN NEUROLOGY*  
Rennert, R. C., Schaefer, R., Bliss, T., Januszky, M., Sorkin, M., Achrol, A. S., Rodrigues, M., Maan, Z. N., Kluba, T., Steinberg, G. K., Gurtner, G. C.  
2016; 7

- **Acute Preoperative Infarcts and Poor Cerebrovascular Reserve Are Independent Risk Factors for Severe Ischemic Complications following Direct Extracranial-Intracranial Bypass for Moyamoya Disease** *AMERICAN JOURNAL OF NEURORADIOLOGY*  
Antonucci, M. U., Burns, T. C., Pulling, T. M., Rosenberg, J., Marks, M. P., Steinberg, G. K., Zaharchuk, G.  
2016; 37 (2): 228-235
- **Cerebellar Dentate Nucleus is an Effective Brain Stimulation Target for Post-stroke Recovery**  
Ishizaka, S., Cheng, M., Shah, A., Wang, E., Bautista, A., Sun Guohua, Steinberg, G. K.  
LIPPINCOTT WILLIAMS & WILKINS.2016
- **Whole Brain Screening of Cellular and Molecular Changes After Stroke**  
Aswendt, M., Hsueh, B., Ishizaka, S., Sun Guohua, Cheng, M., Deisseroth, K., Steinberg, G. K.  
LIPPINCOTT WILLIAMS & WILKINS.2016
- **Optogenetic Neuronal Stimulation Reduces Neuronal Nitric Oxide Synthase After Stroke**  
Cheng, M. Y., Gonzales, L., Wang, E. H., Wang, S., Ishizaka, S., Steinberg, G. K.  
LIPPINCOTT WILLIAMS & WILKINS.2016
- **Acute Preoperative Infarcts and Poor Cerebrovascular Reserve Are Independent Risk Factors for Severe Ischemic Complications following Direct Extracranial-Intracranial Bypass for Moyamoya Disease.** *AJNR. American journal of neuroradiology*  
Antonucci, M. U., Burns, T. C., Pulling, T. M., Rosenberg, J., Marks, M. P., Steinberg, G. K., Zaharchuk, G.  
2016; 37 (2): 228-235
- **Interventional Therapy for Brain AVMs Before and After ARUBA**  
Sussman, E., Teo, M., Iyer, A., Ho, A., Pendharkar, A., Dodd, R., Steinberg, G.  
LIPPINCOTT WILLIAMS & WILKINS.2016
- **Purification and Characterization of Progenitor and Mature Human Astrocytes Reveals Transcriptional and Functional Differences with Mouse** *NEURON*  
Zhang, Y., Sloan, S. A., Clarke, L. E., Caneda, C., Plaza, C. A., Blumenthal, P. D., Vogel, H., Steinberg, G. K., Edwards, M. S., Li, G., Duncan, J. A., Cheshier, S. H., Shuer, et al  
2016; 89 (1): 37-53
- **Disease Variant Landscape of a Large Multiethnic Population of Moyamoya Patients by Exome Sequencing** *G3-GENES GENOMES GENETICS*  
Shoemaker, L. D., Clark, M. J., Patwardhan, A., Chandratillake, G., Garcia, S., Chen, R., Morgan, A. A., Leng, N., Kirk, S., Chen, R., Cook, D. J., Snyder, M., Steinberg, et al  
2016; 6 (1): 41-49
- **Treatment of Nystagmus in Brainstem Cavernous Malformation with Botulinum Toxin.** *Cureus*  
Chen, Y., Fredrick, D., Steinberg, G. K., Liao, Y. J.  
2016; 8 (4)
- **Surgical Therapy** *INTRACRANIAL ATHEROSCLEROSIS: PATHOPHYSIOLOGY, DIAGNOSIS AND TREATMENT*  
Oh, C., Steinberg, G. K., Kim, J. S., Caplan, L. R., Wong, K. S.  
2016; 40: 164-78
- **Personalized Medicine in Cerebrovascular Neurosurgery: Precision Neurosurgical Management of Cerebral Aneurysms and Subarachnoid Hemorrhage.** *Frontiers in surgery*  
Achrol, A. S., Steinberg, G. K.  
2016; 3: 34-?
- **Microsurgical treatment of a tentorial galenic dural arteriovenous fistula** *NEUROSURGICAL FOCUS*  
Choudhri, O., Steinberg, G. K.  
2016; 40
- **Optogenetic Stimulation of Neural Grafts Enhances Neurotransmission and Downregulates the Inflammatory Response in Experimental Stroke Model.** *Cell transplantation*  
Daadi, M. M., Klausner, J. Q., Bajar, B., Goshen, I., Lee-Messer, C., Lee, S. Y., Winge, M. C., Ramakrishnan, C., Lo, M., Sun, G., Deisseroth, K., Steinberg, G. K.  
2016; 25 (7): 1371-1380
- **Microsurgical treatment of a tentorial galenic dural arteriovenous fistula.** *Neurosurgical focus*  
Choudhri, O., Steinberg, G. K.

2016; 40 Video: 1-?

- **An Alternative Display Could Lead to Earlier Diagnosis of Intracerebral Pathology with a Hemedex Flow Probe In Situ** *WORLD NEUROSURGERY*  
Mukerji, N., Cook, D. J., Steinberg, G. K.  
2015; 84 (6)
- **Pediatric Quality of Life in Children with Moyamoya Disease and Stroke**  
Ball, A. J., Steinberg, G. K., Elbers, J. M.  
WILEY-BLACKWELL.2015: S214–S215
- **Extracorporeal membrane oxygenation for cardiac arrest during moyamoya cerebral revascularization surgery: case report** *JOURNAL OF NEUROSURGERY*  
Choudhri, O., Shah, A., Basarab-Tung, J., Jaffe, R. A., Steinberg, G. K.  
2015; 123 (3): 693-698
- **Glioblastoma Multiforme: Exploratory Radiogenomic Analysis by Using Quantitative Image Features.** *Radiology*  
Gevaert, O., Mitchell, L. A., Achrol, A. S., Xu, J., Echegaray, S., Steinberg, G. K., Cheshier, S. H., Napel, S., Zaharchuk, G., Plevritis, S. K.  
2015; 276 (1): 313-?
- **Use of thromboelastography to tailor dual-antiplatelet therapy in patients undergoing treatment of intracranial aneurysms with the Pipeline embolization device.** *Journal of neurointerventional surgery*  
McTaggart, R. A., Choudhri, O. A., Marcellus, M. L., Brennan, T., Steinberg, G. K., Dodd, R. L., Do, H. M., Marks, M. P.  
2015; 7 (6): 425-430
- **Safety of stereotactic intracranial injection of modified bone marrow-derived mesenchymal stem cells (SB623) in chronic stroke patients: A Phase 1/2A study**  
Steinberg, G. K., Kondziolka, D., Wechsler, L., Lunsford, L. D., Kim, A. S., Johnson, J. N., Bates, D., McGrogan, M., Yankee, E. W., Schwartz, N. E.  
WILEY-BLACKWELL.2015: 88
- **Clinical improvement and cortical flair hyperintensity associated with stereotactic intracranial injection of modified bone marrow-derived mesenchymal stem cells (SB623) in chronic stroke patients**  
Steinberg, G. K., Kondziolka, D., Wechsler, L., Lunsford, L. D., Kim, A. S., Johnson, J. N., Bates, D., McGrogan, M., Yankee, E. W., Schwartz, N. E.  
WILEY-BLACKWELL.2015: 11
- **Electroencephalographic features of moyamoya in adults** *CLINICAL NEUROPHYSIOLOGY*  
Frechette, E. S., Bell-Stephens, T. E., Steinberg, G. K., Fisher, R. S.  
2015; 126 (3): 481-485
- **Development of Arteriovenous Fistula After Revascularization Bypass for Moyamoya Disease: Case Report** *OPERATIVE NEUROSURGERY*  
Feroze, A. H., Kushkuley, J., Choudhri, O., Heit, J. J., Steinberg, G. K., Do, H. M.  
2015; 11 (1): E202-E206
- **Persistent trigeminal artery supply to an intrinsic trigeminal nerve arteriovenous malformation: A rare cause of trigeminal neuralgia.** *Journal of clinical neuroscience*  
Choudhri, O., Heit, J. J., Feroze, A. H., Chang, S. D., Dodd, R. L., Steinberg, G. K.  
2015; 22 (2): 409-412
- **Internal carotid artery surgical revascularization in a pediatric patient with Schimke immuno-osseous dysplasia** *JOURNAL OF NEUROSURGERY-PEDIATRICS*  
Westbroek, E. M., Mukerji, N., Kalanithi, P., Steinberg, G. K.  
2015; 15 (2): 189-191
- **Optogenetic approaches to study stroke recovery.** *ACS chemical neuroscience*  
Cheng, M. Y., Wang, E. H., Steinberg, G. K.  
2014; 5 (12): 1144-1145
- **Human brain arteriovenous malformations express lymphatic-associated genes.** *Annals of clinical and translational neurology*  
Shoemaker, L. D., Fuentes, L. F., Santiago, S. M., Allen, B. M., Cook, D. J., Steinberg, G. K., Chang, S. D.  
2014; 1 (12): 982-995
- **Human brain arteriovenous malformations express lymphatic-associated genes** *ANNALS OF CLINICAL AND TRANSLATIONAL NEUROLOGY*

- Shoemaker, L. D., Fuentes, L. F., Santiago, S. M., Allen, B. M., Cook, D. J., Steinberg, G. K., Chang, S. D.  
2014; 1 (12): 982-995
- **RNF213 Rare Variants in an Ethnically Diverse Population With Moyamoya Disease** *STROKE*  
Cecchi, A. C., Guo, D., Ren, Z., Flynn, K., Santos-Cortez, R. L., Leal, S. M., Wang, G. T., Regalado, E. S., Steinberg, G. K., Shendure, J., Bamshad, M. J., Grotta, J. C., Nickerson, et al  
2014; 45 (11): 3200-3207
  - **Glioblastoma Multiforme: Exploratory Radiogenomic Analysis by Using Quantitative Image Features** *RADIOLOGY*  
Gevaert, O., Mitchell, L. A., Achrol, A. S., Xu, J., Echegaray, S., Steinberg, G. K., Cheshier, S. H., Napel, S., Zaharchuk, G., Plevritis, S. K.  
2014; 273 (1): 168-174
  - **Glioblastoma multiforme: exploratory radiogenomic analysis by using quantitative image features.** *Radiology*  
Gevaert, O., Mitchell, L. A., Achrol, A. S., Xu, J., Echegaray, S., Steinberg, G. K., Cheshier, S. H., Napel, S., Zaharchuk, G., Plevritis, S. K.  
2014; 273 (1): 168-174
  - **Temporary clipping for unruptured aneurysms.** *World neurosurgery*  
Mukerji, N., Cook, D. J., Steinberg, G. K.  
2014; 82 (3-4): 309-311
  - **Case Report: Glioblastoma Multiforme Complicating Familial Cavernous Malformations** *CLINICAL NEURORADIOLOGY*  
Wilson, D. M., Cohen, B., Keshari, K., Vogel, H., Steinberg, G., Dillon, W.  
2014; 24 (3): 293-96
  - **Evidence that Meningeal Mast Cells Can Worsen Stroke Pathology in Mice** *AMERICAN JOURNAL OF PATHOLOGY*  
Arac, A., Grimbaldeston, M. A., Nepomuceno, A. R., Olayiwola, O., Pereira, M. P., Nishiyama, Y., Tsykin, A., Goodall, G. J., Schlecht, U., Vogel, H., Tsai, M., Galli, S. J., Bliss, et al  
2014; 184 (9): 2493-2504
  - **E-014 changes in posterior circulation arterial flows after revascularization surgery in moyamoya disease: a quantitative MRI study.** *Journal of neurointerventional surgery*  
Navarro, R., Feroze, A., Choudhri, O., Lober, R., Khan, N., Steinberg, G.  
2014; 6: A44-?
  - **Acute lung injury in patients with subarachnoid hemorrhage: a nationwide inpatient sample study.** *World neurosurgery*  
Veeravagu, A., Chen, Y., Ludwig, C., Rincon, F., Maltenfort, M., Jallo, J., Choudhri, O., Steinberg, G. K., Ratliff, J. K.  
2014; 82 (1-2): e235-41
  - **Temporary artery occlusion in ruptured aneurysms.** *World neurosurgery*  
Mukerji, N., Cook, D. J., Steinberg, G. K.  
2014; 82 (1-2): 43-45
  - **Acute Lung Injury in Patients with Subarachnoid Hemorrhage: A Nationwide Inpatient Sample Study** *WORLD NEUROSURGERY*  
Veeravagu, A., Chen, Y., Ludwig, C., Rincon, F., Maltenfort, M., Jallo, J., Choudhri, O., Steinberg, G. K., Ratliff, J. K.  
2014; 82 (1-2): E235-E241
  - **E-012 national trends for the utilization of cerebral angiography in patients with unruptured aneurysms: 1999-2009.** *Journal of neurointerventional surgery*  
Choudhri, O., Feroze, A., Mantha, A., Steinberg, G., Do, H.  
2014; 6: A43-?
  - **Multiple Sclerosis and Moyamoya Disease**  
Dorfman, L. J., Fischbein, N. J., Zeifert, P. D., Woodard, J. I., Choudhri, O., Bell-Stephens, T. E., Lee, J., Steinberg, G. K., CNRN, NP  
SAGE PUBLICATIONS LTD.2014: 956
  - **Stepwise Recruitment of Transcellular and Paracellular Pathways Underlies Blood-Brain Barrier Breakdown in Stroke** *NEURON*  
Knowland, D., Arac, A., Sekiguchi, K. J., Hsu, M., Lutz, S. E., Perrino, J., Steinberg, G. K., Barres, B. A., Nimmerjahn, A., Agalliu, D.  
2014; 82 (3): 603-617
  - **Intraarterial transplantation of human umbilical cord blood mononuclear cells is more efficacious and safer compared with umbilical cord mesenchymal stromal cells in a rodent stroke model** *STEM CELL RESEARCH & THERAPY*  
Karlupia, N., Manley, N. C., Prasad, K., Schaefer, R., Steinberg, G. K.

2014; 5

- **Composite pleomorphic xanthoastrocytoma-epithelioid glioneuronal tumor with BRAF V600E mutation - report of three cases** *CLINICAL NEUROPATHOLOGY*  
Aisner, D. L., Newell, K. L., Pollack, A. G., Kleinschmidt-Demasters, B. K., Steinberg, G. K., Smyth, L. T., Vogel, H.  
2014; 33 (2): 112-121
- **Less Invasive Pedicled Omental-Cranial Transposition in Pediatric Patients With Moyamoya Disease and Failed Prior Revascularization** *OPERATIVE NEUROSURGERY*  
Navarro, R., Chao, K., Gooderham, P. A., Bruzoni, M., Dutta, S., Steinberg, G. K.  
2014; 10 (1): 1–14
- **Flexible Omnidirectional Carbon Dioxide Laser as an Effective Tool for Resection of Brainstem, Supratentorial, and Intramedullary Cavernous Malformations** *OPERATIVE NEUROSURGERY*  
Choudhri, O., Karamchandani, J., Gooderham, P., Steinberg, G. K.  
2014; 10 (1): 34–44
- **Stem Cells as an Emerging Paradigm in Stroke 3 Enhancing the Development of Clinical Trials** *STROKE*  
Savitz, S. I., Cramer, S. C., Wechsler, L., Aronowski, J., Boltze, J., Borlongan, C., Case, C., Chase, T., Chopp, M., Carmichael, S. T., Cramer, S. C., Duncan, P., Finklestein, et al  
2014; 45 (2): 634-639
- **Moderate Hypothermia Inhibits Brain Inflammation and Attenuates Stroke-Induced Immunodepression in Rats** *CNS NEUROSCIENCE & THERAPEUTICS*  
Gu, L., Xiong, X., Ito, T., Lee, J., Xu, B., Krams, S., Steinberg, G. K., Zhao, H.  
2014; 20 (1): 67-75
- **Long-term Results after Cerebral Revascularization in Adult Moyamoya** *MOYAMOYA DISEASE: DIAGNOSIS AND TREATMENT*  
Navarro, R. L., Burns, T. C., Gooderham, P. A., Steinberg, G. K., Wanebo, J., Khan, N., Zabramski, J., Spetzler, R.  
2014: 169–73
- **Exome sequencing of a large multi-ethnic moyamoya (MMD) patient population reveals novel disease-associated genes and provides evidence for ethnic specificity in MMD disease variants**  
Shoemaker, L., Clark, M., Patwardhan, A., Cook, D. J., Steinberg, G.  
SPRINGER.2014: 309
- **Phase 1 Clinical Assessment of Human Embryonic Stem Cell (hFSC)-Derived Oligodendrocyte Progenitors in Patients With Neurologically Complete Thoracic Spinal Cord Injuries**  
Lebkowski, J., Fessler, R., Jones, L., Steinberg, G., McKenna, S., Apple, D., Wirth, E.  
COGNIZANT COMMUNICATION CORP.2014: 775–76
- **Burr holes for Moyamoya.** *World neurosurgery*  
Mukerji, N., Steinberg, G. K.  
2014; 81 (1): 29-31
- **Stem cell therapy for acute cerebral injury: what do we know and what will the future bring?** *CURRENT OPINION IN NEUROLOGY*  
Lemmens, R., Steinberg, G. K.  
2013; 26 (6): 617-625
- **Defective sphingosine 1-phosphate receptor 1 (S1P1) phosphorylation exacerbates TH17-mediated autoimmune neuroinflammation.** *Nature immunology*  
Garris, C. S., Wu, L., Acharya, S., Arac, A., Blaho, V. A., Huang, Y., Moon, B. S., Axtell, R. C., Ho, P. P., Steinberg, G. K., Lewis, D. B., Sobel, R. A., Han, et al  
2013; 14 (11): 1166-1172
- **Defective sphingosine 1-phosphate receptor 1 (S1P1) phosphorylation exacerbates TH17-mediated autoimmune neuroinflammation.** *Nature immunology*  
Garris, C. S., Wu, L., Acharya, S., Arac, A., Blaho, V. A., Huang, Y., Moon, B. S., Axtell, R. C., Ho, P. P., Steinberg, G. K., Lewis, D. B., Sobel, R. A., Han, et al  
2013; 14 (11): 1166-1172
- **CANCER STEM CELL TRANSCRIPTIONAL SUBTYPING OF GLIOBLASTOMA MULTIFORME CORRELATES WITH CLINICALLY RELEVANT MOLECULAR AND IMAGING PHENOTYPES**  
Gevaert, O., Achrol, A., Gholamin, S., Mitra, S., Westbroek, E., Loya, J., Mitchell, L., Chang, S., Steinberg, G., Plevritis, S., Cheshier, S.  
OXFORD UNIV PRESS INC.2013: 140

- **CREATING A RADIOGENOMICS MAP OF MULTI-OMICS AND QUANTITATIVE IMAGE FEATURES IN GLIOBLASTOMA MULTIFORME**  
Gevaert, O., Mitchell, L., Achrol, A., Xu, J., Steinberg, G., Cheshier, S., Napel, S., Zaharchuk, G., Plevritis, S.  
OXFORD UNIV PRESS INC.2013: 140–41
- **GLIOMETH: A NOVEL DNA METHYLATION SIGNATURE PREDICTS OVERALL SURVIVAL IN GLIOBLASTOMA MULTIFORME**  
Gevaert, O., Achrol, A., Chang, S., Harsh, G., Steinberg, G., Cheshier, S., Plevritis, S.  
OXFORD UNIV PRESS INC.2013: 141
- **Microsurgical management of distal anterior cerebral artery aneurysms: from basic to complex, a video review of four cases** *ACTA NEUROCHIRURGICA*  
Navarro, R., Chao, K., Steinberg, G. K.  
2013; 155 (11): 2115-2119
- **Moyamoya syndrome with sickle cell trait** *INTERNATIONAL JOURNAL OF LABORATORY HEMATOLOGY*  
Agrawal, R., Berube, C., Steinberg, G., George, T. I.  
2013; 35 (5): E8–E9
- **Complete visual recovery after incipient crao due to ocular hypoperfusion in a patient with moyamoya disease.** *Retinal cases & brief reports*  
Lad, E. M., Lad, S. P., Ung, C., Jain, A., Steinberg, G. K., Gaynon, M. W.  
2013; 7 (3): 248-251
- **Delayed retraction of the pipeline embolization device and corking failure: pitfalls of pipeline embolization device placement in the setting of a ruptured aneurysm.** *Neurosurgery*  
McTaggart, R. A., Santarelli, J. G., Marcellus, M. L., Steinberg, G. K., Dodd, R. L., Do, H. M., Marks, M. P.  
2013; 72 (2): onsE245-51
- **A Concerted Appeal for International Cooperation in Preclinical Stroke Research** *STROKE*  
Dirnagl, U., Hakim, A., Macleod, M., Fisher, M., Howells, D., Alan, S. M., Steinberg, G., Planas, A., Boltze, J., Savitz, S., Iadecola, C., Meairs, S.  
2013; 44 (6): 1754-1760
- **Delayed Retraction of the Pipeline Embolization Device and Corking Failure: Pitfalls of Pipeline Embolization Device Placement in the Setting of a Ruptured Aneurysm** *NEUROSURGERY*  
McTaggart, R. A., Santarelli, J. G., Marcelus, M. L., Steinberg, G. K., Dodd, R. L., Do, H. M., Marks, M. P.  
2013; 72 (6): 237-237
- **Spinal pilocytic astrocytoma in an elderly patient.** *World neurosurgery*  
Harraher, C. D., Vogel, H., Steinberg, G. K.  
2013; 79 (5-6): 799 E7-9
- **Spinal Pilocytic Astrocytoma in an Elderly Patient** *WORLD NEUROSURGERY*  
Harraher, C. D., Vogel, H., Steinberg, G. K.  
2013; 79 (5-6)
- **Clip reconstruction of midbasilar aneurysms.** *World neurosurgery*  
Cook, D. J., Mukerji, N., Steinberg, G. K.  
2013; 79 (5-6): 675-677
- **Derivation of Injury-Responsive Dendritic Cells for Acute Brain Targeting and Therapeutic Protein Delivery in the Stroke-Injured Rat** *PLOS ONE*  
Manley, N. C., Caso, J. R., Works, M. G., Cutler, A. B., Zemlyak, I., Sun, G., Munhoz, C. D., Chang, S., Sorrells, S. F., Ermini, F. V., Decker, J. H., Bertrand, A. A., Dinkel, et al  
2013; 8 (4)
- **Immune response profiling identifies autoantibodies specific to Moyamoya patients** *ORPHANET JOURNAL OF RARE DISEASES*  
Sigdel, T. K., Shoemaker, L. D., Chen, R., Li, L., Butte, A. J., Sarwal, M. M., Steinberg, G. K.  
2013; 8
- **Case Series: Intraoperative Neurophysiologic Monitoring (IONM) Changes during Presumably "Non-Critical" Periods of Surgery**  
Lee, L., Cho, S., Viet Nguyen, Ferreira, R., Taricco, L., Steinberg, G., Dodd, R., Ryu, S., Lopez, J.  
LIPPINCOTT WILLIAMS & WILKINS.2013
- **In reply. The genetics of moyamoya disease: recent insights into the pathogenesis of the disease.** *Neurosurgery*

- Achrol, A. S., Khan, N., Steinberg, G. K.  
2013; 72 (2): E321-2
- **Revascularization in Patients with Moyamoya Decreases Abnormally High Posterior Circulation Arterial Flows Measured by Quantitative Magnetic Resonance Angiography**  
Navarro, R., Lober, R., Feroze, A., Khan, N., Steinberg, G. K.  
LIPPINCOTT WILLIAMS & WILKINS.2013
  - **Monocyte-derived Macrophages Can Reduce Damage After Experimental Ischemic Stroke**  
Nishiyama, Y., Arac, A., Bliss, T. M., Steinberg, G. K.  
LIPPINCOTT WILLIAMS & WILKINS.2013
  - **Meningeal Mast Cells Can Exacerbate Stroke Pathology In Mice**  
Arac, A., Grimbaldeston, M. A., Nepomuceno, A. R., Olayiwola, O., Pereira, M. P., Vogel, H., Tsai, M., Galli, S. J., Bliss, T. M., Steinberg, G. K.  
LIPPINCOTT WILLIAMS & WILKINS.2013
  - **Increased GABA(A) Mediated Synaptic Activity and Structural Remodeling in Peri-infarct Cortex Layer 5 in the Post-stroke Rodent Brain.**  
Hui, T., Bliss, T. M., Farzampour, Z., Paz, J. T., Olson, A., Micheva, K. D., Wang, E. H., Wang, G., Manley, N., Nishiyama, Y., Arac, A., O'Rourke, N., Huguenard, et al  
LIPPINCOTT WILLIAMS & WILKINS.2013
  - **Human Neural Stem Cells Enhance Synaptic Structural Remodeling in the Ischemic Brain.**  
Hui, T., Bliss, T. M., Manley, N., Wang, E. H., Wang, G., Micheva, K. D., Olson, A., Smith, S. J., Steinberg, G. K.  
LIPPINCOTT WILLIAMS & WILKINS.2013
  - **Optogenetic Stimulation of Human Neural Stem Cell Grafts In Ischemic Brain**  
Daadi, M., Lee, S., Bajar, B., Lo, M., Ramakrishnan, C., Sun, G., Deisseroth, K., Steinberg, G.  
LIPPINCOTT WILLIAMS & WILKINS.2013
  - **Imaging neural stem cell graft-induced structural repair in stroke. *Cell transplantation***  
Daadi, M. M., Hu, S., Klausner, J., Li, Z., Sofilos, M., Sun, G., Wu, J. C., Steinberg, G. K.  
2013; 22 (5): 881-892
  - **The Role of Radiosurgery for the Treatment of Cerebral Cavernous Malformations *HANDBOOK OF RADIOSURGERY IN CNS DISEASE***  
Gooderham, P. A., Steinberg, G. K., Lim, M., Hsu, W., Rigamonti, D., Kleinberg, L. R.  
2013: 147-52
  - **Combined endovascular and microsurgical management of complex cerebral aneurysms *FRONTIERS IN NEUROLOGY***  
Choudhri, O., Mukerji, N., Steinberg, G. K.  
2013; 4
  - **Aberrant expression of lymphatic-associated proteins in human brain arteriovenous malformations**  
Shoemaker, L., Fuentes, L., Santiago, S., Steinberg, G., Chang, S.  
SPRINGER.2013: 269-70
  - **Imaging Neural Stem Cell Graft-Induced Structural Repair in Stroke *CELL TRANSPLANTATION***  
Daadi, M. M., Hu, S., Klausner, J., Li, Z., Sofilos, M., Sun, G., Wu, J. C., Steinberg, G. K.  
2013; 22 (5): 881-892
  - **Combined endovascular and microsurgical management of complex cerebral aneurysms. *Frontiers in neurology***  
Choudhri, O., Mukerji, N., Steinberg, G. K.  
2013; 4: 108-?
  - **Moyamoya Disease Can Masquerade as Multiple Sclerosis *NEUROLOGIST***  
Dorfman, L. J., Fischbein, N. J., Woodard, J. I., Choudhri, O., Bell-Stephens, T. E., Steinberg, G. K.  
2012; 18 (6): 398-403
  - **Cerebral proliferative angiopathy *JOURNAL OF NEUROINTERVENTIONAL SURGERY***  
Marks, M. P., Steinberg, G. K.  
2012; 4 (5)



- **Sex Differences in Clinical Presentation and Treatment Outcomes in Moyamoya Disease** *NEUROSURGERY*  
Khan, N., Achrol, A. S., Guzman, R., Burns, T. C., Dodd, R., Bell-Stephens, T., Steinberg, G. K.  
2012; 71 (3): 587-593
- **A Simplified Method for Administration of Intra-Arterial Nicardipine for Vasospasm With Cervical Catheter Infusion** *NEUROSURGERY*  
Pandey, P., Steinberg, G. K., Dodd, R., Do, H. M., Marks, M. P.  
2012; 71: 77-85
- **Tracking Stem Cells for Cellular Therapy in Stroke** *CURRENT PHARMACEUTICAL DESIGN*  
Manley, N. C., Steinberg, G. K.  
2012; 18 (25): 3685-3693
- **Dopaminergic Neurons from Midbrain-Specified Human Embryonic Stem Cell-Derived Neural Stem Cells Engrafted in a Monkey Model of Parkinson's Disease** *PLOS ONE*  
Daadi, M. M., Grueter, B. A., Malenka, R. C., Redmond, D. E., Steinberg, G. K.  
2012; 7 (7)
- **Distinctive Effects of T Cell Subsets in Neuronal Injury Induced by Cocultured Splenocytes In Vitro and by In Vivo Stroke in Mice** *STROKE*  
Gu, L., Xiong, X., Zhang, H., Xu, B., Steinberg, G. K., Zhao, H.  
2012; 43 (7): 1941-1946
- **The predictive value of serum myeloperoxidase for vasospasm in patients with aneurysmal subarachnoid hemorrhage** *NEUROSURGICAL REVIEW*  
Lim, M., Bower, R. S., Wang, Y., Sims, L., Bower, M. R., Camara-Quintana, J., Li, G., Cheshier, S., Harsh, G. R., Steinberg, G. K., Guccione, S.  
2012; 35 (3): 413-419
- **Lithium Treatment Reduces Brain Injury Induced by Focal Ischemia with Partial Reperfusion and the Protective Mechanisms Dispute the Importance of Akt Activity** *AGING AND DISEASE*  
Takahashi, T., Steinberg, G. K., Zhao, H.  
2012; 3 (3): 226-233
- **Lithium treatment reduces brain injury induced by focal ischemia with partial reperfusion and the protective mechanisms dispute the importance of akt activity.** *Aging and disease*  
Takahashi, T., Steinberg, G. K., Zhao, H.  
2012; 3 (3): 226-33
- **PHOSPHORYLATED MITOGEN-ACTIVATED PROTEIN KINASE/EXTRACELLULAR SIGNAL-REGULATED KINASE 1/2 MAY NOT ALWAYS REPRESENT ITS KINASE ACTIVITY IN A RAT MODEL OF FOCAL CEREBRAL ISCHEMIA WITH OR WITHOUT ISCHEMIC PRECONDITIONING** *NEUROSCIENCE*  
Takahashi, T., Steinberg, G. K., Zhao, H.  
2012; 209: 155-160
- **The CD47-signal regulatory protein alpha (SIRPa) interaction is a therapeutic target for human solid tumors** *PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA*  
Willingham, S. B., Volkmer, J., Gentles, A. J., Sahoo, D., Dalerba, P., Mitra, S. S., Wang, J., Contreras-Trujillo, H., Martin, R., Cohen, J. D., Lovelace, P., Scheeren, F. A., Chao, et al  
2012; 109 (17): 6662-6667
- **Prokineticin 2 is an endangering mediator of cerebral ischemic injury** *PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA*  
Cheng, M. Y., Lee, A. G., Culbertson, C., Sun, G., Talati, R. K., Manley, N. C., Li, X., Zhao, H., Lyons, D. M., Zhou, Q., Steinberg, G. K., Sapolsky, R. M.  
2012; 109 (14): 5475-5480
- **Neuroradiologic Correlates of Cognitive Impairment in Adult Moyamoya Disease** *AMERICAN JOURNAL OF NEURORADIOLOGY*  
Mogensen, M. A., Karzmark, P., Zeifert, P. D., Rosenberg, J., Marks, M., Steinberg, G. K., Dorfman, L. J.  
2012; 33 (4): 721-725
- **Moyamoya Disease Can Masquerade as Multiple Sclerosis**  
Woodard, J., Fischbein, N., Choudhry, O., Bell-Stephens, T., Steinberg, G., Dorfman, L.  
LIPPINCOTT WILLIAMS & WILKINS.2012

- **Isolated Loss of Focal Motor Evoked Potentials during Intracranial Aneurysm Clipping as an Early Predictor of Reversible Ischemia: Case Report** *64th Annual Meeting of the American-Academy-of-Neurology (AAN)*  
Lee, L., Steinberg, G., Jones, E., Lopez, J.  
LIPPINCOTT WILLIAMS & WILKINS.2012
- **Neurocognitive Impairment in Adults With Moyamoya Disease Without Stroke** *NEUROSURGERY*  
Karczmark, P., Zeifert, P. D., Bell-Stephens, T. E., Steinberg, G. K., Dorfman, L. J.  
2012; 70 (3): 634-638
- **Clinical Neuroproteomics and Biomarkers: From Basic Research to Clinical Decision Making** *NEUROSURGERY*  
Shoemaker, L. D., Achrol, A. S., Sethu, P., Steinberg, G. K., Chang, S. D.  
2012; 70 (3): 518-525
- **Reflections on the Benefits and Pitfalls of Ultra-Early Aneurysm Treatment After Subarachnoid Hemorrhage** *WORLD NEUROSURGERY*  
Gooderham, P. A., Steinberg, G. K.  
2012; 77 (2): 261-262
- **RE: "Effective Surgical Revascularization Improves Cerebral Hemodynamics and Resolves Headache in Pediatric Moyamoya Disease"** *World neurosurgery*  
Chao, K. n., Steinberg, G. K.  
2012
- **Proteomic Biomarker Discovery in Cerebrospinal Fluid for Cerebral Vasospasm Following Subarachnoid Hemorrhage** *JOURNAL OF STROKE & CEREBROVASCULAR DISEASES*  
Lad, S. P., Hegen, H., Gupta, G., Deisenhammer, F., Steinberg, G. K.  
2012; 21 (1): 30-41
- **Gene Expression Profiling of Blood in Brain Arteriovenous Malformation Patients** *TRANSLATIONAL STROKE RESEARCH*  
Weinsheimer, S. M., Xu, H., Achrol, A. S., Stamova, B., McCulloch, C. E., Pawlikowska, L., Tian, Y., Ko, N. U., Lawton, M. T., Steinberg, G. K., Chang, S. D., Jickling, G., Ander, et al  
2011; 2 (4): 575-587
- **Results of the Prospective, Randomized, Multicenter Clinical Trial Evaluating a Biosynthesized Cellulose Graft for Repair of Dural Defects** *NEUROSURGERY*  
Rosen, C. L., Steinberg, G. K., DeMonte, F., Delashaw, J. B., Lewis, S. B., Shaffrey, M. E., Aziz, K., Hantel, J., Marciano, F. F.  
2011; 69 (5): 1093-1103
- **Neurosurgical Advances in the Treatment of Moyamoya Disease** *STROKE*  
Pandey, P., Steinberg, G. K.  
2011; 42 (11): 3304-3310
- **The CCR2/CCL2 Interaction Mediates the Transendothelial Recruitment of Intravascularly Delivered Neural Stem Cells to the Ischemic Brain** *STROKE*  
Andres, R. H., Choi, R., Pendharkar, A. V., Gaeta, X., Wang, N., Nathan, J. K., Chua, J. Y., Lee, S. W., Palmer, T. D., Steinberg, G. K., Guzman, R.  
2011; 42 (10): 2923-U387
- **Systemic augmentation of alpha B-crystallin provides therapeutic benefit twelve hours post-stroke onset via immune modulation** *PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA*  
Arac, A., Brownell, S. E., Rothbard, J. B., Chen, C., Ko, R. M., Pereira, M. P., Albers, G. W., Steinman, L., Steinberg, G. K.  
2011; 108 (32): 13287-13292
- **Outcome of repeat revascularization surgery for moyamoya disease after an unsuccessful indirect revascularization** *Clinical article JOURNAL OF NEUROSURGERY*  
Pandey, P., Steinberg, G. K.  
2011; 115 (2): 328-336
- **Loss of BRCC3 Deubiquitinating Enzyme Leads to Abnormal Angiogenesis and Is Associated with Syndromic Moyamoya** *AMERICAN JOURNAL OF HUMAN GENETICS*  
Miskinyte, S., Butler, M. G., Herve, D., Sarret, C., Nicolino, M., Petralia, J. D., Bergametti, F., Arnould, M., Pham, V. N., Gore, A. V., Spengos, K., Gaza, S., Woimant, et al  
2011; 88 (6): 718-728

- **Intraoperative Angiography for Cranial Dural Arteriovenous Fistula** *AMERICAN JOURNAL OF NEURORADIOLOGY*  
Pandey, P., Steinberg, G. K., Westbroek, E. M., Dodd, R., Do, H. M., Marks, M. P.  
2011; 32 (6): 1091-1095
- **Endovascular Stenting of Venous Sinus Stenosis for Idiopathic Intracranial Hypertension** *WORLD NEUROSURGERY*  
Pandey, P., Steinberg, G. K.  
2011; 75 (5-6): 594-95
- **Stem cells and stroke: opportunities, challenges and strategies** *EXPERT OPINION ON BIOLOGICAL THERAPY*  
Burns, T. C., Steinberg, G. K.  
2011; 11 (4): 447-461
- **Long-term behavioral assessment of function in an experimental model for ischemic stroke** *JOURNAL OF NEUROSCIENCE METHODS*  
Encarnacion, A., Horie, N., Keren-Gill, H., Bliss, T. M., Steinberg, G. K., Shamloo, M.  
2011; 196 (2): 247-257
- **An Insult-Inducible Vector System Activated by Hypoxia and Oxidative Stress for Neuronal Gene Therapy** *TRANSLATIONAL STROKE RESEARCH*  
Cheng, M. Y., Lee, I., Jin, M., Sun, G., Zhao, H., Steinberg, G. K., Sapolsky, R. M.  
2011; 2 (1): 92-100
- **Surgical Management Of Cavernous Malformation Of Brainstem, Thalamus And Basal Ganglia- A Series Of 176 Patients**  
Pandey, P., Westbroeck, E. M., Steinberg, G. K.  
LIPPINCOTT WILLIAMS & WILKINS.2011: E91
- **RNAi-mediated Knockdown of Injury-induced Prokineticin 2 And Its Effects On Neuron Death** *International Stroke Conference*  
Cheng, M. Y., Culbertson, C., Lee, A. G., Manley, N., Sun, G., Steinberg, G. K., Sapolsky, R. M.  
LIPPINCOTT WILLIAMS & WILKINS.2011: E141-E141
- **Glycyrrhizin Protects Against Focal Ischemia and Attenuates Peripheral Immunosuppression in Rats** *International Stroke Conference*  
Xiong, X., Gu, L., Li, L., Lee, J., Li, M., Xu, L., Giffard, R., Krams, S. M., Steinberg, G. K., Zhao, H.  
LIPPINCOTT WILLIAMS & WILKINS.2011: E67-E68
- **Moderate Hypothermia Attenuates Peripheral Immunodepression Caused by Stroke in Rats** *International Stroke Conference*  
Gu, L., Xiong, X., Ito, T., Lee, J., Krams, S., Steinberg, G. K., Zhao, H.  
LIPPINCOTT WILLIAMS & WILKINS.2011: E302-E303
- **Angiographic Staging Of 215 Moyamoya Patients: Defining A New Modified Staging And Correlating Results To Patient Demographics And Clinical Findings** *International Stroke Conference*  
Khan, N., Marks, M. P., Petralia, J., Tunovic, E., Steinberg, G. K.  
LIPPINCOTT WILLIAMS & WILKINS.2011: E201-E201
- **Transplanted Stem Cell-Secreted Vascular Endothelial Growth Factor Effects Poststroke Recovery, Inflammation, and Vascular Repair** *STEM CELLS*  
Horie, N., Pereira, M. P., Niizuma, K., Sun, G., Keren-Gill, H., Encarnacion, A., Shamloo, M., Hamilton, S. A., Jiang, K., Huhn, S., Palmer, T. D., Bliss, T. M., Steinberg, et al  
2011; 29 (2): 274-285
- **Failure of Primary Percutaneous Angioplasty and Stenting in the Prevention of Ischemia in Moyamoya Angiopathy** *CEREBROVASCULAR DISEASES*  
Khan, N., Dodd, R., Marks, M. P., Bell-Stephens, T., Vavao, J., Steinberg, G. K.  
2011; 31 (2): 147-153
- **Optogenetic Stimulation of Neural Stem Cell Grafts in Experimental Stroke Model** *11th International Neural Transplantation and Repair Meeting/18th Annual Meeting of the American-Society-for-Neural-Therapy-and-Repair*  
Daadi, M. M., Goshen, I., Klausner, J. Q., Lee-Messer, C., Sun, G., Deisseroth, K., Steinberg, G. K.  
COGNIZANT COMMUNICATION CORP.2011: 551-51
- **Limited Therapeutic Time Windows of Mild-to-Moderate Hypothermia in a Focal Ischemia Model in Rat.** *Stroke research and treatment*  
Zhao, H., Steinberg, G.  
2011; 2011: 131834-?
- **Patients with moyamoya disease presenting with movement disorder Report of 4 cases** *JOURNAL OF NEUROSURGERY-PEDIATRICS*

- Pandey, P., Bell-Stephens, T., Steinberg, G. K.  
2010; 6 (6): 559-566
- **The Akt Pathway Is Involved in Rapid Ischemic Tolerance in Focal Ischemia in Rats** *TRANSLATIONAL STROKE RESEARCH*  
Gao, X., Zhang, H., Steinberg, G., Zhao, H.  
2010; 1 (3): 202-209
  - **Moyamoya in a Child Treated With Interferon for Recurrent Osteosarcoma** *JOURNAL OF PEDIATRIC HEMATOLOGY ONCOLOGY*  
Buchbinder, D., Steinberg, G., Linetsky, M., Casillas, J.  
2010; 32 (6): 476-478
  - **Direct Bypass Techniques for the Treatment of Pediatric Moyamoya Disease** *NEUROSURGERY CLINICS OF NORTH AMERICA*  
Guzman, R., Steinberg, G.  
2010; 21 (3): 565-?
  - **Study of Systemic Cooling in Acute Spinal Cord Injury** *NEUROSURGERY*  
Creasey, G., Steinberg, G. K.  
2010; 66 (6)
  - **Optimizing the success of cell transplantation therapy for stroke (vol 37, pg 275, 2010)** *NEUROBIOLOGY OF DISEASE*  
Bliss, T. M., Andres, R. H., Steinberg, G. K.  
2010; 38 (3): 495
  - **Majewski Osteodysplastic Primordial Dwarfism Type II (MOPD II): Expanding the Vascular Phenotype** *AMERICAN JOURNAL OF MEDICAL GENETICS PART A*  
Bober, M. B., Khan, N., Kaplan, J., Lewis, K., Feinstein, J. A., Scott, C. I., Steinberg, G. K.  
2010; 152A (4): 960-965
  - **Management of Pediatric Intracranial Arteriovenous Malformations: Experience With Multimodality Therapy**  
Darsaut, T. E., Guzman, R., Marcellus, M. L., Edwards, M. S., Tian, L., Do, H. M., Chang, S. D., Levy, R. P., Adler, J. R., Marks, M. P., Steinberg, G. K.  
LIPPINCOTT WILLIAMS & WILKINS.2010: E220
  - **Transplantation of Human Neural Stem Cells Improves Axonal Plasticity and Attenuates Impairment of Axonal Transport in the Post-ischemic Microenvironment**  
Andres, R. H., Zhan, K., Sun, G., Schaar, B. T., McMillan, E., Svendsen, C. N., Bliss, T. M., Steinberg, G. K.  
LIPPINCOTT WILLIAMS & WILKINS.2010: E209
  - **Inheritance Pattern of Familial Moyamoya Disease in North America: Autosomal Dominant With Incomplete Penetrance**  
Achrol, A. S., Varga, M., Salari, K., Guzman, R., Bell-Stephens, T., Steinberg, G. K.  
LIPPINCOTT WILLIAMS & WILKINS.2010: E218-E219
  - **Gender Differences in Clinical Presentation and Treatment Outcomes in Moyamoya Disease** *International Stroke Conference*  
Khan, N., Achrol, A. S., Guzman, R., Dodd, R., Bell-Stephens, T., Steinberg, G. K.  
LIPPINCOTT WILLIAMS & WILKINS.2010: E264-E264
  - **Intraoperative Neurophysiologic Monitoring in the Endovascular and Surgical Treatment of Pediatric Arteriovenous Malformations**  
Nguyen, V., Cho, S., Chang, S., Steinberg, G., Alto, P., Marks, M., Do, H., Lopez, J.  
LIPPINCOTT WILLIAMS & WILKINS.2010: A501
  - **Human Neural Stem Cell Grafts Modify Microglial Response and Enhance Axonal Sprouting in Neonatal Hypoxic-Ischemic Brain Injury** *STROKE*  
Daadi, M. M., Davis, A. S., Arac, A., Li, Z., Maag, A., Bhatnagar, R., Jiang, K., Sun, G., Wu, J. C., Steinberg, G. K.  
2010; 41 (3): 516-523
  - **Optimizing the success of cell transplantation therapy for stroke** *NEUROBIOLOGY OF DISEASE*  
Bliss, T. M., Andres, R. H., Steinberg, G. K.  
2010; 37 (2): 275-283
  - **In vivo neural stem cell imaging: current modalities and future directions** *REGENERATIVE MEDICINE*  
Gera, A., Steinberg, G. K., Guzman, R.  
2010; 5 (1): 73-86

- **Moyamoya Disease in North America** *MOYAMOYA DISEASE UPDATE*  
Guzman, R., Khan, N., Steinberg, G. K., Cho, B. K., Tominaga, T.  
2010; 353–60
- **Human Neural Stem Cells Repair Damaged Stroke Tissue. A Magnetic Resonance Imaging Study**  
Daadi, M. M., Klausner, J., Bhatnagar, R., Sun, G., Rutt, B., Steinberg, G. K.  
COGNIZANT COMMUNICATION CORP.2010: 336
- **Clinical outcome after 450 revascularization procedures for moyamoya disease** *JOURNAL OF NEUROSURGERY*  
Guzman, R., Lee, M., Achrol, A., Bell-Stephens, T., Kelly, M., Do, H. M., Marks, M. P., Steinberg, G. K.  
2009; 111 (5): 927-935
- **Efficacy of endovascular stenting in dural venous sinus stenosis for the treatment of idiopathic intracranial hypertension** *NEUROSURGICAL FOCUS*  
Arac, A., Lee, M., Steinberg, G. K., Marcellus, M., Marks, M. P.  
2009; 27 (5)
- **Kinase activities of JNK and ERK do not match their phosphorylation levels after preconditioning in focal ischemia in rats** *24th International Symposium on Cerebral Blood Flow and Metabolism/9th International Conference on Quantification of Brain Function with PET*  
Takahashi, T., Gao, X., Steinberg, G., Zhao, H.  
NATURE PUBLISHING GROUP.2009: S161–S162
- **Characterization of the immune response in peripheral organs after cerebral ischemia in mice**  
Arac, A., Bliss, T. M., Steinberg, G. K.  
NATURE PUBLISHING GROUP.2009: S93–S94
- **Canonical Wnt signaling promotes neurogenesis in the adult murine brain and reduces apoptotic cell death following focal cerebral ischemia**  
Iordanova, I., Guzman, R., Fuerer, C., Nusse, R., Steinberg, G.  
NATURE PUBLISHING GROUP.2009: S550
- **The protective effect of early hypothermia on PTEN phosphorylation correlates with free radical inhibition in rat stroke** *JOURNAL OF CEREBRAL BLOOD FLOW AND METABOLISM*  
Lee, S. M., Zhao, H., Maier, C. M., Steinberg, G. K.  
2009; 29 (9): 1589-1600
- **The impact of hypopituitarism on function and performance in subjects with recent history of traumatic brain injury and aneurysmal subarachnoid haemorrhage.** *Brain injury*  
Srinivasan, L., Roberts, B., Bushnik, T., Englander, J., Spain, D. A., Steinberg, G. K., Ren, L., Sandel, M. E., Al-Lawati, Z., Teraoka, J., Hoffman, A. R., Katznelson, L.  
2009; 23 (7): 639-648
- **Molecular and Magnetic Resonance Imaging of Human Embryonic Stem Cell-Derived Neural Stem Cell Grafts in Ischemic Rat Brain** *MOLECULAR THERAPY*  
Daadi, M. M., Li, Z., Arac, A., Grueter, B. A., Sofilos, M., Malenka, R. C., Wu, J. C., Steinberg, G. K.  
2009; 17 (7): 1282-1291
- **Assessment of outcome following decompressive craniectomy for malignant middle cerebral artery infarction in patients older than 60 years of age** *NEUROSURGICAL FOCUS*  
Arac, A., Blanchard, V., Lee, M., Steinberg, G. K.  
2009; 26 (6)
- **The evolution of cerebral revascularization surgery** *NEUROSURGICAL FOCUS*  
Hayden, M. G., Lee, M., Guzman, R., Steinberg, G. K.  
2009; 26 (5)
- **Intraoperative hypothermia during vascular neurosurgical procedures** *NEUROSURGICAL FOCUS*  
Choi, R., Andres, R. H., Steinberg, G. K., Guzman, R.  
2009; 26 (5)
- **Pathogenesis and radiobiology of brain arteriovenous malformations: implications for risk stratification in natural history and posttreatment course** *NEUROSURGICAL FOCUS*  
Achrol, A. S., Guzman, R., Varga, M., Adler, J. R., Steinberg, G. K., Chang, S. D.

2009; 26 (5)

- **Pathophysiology and genetic factors in moyamoya disease** *NEUROSURGICAL FOCUS*  
Achrol, A. S., Guzman, R., Lee, M., Steinberg, G. K.  
2009; 26 (4)
- **Monitoring The Fate of Grafted Human Embryonic Stem Cell-Derived Neural Stem Cells In Stroke Experimental Model.**  
Daadi, M., Li, Z., Arac, A., Grueter, B. A., Wu, J. C., Malenka, R. C., Steinberg, G. K.  
LIPPINCOTT WILLIAMS & WILKINS.2009: E170
- **Prokineticin 2 Exacerbates Cerebral Ischemic Injury In Rats** *American-Association-International-Stroke Conference 2009*  
Cheng, M. Y., Lee, A. G., Sun, G., Zhao, H., Zhou, Q., Steinberg, G., Sapolsky, R.  
LIPPINCOTT WILLIAMS & WILKINS.2009: E213–E213
- **Grafts of Human Embryonic Stem Cell-Derived Neural Stem Cells Promote Neuroanatomical Rewiring And Connectivity With Host In Hypoxia Ischemia Model of Neonates** *American-Association-International-Stroke Conference 2009*  
Daadi, M. M., Arac, A., Davis, A., Maag, A., Batnagar, R., Choi, M., Sun, G., Steinberg, G. K.  
LIPPINCOTT WILLIAMS & WILKINS.2009: E169–E169
- **Therapeutic Homing of Neurosphere-Derived Multipotent Precursors After Intracarotid Delivery in Stroke is Dependent on the MCP-1/CCR2 Interaction.** *American-Association-International-Stroke Conference 2009*  
Andres, R. H., Choi, R., Gaeta, X., Wang, N., Cote, J., Lee, S. W., Palmer, T. D., Guzman, R., Steinberg, G. K.  
LIPPINCOTT WILLIAMS & WILKINS.2009: E171–E171
- **Quantitative hemodynamic studies in moyamoya disease** *NEUROSURGICAL FOCUS*  
Lee, M., Zaharchuk, G., Guzman, R., Achrol, A., Bell-Stephens, T., Steinberg, G. K.  
2009; 26 (4)
- **Biallelic somatic and germline mutations in cerebral cavernous malformations (CCMs): evidence for a two-hit mechanism of CCM pathogenesis** *HUMAN MOLECULAR GENETICS*  
Akers, A. L., Johnson, E., Steinberg, G. K., Zabramski, J. M., Marchuk, D. A.  
2009; 18 (5): 919-930
- **Manufacturing neurons from human embryonic stem cells: biological and regulatory aspects to develop a safe cellular product for stroke cell therapy** *REGENERATIVE MEDICINE*  
Daadi, M. M., Steinberg, G. K.  
2009; 4 (2): 251-263
- **Netrin-4 enhances angiogenesis and neurologic outcome after cerebral ischemia** *JOURNAL OF CEREBRAL BLOOD FLOW AND METABOLISM*  
Hoang, S., Liauw, J., Choi, M., Choi, M., Guzman, R. G., Steinberg, G. K.  
2009; 29 (2): 385-397
- **Activating delta PKC antagonizes the protective effect of ERK1/2 inhibition against stroke in rats** *BRAIN RESEARCH*  
Castaneda, D., Zhao, H., Mochly-Rosen, D., Steinberg, G. K.  
2009; 1251: 256-261
- **Positron Emission Tomography Imaging of Poststroke Angiogenesis** *STROKE*  
Cai, W., Guzman, R., Hsu, A. R., Wang, H., Chen, K., Sun, G., Gera, A., Choi, R., Bliss, T., He, L., Li, Z., Maag, A. D., Hori, et al  
2009; 40 (1): 270-277
- **Axonal Sprouting and Immune-Mediated Effects of Grafted Human Embryonic Stem Cell-Derived Neural Stem Cells in Pediatric Hypoxic-Ischemic Brain Injury Model**  
Daadi, M. M., Arac, A., Li, Z., Sun, G., Wu, J. C., Steinberg, G. K.  
COGNIZANT COMMUNICATION CORP.2009: 212
- **The impact of hypopituitarism on function and performance in subjects with recent history of traumatic brain injury and aneurysmal subarachnoid haemorrhage** *BRAIN INJURY*  
Srinivasan, L., Roberts, B., Bushnik, T., Englander, J., Spain, D. A., Steinberg, G. K., Ren, L., Sandel, M. E., Al-Lawati, Z., Teraoka, J., Hoffman, A. R., Katznelson, L.  
2009; 23 (7-8): 639-648

- **POSITRON EMISSION TOMOGRAPHY IMAGING OF VEGF RECEPTOR EXPRESSION IN POST-STROKE ANGIOGENESIS** *21st American Peptide Symposium*  
Cai, W., Guzman, R., Hsu, A., Wang, H., Steinberg, G., Chen, X.  
JOHN WILEY & SONS INC.2009: 373-73
- **Effects of Creatine on Survival, Migration, and Differentiation of Neural Stem Cells** *16th Annual Meeting of the American-Society-for-Neural-Therapy-and-Repair*  
Andres, R. H., PENDHARKAR, A. V., Guzman, R., De, A., Bliss, T. M., McMillan, E., Svendsen, C. N., Gambhir, S. S., Widmer, H. R., Wallimann, T., Steinberg, G. K.  
COGNIZANT COMMUNICATION CORP.2009: 208-
- **Who's in Favor of Translational Cell Therapy for Stroke: STEPS Forward Please?** *CELL TRANSPLANTATION*  
Chopp, M., Steinberg, G. K., Kondziolka, D., Lu, M., Bliss, T. M., Li, Y., Hess, D. C., Borlongan, C. V.  
2009; 18 (7): 691-693
- **Subarachnoid hemorrhage.** *Handbook of clinical neurology*  
Kelly, M. E., Dodd, R., Steinberg, G. K.  
2009; 93: 791-808
- **Functional Engraftment of the Medial Ganglionic Eminence Cells in Experimental Stroke Model** *CELL TRANSPLANTATION*  
Daadi, M. M., Lee, S. H., Arac, A., Grueter, B. A., Bhatnagar, R., Maag, A., Schaar, B., Malenka, R. C., Palmer, T. D., Steinberg, G. K.  
2009; 18 (7): 815-826
- **Potential of adult neural stem cells in stroke therapy** *REGENERATIVE MEDICINE*  
Andres, R. H., Choi, R., Steinberg, G. K., Guzman, R.  
2008; 3 (6): 893-905
- **Thrombospondins 1 and 2 are necessary for synaptic plasticity and functional recovery after stroke** *JOURNAL OF CEREBRAL BLOOD FLOW AND METABOLISM*  
Liauw, J., Hoang, S., Choi, M., Eroglu, C., Choi, M., Sun, G., Percy, M., Wildman-Tobriner, B., Bliss, T., Guzman, R. G., Barres, B. A., Steinberg, G. K.  
2008; 28 (10): 1722-1732
- **epsilon PKC confers acute tolerance to cerebral ischemic reperfusion injury** *NEUROSCIENCE LETTERS*  
Bright, R., Sun, G., Yenari, M. A., Steinberg, G. K., Mochly-Rosen, D.  
2008; 441 (1): 120-124
- **FasL shedding is reduced by hypothermia in experimental stroke** *JOURNAL OF NEUROCHEMISTRY*  
Liu, L., Kim, J. Y., Koike, M. A., Yoon, Y. J., Tang, X. N., Ma, H., Lee, H., Steinberg, G. K., Lee, J. E., Yenari, M. A.  
2008; 106 (2): 541-550
- **Multimodality treatment of posterior fossa arteriovenous malformations** *JOURNAL OF NEUROSURGERY*  
Kelly, M. E., Guzman, R., Sinclair, J., Bell-Stephens, T. E., Bower, R., Hamilton, S., Marks, M. P., Do, H. M., Chang, S. D., Adler, J. R., Levy, R. P., Steinberg, G. K.  
2008; 108 (6): 1152-1161
- **Multimodality treatment of posterior fossa arteriovenous malformations - Response** *JOURNAL OF NEUROSURGERY*  
Kelly, M. E., Guzman, R., Marks, M. P., Do, H. M., Chang, S. D., Adler, J. R., Steinberg, G. K.  
2008; 108 (6): 1150-1151
- **Dual roles of the MAPK/ERK1/2 cell signaling pathway after stroke** *JOURNAL OF NEUROSCIENCE RESEARCH*  
Sawe, N., Steinberg, G., Zhao, H.  
2008; 86 (8): 1659-1669
- **The Akt signaling pathway contributes to postconditioning's protection against stroke; the protection is associated with the MAPK and PKC pathways** *JOURNAL OF NEUROCHEMISTRY*  
Gao, X., Zhang, H., Takahashi, T., Hsieh, J., Liao, J., Steinberg, G. K., Zhao, H.  
2008; 105 (3): 943-955
- **Potential of stem/progenitor cells in treating stroke: the missing steps in translating cell therapy from laboratory to clinic** *REGENERATIVE MEDICINE*  
Borlongan, C. V., Chopp, M., Steinberg, G. K., Bliss, T. M., Li, Y., Lu, M., Hess, D. C., Kondziolka, D.

2008; 3 (3): 249-250

- **Effect of moyamoya disease on neuropsychological functioning in adults** *NEUROSURGERY*  
Karzmark, P., Zeifert, P. D., Tan, S., Dorfman, L. J., Bell-Stephens, T. E., Steinberg, G. K.  
2008; 62 (5): 1048-1051
- **Intracarotid injection of fluorescence activated cell-sorted CD49d-positive neural stem cells improves targeted cell delivery and behavior after stroke in a mouse stroke model** *STROKE*  
Guzman, R., De Los Angeles, A., Cheshier, S., Choi, R., Hoang, S., Liauw, J., Schaar, B., Steinberg, G.  
2008; 39 (4): 1300-1306
- **Hypothermia blacks beta-catenin degradation after focal ischemia in rats** *BRAIN RESEARCH*  
Zhang, H., Ren, C., Gao, X., Takahashi, T., Sapolsky, R. M., Steinberg, G. K., Zhao, H.  
2008; 1198: 182-187
- **Intravascular cell replacement therapy for stroke** *NEUROSURGICAL FOCUS*  
Guzman, R., Choi, R., Gera, A., Angeles, A. D., Andres, R. H., Steinberg, G. K.  
2008; 24 (3-4)
- **Neural progenitor cells transplanted into the uninjured brain undergo targeted migration after stroke onset** *JOURNAL OF NEUROSCIENCE RESEARCH*  
Guzman, R., Bliss, T., Angeles, A. D., Moseley, M., Palmer, T., Steinberg, G.  
2008; 86 (4): 873-882
- **Cell replacement therapy for intracerebral hemorrhage** *NEUROSURGICAL FOCUS*  
Andres, R. H., Guzman, R., Ducray, A. D., Mordasini, P., Gera, A., Barth, A., Widmer, H. R., Steinberg, G. K.  
2008; 24 (3-4)
- **Adherent Self-Renewable Human Embryonic Stem Cell-Derived Neural Stem Cell Line: Functional Engraftment in Experimental Stroke Model** *PLOS ONE*  
Daadi, M. M., Maag, A., Steinberg, G. K.  
2008; 3 (2)
- **Limb remote-preconditioning protects against focal ischemia in rats and contradicts the dogma of therapeutic time windows for preconditioning** *NEUROSCIENCE*  
Ren, C., Gao, X., Steinberg, G. K., Zhao, H.  
2008; 151 (4): 1099-1103
- **Neurologic complications of arteriovenous malformation embolization using liquid embolic agents** *AMERICAN JOURNAL OF NEURORADIOLOGY*  
Jayaraman, M. V., Marcellus, M. L., Hamilton, S., Do, H. M., Campbell, D., Chang, S. D., Steinberg, G. K., Marks, M. P.  
2008; 29 (2): 242-246
- **Revascularization surgery significantly reduces the incidence of TIA in pediatric patients with Moyamoya disease**  
Guzman, R., Lee, M., Bell-Stephens, T., Steinberg, G. K.  
LIPPINCOTT WILLIAMS & WILKINS.2008: 719
- **Timing of MGE cell transplantation after distal middle cerebral artery occlusion significantly influences the cell-host interaction**  
Shichinohe, H., Daadi, M. M., Horie, N., Palmer, T. D., Bliss, T., Steinberg, G. K.  
LIPPINCOTT WILLIAMS & WILKINS.2008: 534
- **Predictors of retreatment of ruptured intracranial aneurysms: The cerebral aneurysm rupture after treatment study**  
Patil, C. G., Eljovich, L., Steinberg, G. K., Spetzler, R. F., McDougall, C. G., Zabramski, J. M., Gress, D. R., Lawton, M. T., Higashida, R. T., Duckwiler, G. R., Purdy, P. D., Piepgras, D. G., Giannotta, et al  
LIPPINCOTT WILLIAMS & WILKINS.2008: 536
- **Intracarotid delivery of CD49d FACS sorted neural stem cells enhances angiogenesis and improves functional outcome after experimental stroke**  
Guzman, R., Angeles, A., Choo, K., Gaeta, X., Cote, J., Cheshier, S., Steinberg, G. K.  
LIPPINCOTT WILLIAMS & WILKINS.2008: 540
- **Ischemia-induced angiogenesis is enhanced by hCNS-SCn transplantation**  
Horie, N., Bliss, T., Shichinohe, H., Palmer, T., Steinberg, G.  
LIPPINCOTT WILLIAMS & WILKINS.2008: 658



- **Dispersion, engraftment and differentiation of a multipotent human embryonic stem cell-derived neural stem line (sd56) in stroked rats**  
Daadi, M., Maag, A., Sun, G., Steinberg, G. K.  
LIPPINCOTT WILLIAMS & WILKINS.2008: 661
- **Blockade of stress hormones during cerebral ischemia improves functional recovery and neurogenesis**  
Hoehn, B., Palmer, T., Salposky, R. M., Steinberg, G. K.  
LIPPINCOTT WILLIAMS & WILKINS.2008: 670
- **Moyamoya disease in children - Response** *NEUROSURGICAL FOCUS*  
Guzman, R., Veeravagu, A., Steinberg, G. K.  
2008; 24 (2)
- **An insult-inducible vector system activated by hypoxia inducible factor 1 (hif1) and reactive oxygen species** *33rd International Stroke Conference*  
Cheng, M., Jin, M., Lee, I., Zhao, H., Steinberg, G. K., Sapolsky, R. M.  
LIPPINCOTT WILLIAMS & WILKINS.2008: 727-28
- **In vivo PET imaging of VEGF-R expression profile after experimental focal stroke.** *33rd International Stroke Conference*  
Guzman, R., Cai, W., Chen, K., Hsu, A. R., Bliss, T., Sun, G., Wang, H., He, L., Maag, A., Hori, N., Chen, X., Steinberg, G. K.  
LIPPINCOTT WILLIAMS & WILKINS.2008: 667-67
- **Analysis of intraoperative flow measurements in moyamoya patients during revascularization surgery** *33rd International Stroke Conference*  
Lee, M., Guzman, R., Bell-Stephens, T., Steinberg, G.  
LIPPINCOTT WILLIAMS & WILKINS.2008: 720-20
- **Limb remote-preconditioning protects against focal ischemia in rats and contradicts the dogma of therapeutic time windows for preconditioning.** *33rd International Stroke Conference*  
Ren, C., Gao, X., Steinberg, G. K., Zhao, H.  
LIPPINCOTT WILLIAMS & WILKINS.2008: 664-64
- **Progressive cerebral vascular degeneration with mitochondrial encephalopathy** *AMERICAN JOURNAL OF MEDICAL GENETICS PART A*  
Longo, N., Schrijver, I., Vogel, H., Pique, L. M., Cowan, T. M., Pasquali, M., Steinberg, G. K., Hedlund, G. L., Ernst, S. L., Gallagher, R. C., Enns, G. M.  
2008; 146A (3): 361-367
- **Moyamoya disease in pediatric patients: outcomes of neurosurgical interventions** *NEUROSURGICAL FOCUS*  
Veeravagu, A., Guzman, R., Patil, C. G., Hou, L. C., Lee, M., Steinberg, G. K.  
2008; 24 (2)
- **MCP-1 regulates targeted migration of transplanted neural precursor cells after stroke** *15th Annual Meeting of the American-Society-for-Neural-Therapy-and-Repair*  
Andres, R. H., Choi, R., Lee, S., Gera, A., Gaeta, X., Guzman, R., Steinberg, G. K.  
COGNIZANT COMMUNICATION CORP.2008: 458-59
- **General versus specific actions of mild-moderate hypothermia in attenuating cerebral ischemic damage** *JOURNAL OF CEREBRAL BLOOD FLOW AND METABOLISM*  
Zhao, H., Steinberg, G. K., Sapolsky, R. M.  
2007; 27 (12): 1879-1894
- **Viral caspase inhibitor p35, but not crmA, is neuroprotective in the ischemic penumbra following experimental stroke** *NEUROSCIENCE*  
Sung, J. H., Zhao, H., Roy, M., Sapolsky, R. M., Steinberg, G. K.  
2007; 149 (4): 804-812
- **Conditions of protection by hypothermia and effects on apoptotic pathways in a rat model of permanent middle cerebral artery occlusion** *JOURNAL OF NEUROSURGERY*  
Zhao, H., Wang, J. Q., Shimohata, T., Sun, G., Yenari, M. A., Sapolsky, R. M., Steinberg, G. K.  
2007; 107 (3): 636-641
- **Suppression of delta PKC activation after focal cerebral ischemia contributes to the protective effect of hypothermia** *JOURNAL OF CEREBRAL BLOOD FLOW AND METABOLISM*  
Shimohata, T., Zhao, H., Sung, J. H., Sun, G., Mochly-Rosen, D., Steinberg, G. K.  
2007; 27 (8): 1463-1475

- **delta PKC mediates microcerebrovascular dysfunction in acute ischemia and in chronic hypertensive stress in vivo** *BRAIN RESEARCH*  
Bright, R., Steinberg, G. K., Mochly-Rosen, D.  
2007; 1144: 146-155
- **Surgical and endovascular management of symptomatic posterior circulation fusiform aneurysms** *JOURNAL OF NEUROSURGERY*  
Coert, B. A., Chang, S. D., Do, H. M., Marks, M. P., Steinberg, G. K.  
2007; 106 (5): 855-865
- **Morphologic assessment of middle cerebral artery aneurysms for endovascular treatment.** *Journal of stroke and cerebrovascular diseases : the official journal of National Stroke Association*  
Jayaraman, M. V., Do, H. M., Versnick, E. J., Steinberg, G. K., Marks, M. P.  
2007; 16 (2): 52-56
- **Cell transplantation therapy for stroke** *25th Princeton Conference on Cerebrovascular Disease*  
Bliss, T., Guzman, R., Daadi, M., Steinberg, G. K.  
LIPPINCOTT WILLIAMS & WILKINS.2007: 817-26
- **Non-tumorigenic properties of human embryonic stem cell-derived multipotent neural stem cells in experimental stroke models**  
Daadi, M. M., Steinberg, G. K.  
LIPPINCOTT WILLIAMS & WILKINS.2007: 468
- **Endogenous thrombospondins 1 and 2 are necessary for synaptic plasticity and spontaneous functional recovery after stroke** *32nd International Stroke Conference*  
Liauw, J., Hoang, S., Choi, M., Choi, M., Shen, J., Choo, K., Wildman-Tobriner, B., Percy, M., Guzman, R., Bliss, T., Steinberg, G.  
LIPPINCOTT WILLIAMS & WILKINS.2007: 466-66
- **Examination of the protective effect of delta PKC inhibitor delta V1-1 on MEK/ERK-mediated pathway in focal ischemia in rats** *32nd International Stroke Conference*  
Castaneda, D., Zhao, H., Steinberg, G. K.  
LIPPINCOTT WILLIAMS & WILKINS.2007: 558-58
- **Overexpression of a chimeric steroid receptor protects striatal neurons from cerebral ischemia** *32nd International Stroke Conference*  
Cheng, M. Y., Sun, G., Zhao, H., Steinberg, G. K., Sapolsky, R. M.  
LIPPINCOTT WILLIAMS & WILKINS.2007: 547-47
- **Hemorrhage rate in patients with Spetzler-Martin grades IV and V arteriovenous malformations - Is treatment justified?** *STROKE*  
Jayaraman, M. V., Marcellus, M. L., Do, H. M., Chang, S. D., Rosenberg, J. K., Steinberg, G. K., Marks, M. P.  
2007; 38 (2): 325-329
- **epsilon PKC may contribute to the protective effect of hypothermia in a rat focal cerebral ischemia model** *STROKE*  
Shimohata, T., Zhao, H., Steinberg, G. K.  
2007; 38 (2): 375-380
- **Gene therapy using SOD1 protects striatal neurons from experimental stroke** *NEUROSCIENCE LETTERS*  
Davis, A. S., Zhao, H., Sun, G. H., Sapolsky, R. M., Steinberg, G. K.  
2007; 411 (1): 32-36
- **Phosphoinositide-3-kinase/Akt survival signal pathways are implicated in neuronal survival after stroke** *MOLECULAR NEUROBIOLOGY*  
Zhao, H., Sapolsky, R. M., Steinberg, G. K.  
2006; 34 (3): 249-269
- **Hypothermia blocks ischemic changes in ubiquitin distribution and levels following stroke** *NEUROREPORT*  
Liu, J., Zhao, H., Sung, J., Sun, G., Steinberg, G. K.  
2006; 17 (16): 1691-1695
- **Interrupting reperfusion as a stroke therapy: ischemic postconditioning reduces infarct size after focal ischemia in rats** *JOURNAL OF CEREBRAL BLOOD FLOW AND METABOLISM*  
Zhao, H., Sapolsky, R. M., Steinberg, G. K.  
2006; 26 (9): 1114-1121

- **Carotid and vertebral rete mirabile in man presenting with intraparenchymal hemorrhage: a case report.** *Journal of stroke and cerebrovascular diseases : the official journal of National Stroke Association*  
Li, G., Jayaraman, M. V., Lad, S. P., Adler, J., Do, H., Steinberg, G. K.  
2006; 15 (5): 228-231
- **Outcomes of surgery for resection of regions of symptomatic radiation injury after stereotactic radiosurgery for arteriovenous malformations** *NEUROSURGERY*  
Massengale, J. L., Levy, R. P., Marcellus, M., Moes, G., Marks, M. P., Steinberg, G. K.  
2006; 59 (3): 553-559
- **New vessel formation in the central nervous system during tumor growth, vascular malformations, and Moyamoya** *CURRENT NEUROVASCULAR RESEARCH*  
Lim, M., Cheshier, S., Steinberg, G. K.  
2006; 3 (3): 237-245
- **Rates of delayed rebleeding from intracranial aneurysms are low after surgical and endovascular treatment** *STROKE*  
Johnston, S. C., Dowd, C. F., Lawton, M. T., Gress, D. R., Higashida, R. T., Halbach, V. V., Zhao, S., Katsura, K. H., Fong, K. J., Douglas, V. C., Ventura, R., Elkins, J. S., Nguyen-Huynh, et al  
2006; 37 (6): 1437-1442
- **Transplantation of hNT neurons into the ischemic cortex: Cell survival and effect on sensorimotor behavior** *JOURNAL OF NEUROSCIENCE RESEARCH*  
Bliss, T. M., Kelly, S., Shah, A. K., Foo, W. C., Kohli, P., Stokes, C., Sun, G. H., Ma, M., Masel, J., Kleppner, S. R., Schallert, T., Palmer, T., Steinberg, et al  
2006; 83 (6): 1004-1014
- **Surgical management of posterior fossa arteriovenous malformations.** *Neurosurgery*  
Sinclair, J., Kelly, M. E., Steinberg, G. K.  
2006; 58 (4): ONS-189 201
- **Transplantation of the medial ganglionic eminence-derived neuronal precursors into ischemic stroke-lesioned rats improves motor behavioral deficits**  
Daadi, M. M., Bliss, T. M., Lee, S. H., Palmer, T. D., Steinberg, G. K.  
ACADEMIC PRESS INC ELSEVIER SCIENCE.2006: 565
- **Surgical management of posterior fossa arteriovenous malformations** *NEUROSURGERY*  
Sinclair, J., Kelly, M. E., Steinberg, G. K.  
2006; 58 (4): 189-201
- **Elevated serum levels of VEGF, bFGF, MMP-2, and MMP-9 in patients with Moyamoya disease** *31st International Stroke Conference*  
Lim, M., Wang, Y., Bower, R., Cheshier, S., Sims, L., Choi, S., Harsh, G., Steinberg, G., Guccione, S.  
LIPPINCOTT WILLIAMS & WILKINS.2006: 701-
- **Hypothermia protects against cerebral ischemia by suppressing delta Pkc activation in rats** *31st International Stroke Conference*  
Shimohata, T., Zhao, H., Steinberg, G. K.  
LIPPINCOTT WILLIAMS & WILKINS.2006: 677-77
- **Neural stem cells do not require CXCR4 for targeted migration toward an ischemic lesion** *31st International Stroke Conference*  
Bliss, T., Guzman, R., Sun, G. H., Rausch, H., Zou, Y. R., Palmer, T., Steinberg, G. K.  
LIPPINCOTT WILLIAMS & WILKINS.2006: 731-32
- **Cerebral perfusion imaging in vasospasm.** *Neurosurgical focus*  
Lad, S. P., Guzman, R., Kelly, M. E., Li, G., Lim, M., Lovbald, K., Steinberg, G. K.  
2006; 21 (3): E7-?
- **Hypothermia protects against cerebral ischemia by suppressing delta PKC activation**  
Shimohata, T., Zhao, H., Steinberg, G.  
ELSEVIER IRELAND LTD.2006: S64-S64
- **The transition from hunterian ligation to intracranial aneurysm clips: a historical perspective.** *Neurosurgical focus*  
Polevaya, N. V., Kalani, M. Y., Steinberg, G. K., Tse, V. C.  
2006; 20 (6): E3-?

- **Progression of unilateral Moyamoya disease: A clinical series** *CEREBROVASCULAR DISEASES*  
Kelly, M. E., Bell-Stephens, T. E., Marks, M. P., Do, H. M., Steinberg, G. K.  
2006; 22 (2-3): 109-115
- **Neurogenesis in rats after focal cerebral ischemia is enhanced by indomethacin** *STROKE*  
Hoehn, B. D., Palmer, T. D., Steinberg, G. K.  
2005; 36 (12): 2718-2724
- **Akt contributes to neuroprotection by hypothermia against cerebral ischemia in rats** *JOURNAL OF NEUROSCIENCE*  
Zhao, H., Shimohata, T., Wang, J. Q., Sun, G. H., Schaal, D. W., Sapolsky, R. M., Steinberg, G. K.  
2005; 25 (42): 9794-9806
- **Visual field preservation after curative multi-modality treatment of occipital lobe arteriovenous malformations** *NEUROSURGERY*  
Sinclair, J., Marks, M. P., Levy, R. P., Adler, J. R., Chang, S. D., Lopez, J. R., Do, H. M., Bell-Stephens, T. E., Lim, M., Steinberg, G. K.  
2005; 57 (4): 655-666
- **Paradoxical cerebral herniation secondary to lumbar puncture after decompressive craniectomy for large space-occupying hemispheric stroke: Case report** *NEUROSURGERY*  
Oyelese, A. A., Steinberg, G. K., Huhn, S. L., Wijman, C. A.  
2005; 57 (3): 594-594
- **Paradoxical cerebral herniation secondary to lumbar puncture after decompressive craniectomy for a large space-occupying hemispheric stroke: case report.** *Neurosurgery*  
Oyelese, A. A., Steinberg, G. K., Huhn, S. L., Wijman, C. A.  
2005; 57 (3): E594-?
- **Biphasic cytochrome c release after transient global ischemia and its inhibition by hypothermia** *JOURNAL OF CEREBRAL BLOOD FLOW AND METABOLISM*  
Zhao, H., Yenari, M. A., Cheng, D., Sapolsky, R. M., Steinberg, G. K.  
2005; 25 (9): 1119-1129
- **Neurotransplantation for patients with subcortical motor stroke: a Phase 2 randomized trial** *JOURNAL OF NEUROSURGERY*  
Kondziolka, D., Steinberg, G. K., Wechsler, L., Meltzer, C. C., Elder, E., Gebel, J., DeCesare, S., Jovin, T., Zafonte, R., Lebowitz, J., Flickinger, J. C., Tong, D., Marks, et al  
2005; 103 (1): 38-45
- **Neural transplantation - Response** *JOURNAL OF NEUROSURGERY*  
Kondziolka, D., Wechsler, L., Steinberg, G. K.  
2005; 103 (1): 8
- **Intracranial Angioplasty without stenting for symptomatic atherosclerotic stenosis: Long-term follow-up** *AMERICAN JOURNAL OF NEURORADIOLOGY*  
Marks, M. P., Marcellus, M. L., Do, H. M., Schraedley-Desmond, P. K., Steinberg, G. K., Tong, D. C., Albers, G. W.  
2005; 26 (3): 525-530
- **Revascularization of the posterior circulation** *SKULL BASE-AN INTERDISCIPLINARY APPROACH*  
Coert, B. A., Chang, S. D., Marks, M. P., Steinberg, G. K.  
2005; 15 (1): 43-62
- **Stroke initiates targeted migration of transplanted iron-labeled neural progenitor cells as revealed by magnetic resonance imaging**  
Guzman, R., Bliss, T., Greve, J., Palmer, T., Sun, G. H., Moseley, M., Steinberg, G.  
LIPPINCOTT WILLIAMS & WILKINS.2005: 469
- **Conditions of protection by hypothermia on apoptotic pathways in a model of permanent middle cerebral artery occlusion**  
Zhao, H., Wang, J. Q., Sun, G. H., Yenari, M. A., Sapolsky, R. M., Steinberg, G.  
LIPPINCOTT WILLIAMS & WILKINS.2005: 512
- **Hypothermia attenuates the decrease in phosphorylation of proteins in AKT cell signal pathway after permanent middle cerebral artery occlusion in rats** *30th International Stroke Conference*  
Zhao, H., Shimohata, T., Wang, J. Q., Sun, G. H., Yenari, M. A., Sapolsky, R. M., Steinberg, G. K.  
LIPPINCOTT WILLIAMS & WILKINS.2005: 514-14

- **Characterization of avb3 integrin in vascular malformations** *30th International Stroke Conference*  
Lim, M., Harsh, G., Haddix, T., Vogel, H., Chu, P. L., Steinberg, G., Guccione, S.  
LIPPINCOTT WILLIAMS & WILKINS.2005: 517-17
- **Mild intraoperative hypothermia during surgery for intracranial aneurysm** *NEW ENGLAND JOURNAL OF MEDICINE*  
Todd, M. M., Hindman, B. J., Clarke, W. R., Torner, J. C., Todd, M., Hindman, B., Clarke, W., Chaloner, K., Torner, J., Davis, P., Howard, M., Tranel, D., Anderson, et al  
2005; 352 (2): 135-145
- **Mild hypothermia decreases GSK3 beta expression following global cerebral ischemia** *NEUROCRITICAL CARE*  
Kelly, S., Cheng, D. Y., Steinberg, G. K., Yenari, M. A.  
2005; 2 (2): 212-217
- **Characterization of the integrin alpha v beta 3 in arteriovenous malformations and cavernous malformations** *CEREBROVASCULAR DISEASES*  
Lim, M., Haddix, T., Harsh, G. R., Vogel, H., Steinberg, G. K., Guccione, S.  
2005; 20 (1): 23-27
- **Transplanted human fetal neural stem cells survive, migrate, and differentiate in ischemic rat cerebral cortex** *PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA*  
Kelly, S., Bliss, T. M., Shah, A. K., Sun, G. H., Ma, M., Foo, W. C., Masel, J., Yenari, M. A., Weissman, I. L., Uchida, N., Palmer, T., Steinberg, G. K.  
2004; 101 (32): 11839-11844
- **Protein kinase C delta mediates cerebral reperfusion injury in vivo** *JOURNAL OF NEUROSCIENCE*  
Bright, R., Raval, A. P., Dembner, J. M., Perez-Pinzon, M. A., Steinberg, G. K., Yenari, M. A., Mochly-Rosen, D.  
2004; 24 (31): 6880-6888
- **Comparison of endovascular and surface cooling during unruptured cerebral aneurysm repair** *NEUROSURGERY*  
Steinberg, G. K., Ogilvy, C. S., Shuer, L. M., Connolly, E. S., Solomon, R. A., Lam, A., Kassell, N. F., Baker, C. J., Giannotta, S. L., Cockroft, K. M., Bell-Stephens, T. E., Allgren, R. L.  
2004; 55 (2): 307-314
- **Glycogen synthase kinase 3 beta inhibitor Chir025 reduces neuronal death resulting from oxygen-glucose deprivation, glutamate excitotoxicity, and cerebral ischemia** *EXPERIMENTAL NEUROLOGY*  
Kelly, S., Zhao, H., Sun, G. H., Cheng, D. Y., Qiao, Y. L., Luo, J., Martin, K., Steinberg, G. K., Harrison, S. D., Yenari, M. A.  
2004; 188 (2): 378-386
- **Chaperones, protein aggregation, and brain protection from hypoxic/ischemic injury** *JOURNAL OF EXPERIMENTAL BIOLOGY*  
Giffard, R. G., Xu, L. J., Heng, Z., Carrico, W., Ouyang, Y. B., Qiao, Y. L., Sapolsky, R., Steinberg, G., Hu, B. R., Yenari, M. A.  
2004; 207 (18): 3213-3220
- **Bcl-2 transfection via herpes simplex virus blocks apoptosis-inducing factor translocation after focal ischemia in the rat** *JOURNAL OF CEREBRAL BLOOD FLOW AND METABOLISM*  
Zhao, H., Yenari, M. A., Cheng, D., Barreto-Chang, O. L., Sapolsky, R. M., Steinberg, G. K.  
2004; 24 (6): 681-692
- **Catalase over-expression protects striatal neurons from transient focal cerebral ischemia** *NEUROREPORT*  
Gu, W. P., Zhao, H., Yenari, M. A., Sapolsky, R. M., Steinberg, G. K.  
2004; 15 (3): 413-416
- **Mild postischemic hypothermia prolongs the time window for gene therapy by inhibiting cytochrome C release** *STROKE*  
Zhao, H., Yenari, M. A., Sapolsky, R. M., Steinberg, G. K.  
2004; 35 (2): 572-577
- **Evaluation of surgical techniques for neuronal cell transplantation used in patients with stroke** *CELL TRANSPLANTATION*  
Kondziolka, D., Steinberg, G. K., Cullen, S. B., McGrogan, M.  
2004; 13 (7-8): 749-754
- **Mild hypothermia inhibits cytochrome c/caspase-mediated apoptosis after global cerebral ischemia in rats** *29th International Stroke Conference*  
Zhao, H., Yenari, M. A., Cheng, D., Sapolsky, R. M., Steinberg, G. K.  
LIPPINCOTT WILLIAMS & WILKINS.2004: 249-49

- **Cellular and molecular events underlying ischemia-induced neuronal apoptosis** *DRUG NEWS & PERSPECTIVES*  
Zheng, Z., Zhao, H., Steinberg, G. K., Yenari, A. A.  
2003; 16 (8): 497-503
- **Glutathione peroxidase overexpression inhibits cytochrome c release and proapoptotic mediators to protect neurons from experimental stroke** *STROKE*  
Hoehn, B., Yenari, M. A., Sapolsky, R. M., Steinberg, G. K.  
2003; 34 (10): 2489-2494
- **Neurophysiological monitoring in the endovascular therapy of aneurysms** *AMERICAN JOURNAL OF NEURORADIOLOGY*  
Liu, A. Y., Lopez, J. R., Do, H. M., Steinberg, G. K., Cockroft, K., Marks, M. P.  
2003; 24 (8): 1520-1527
- **Mutational analysis of 206 families with cavernous malformations** *JOURNAL OF NEUROSURGERY*  
Laurans, M. S., DiLuna, M. L., Shin, D., Niazi, F., Voorhees, J. R., Nelson-Williams, C., Johnson, E. W., Siegel, A. M., Steinberg, G. K., Berg, M. J., Scott, R. M., Tedeschi, G., Enevoldson, et al  
2003; 99 (1): 38-43
- **Multimodality treatment of giant intracranial arteriovenous malformations** *NEUROSURGERY*  
Chang, S. D., Marcellus, M. L., Marks, M. P., Levy, R. P., Do, H. M., Steinberg, G. K.  
2003; 53 (1): 1-11
- **Attenuation of nitric oxide synthase isoform expression by mild hypothermia after focal cerebral ischemia: variations depending on timing of cooling** *JOURNAL OF NEUROSURGERY*  
Karabiyikoglu, M., Han, H. S., Yenari, M. A., Steinberg, G. K.  
2003; 98 (6): 1271-1276
- **Parent vessel occlusion for vertebrobasilar fusiform and dissecting aneurysms** *AMERICAN JOURNAL OF NEURORADIOLOGY*  
Leibowitz, R., Do, H. M., Marcellus, M. L., Chang, S. D., Steinberg, G. K., Marks, M. P.  
2003; 24 (5): 902-907
- **Prospects for the treatment of stroke using gene therapy.** *Expert review of neurotherapeutics*  
Zhao, H., Yenari, M. A., Sapolsky, R. M., Steinberg, G. K.  
2003; 3 (3): 357-372
- **Bcl-2 overexpression protects against neuron loss within the ischemic margin following experimental stroke and inhibits cytochrome c translocation and caspase-3 activity** *JOURNAL OF NEUROCHEMISTRY*  
Zhao, H., Yenari, M. A., Cheng, D. Y., Sapolsky, R. M., Steinberg, G. K.  
2003; 85 (4): 1026-1036
- **Deep arteriovenous malformations of the basal ganglia and thalamus: natural history** *JOURNAL OF NEUROSURGERY*  
Fleetwood, I. G., Marcellus, M. L., Levy, R. P., Marks, M. P., Steinberg, G. K.  
2003; 98 (4): 747-750
- **Aneurysmal subarachnoid hemorrhage in patient's with Hunt and Hess grade 4 or 5: Treatment using the Guglielmi detachable coil system** *AMERICAN JOURNAL OF NEURORADIOLOGY*  
Weir, R. U., Marcellus, M. L., Do, H. M., Steinberg, G. K., Marks, M. P.  
2003; 24 (4): 585-590
- **Early carotid endarterectomy after ischemic stroke improves diffusion/perfusion mismatch on magnetic resonance imaging: Report of two cases** *NEUROSURGERY*  
Krishnamurthy, S., Tong, D., McNamara, K. P., Steinberg, G. K., Cockroft, K. M.  
2003; 52 (1): 238-241
- **HSV-mediated Bcl-2 transfection blocks apoptosis inducing factor (AIF) translocation after focal ischemia in rat** *28th International Stroke Conference*  
Zhao, H., Yenari, M. A., Cheng, D. Y., Sapolsky, R. M., Steinberg, G. K.  
LIPPINCOTT WILLIAMS & WILKINS.2003: 241-41
- **Comparison of endovascular cooling to surface cooling during unruptured cerebral aneurysm repair** *28th International Stroke Conference*  
Steinberg, G. K., Bell-Stephens, T. E., Shuer, L. M., Ogilvy, C. S., Connolly, E. S., Solomon, R., Lam, A., Giannotta, S., Cockroft, K., Hershey, M. S., Dobak, J., Allgren, R. L.

LIPPINCOTT WILLIAMS & WILKINS.2003: 246-46

- **Gene therapy and hypothermia for stroke treatment** *6th International Conference on Neuroprotective Agents*  
Yenari, M. A., Zhao, H., Giffard, R. G., Sobel, R. A., Sapolsky, R. M., Steinberg, G. K.  
NEW YORK ACAD SCIENCES.2003: 54-68
- **Sensitivity of scalp EEG, cortical EEG, and somatosensory evoked responses during surgery for intracranial aneurysms** *SURGICAL NEUROLOGY*  
Martin, C. J., Sinson, G., Patterson, T., Zager, E. L., Stecker, M. M., Solomon, R. A., Steinberg, G. K.  
2002; 58 (5): 317-321
- **Effects of mild hypothermia on superoxide anion production, superoxide dismutase expression, and activity following transient focal cerebral ischemia** *NEUROBIOLOGY OF DISEASE*  
Maier, C. M., Sun, G. H., Cheng, D. Y., Yenari, M. A., Chan, P. H., Steinberg, G. K.  
2002; 11 (1): 28-42
- **Quality of evidence for management of arteriovenous malformations of the brain - Reply** *LANCET*  
Steinberg, G. K., Fleetwood, I. G.  
2002; 360 (9338): 1023
- **Gene transfer of HSP72 protects cornu ammonis 1 region of the hippocampus neurons from global ischemia: Influence of Bcl-2** *ANNALS OF NEUROLOGY*  
Kelly, S., Zhang, Z. J., Zhao, H., Xu, L. J., Giffard, R. G., Sapolsky, R. M., Yenari, M. A., Steinberg, G. K.  
2002; 52 (2): 160-167
- **N-butyl cyanoacrylate embolization of cerebral arteriovenous malformations: Results of a prospective, randomized, multi-center trial** *AMERICAN JOURNAL OF NEURORADIOLOGY*  
Purdy, P., Horowitz, M., Kopitnik, T., Samson, D., Dion, J., Joseph, G., Dawson, R., Owens, D., Barrow, D., Barr, J., Powers, S., Cockroft, K., Holmes, et al  
2002; 23 (5): 748-755
- **Overexpression of HSP-72 protects against protein aggregation induced by transient cerebral ischemia**  
Zhao, H., Hu, B. R., Sapolsky, R. M., Steinberg, G. K., Yenari, M. A.  
LIPPINCOTT WILLIAMS & WILKINS.2002: A237
- **Arteriovenous malformations** *LANCET*  
Fleetwood, I. G., Steinberg, G. K.  
2002; 359 (9309): 863-873
- **Safety and performance of a novel intravascular catheter for induction and reversal of hypothermia in a porcine model** *NEUROSURGERY*  
Inderbitzen, B., Yon, S., LASHERAS, J., Dobak, J., Perl, J., Steinberg, G. K.  
2002; 50 (2): 364-370
- **Mild hypothermia reduces apoptosis of mouse neurons in vitro early in the cascade** *JOURNAL OF CEREBRAL BLOOD FLOW AND METABOLISM*  
Xu, L. J., Yenari, M. A., Steinberg, G. K., Giffard, R. G.  
2002; 22 (1): 21-28
- **Upregulation of Bcl-2 in CA1 neurons protected from global cerebral ischemia by HSP72 gene transfer**  
Kelly, S., Zhang, Z. J., Xu, L. J., Giffard, R. G., Sapolsky, R. M., Yenari, M. A., Steinberg, G. K.  
LIPPINCOTT WILLIAMS & WILKINS.2002: 355-56
- **Mild post-ischemic hypothermia prolongs the time window for gene therapy**  
Zhao, H., Yenari, M. A., Sapolsky, R. M., Steinberg, G. K.  
LIPPINCOTT WILLIAMS & WILKINS.2002: 347-47
- **The role of radiosurgery in the treatment of giant arteriovenous malformations** *5th Meeting of the International-Stereotactic-Radiosurgery-Society*  
Chang, S. D., Levy, R. P., Marks, M. P., Marcellus, M., Steinberg, G. K.  
KARGER.2002: 42-53
- **Mild hypothermia attenuates cytochrome C release but does not alter Bcl-2 expression or caspase activation after experimental stroke** *JOURNAL OF CEREBRAL BLOOD FLOW AND METABOLISM*  
Yenari, M. A., Iwayama, S., Cheng, D. Y., Sun, G. H., Fujimura, M., Morita-Fujimura, Y., Chan, P. H., Steinberg, G. K.  
2002; 22 (1): 29-38

- **Mild hypothermia increases Bcl-2 protein expression following global cerebral ischemia** *MOLECULAR BRAIN RESEARCH*  
Zhang, Z. J., Sobel, R. A., Cheng, D. Y., Steinberg, G. K., Yenari, M. A.  
2001; 95 (1-2): 75-85
- **Overexpression of HSP72 after induction of experimental stroke protects neurons from ischemic damage** *JOURNAL OF CEREBRAL BLOOD FLOW AND METABOLISM*  
Hoehn, B., Ringer, T. M., Xu, L. J., Giffard, R. G., Sapolsky, R. M., Steinberg, G. K., Yenari, M. A.  
2001; 21 (11): 1303-1309
- **Hyperperfusion syndrome with hemorrhage after angioplasty for middle cerebral artery stenosis** *AMERICAN JOURNAL OF NEURORADIOLOGY*  
Liu, A. Y., Do, H. M., Albers, G. W., Lopez, J. R., Steinberg, G. K., Marks, M. P.  
2001; 22 (8): 1597-1601
- **Familial trigeminal neuralgia - Case report and review of the literature** *JOURNAL OF NEUROSURGERY*  
Fleetwood, I. G., Innes, A. M., Hansen, S. R., Steinberg, G. K.  
2001; 95 (3): 513-517
- **Imaging of cerebral and brain stem amyloidomas** *AMERICAN JOURNAL OF NEURORADIOLOGY*  
Symko, S. C., Hattab, E. M., Steinberg, G. K., Lane, B.  
2001; 22 (7): 1353-1356
- **Posterior cerebral circulation revascularization** *NEUROSURGERY CLINICS OF NORTH AMERICA*  
Chang, S. D., Ryu, S. I., Steinberg, G. K.  
2001; 12 (3): 519-?
- **Gene therapy for treatment of cerebral ischemia using defective herpes simplex viral vectors** *NEUROLOGICAL RESEARCH*  
Yenari, M. A., Dumas, T. C., Sapolsky, R. M., Steinberg, G. K.  
2001; 23 (5): 543-552
- **Differential neuroprotection from human heat shock protein 70 overexpression in in vitro and in vivo models of ischemia and ischemia-like conditions** *EXPERIMENTAL NEUROLOGY*  
Lee, J. E., Yenari, M. A., Sun, G. H., Xu, L. J., Emond, M. R., Cheng, D. Y., Steinberg, G. K., Giffard, R. G.  
2001; 170 (1): 129-139
- **Increased rate of hemorrhage in SOD2-deficient mice after transient focal cerebral ischemia: Effect of mild hypothermia**  
Maier, C. M., Tannous, N., Steinberg, G. K., Chan, P. H.  
LIPPINCOTT WILLIAMS & WILKINS.2001: A305-A306
- **Calbindin D28K overexpression protects striatal neurons from transient focal cerebral ischemia** *STROKE*  
Yenari, M. A., Minami, M., Sun, G. H., Meier, T. J., Kunis, D. M., McLaughlin, J. R., Ho, D. Y., Sapolsky, R. M., Steinberg, G. K.  
2001; 32 (4): 1028-1035
- **Delayed induction and long-term effects of mild hypothermia in a focal model of transient cerebral ischemia: neurological outcome and infarct size** *JOURNAL OF NEUROSURGERY*  
Maier, C. M., Sun, G. H., Kunis, D., Yenari, M. A., Steinberg, G. K.  
2001; 94 (1): 90-96
- **Gene therapy for treatment of cerebral ischemia using defective herpes simplex viral vectors** *5th International Conference on Neuroprotective Agents*  
Yenari, M. A., Dumas, T. C., Sapolsky, R. M., Steinberg, G. K.  
NEW YORK ACAD SCIENCES.2001: 340-357
- **Quantification of the gravity-dependent change in the C-arm image center for image compensation in fluoroscopic spinal neuronavigation** *Conference on Medicine Meets Virtual Reality 2001*  
Hariri, S., Abbasi, H. R., Chin, S., Steinberg, G., Shahidi, R.  
I O S PRESS.2001: 177-179
- **Diffusion- and perfusion-weighted magnetic resonance imaging of focal cerebral ischemia and cortical spreading depression under conditions of mild hypothermia** *BRAIN RESEARCH*  
Yenari, M. A., Onley, D., Hedehus, M., deCrespigny, A., Sun, G. H., Moseley, M. E., Steinberg, G. K.  
2000; 885 (2): 208-219



- **Moyamoya disease** *CANADIAN JOURNAL OF NEUROLOGICAL SCIENCES*  
Fleetwood, I., Steinberg, G. K.  
2000; 27 (4): 325-327
- **Reply** *Muscle & nerve*  
Chang, Lopez, Steinberg  
2000; 23 (9): 1446-?
- **AAEM news and comments** *Muscle & nerve*  
Chang, Lopez, Steinberg  
2000; 23 (9): 1450-1451
- **Institutional peer review can reduce the risk and cost of carotid endarterectomy** *71st Annual Session of the Pacific-Coast-Surgical-Association*  
Olcott, C., Mitchell, R. S., Steinberg, G. K., Zarins, C. K.  
AMER MEDICAL ASSOC.2000: 939-41
- **Cerebral revascularization techniques - Illustrative case** *TECHNIQUES IN NEUROSURGERY*  
Steinberg, G. K.  
2000; 6 (2): 78-79
- **Influence of mild hypothermia on Bcl-2/Bax expression and cytochrome c release following experimental stroke**  
Yenari, M. A., Iwayama, S., Maier, C. M., Cheng, D., Sun, G. H., Fujimura, M., Morita-Fujimura, Y., Kunis, D. M., Chan, P. H., Steinberg, G. K.  
LIPPINCOTT WILLIAMS & WILKINS.2000: A67-A68
- **Increased Bcl-2 protein under conditions of mild hypothermia following global cerebral ischemia**  
Zhang, Z., Yenari, M. A., Kunis, D. M., Sun, G. H., Steinberg, G. K.  
LIPPINCOTT WILLIAMS & WILKINS.2000: A66-A67
- **Neurosurgical and neuroendovascular management of Takayasu's arteritis** *NEUROSURGERY*  
Stoodley, M. A., Thompson, R. C., Mitchell, R. S., Marks, M. P., Steinberg, G. K.  
2000; 46 (4): 841-851
- **Rewarming from hypothermia leads to elevated plasma lipopolysaccharide concentrations** *UNDERSEA & HYPERBARIC MEDICINE*  
Gaffin, S. L., Dietz, F. B., Brock-Utne, J. G., Andrews, T. C., Jaffe, R. A., Steinberg, G. K., Wallace, R. F.  
2000; 27 (1): 1-7
- **Microsurgical resection of brainstem, thalamic, and basal ganglia angiographically occult vascular malformations** *NEUROSURGERY*  
Steinberg, G. K., Chang, S. D., Gewirtz, R. J., Lopez, J. R.  
2000; 46 (2): 260-270
- **Planned direct dual-modality treatment of complex broad-necked intracranial aneurysms: Four technical case reports** *NEUROSURGERY*  
Cockroft, K. M., Marks, M. P., Steinberg, G. K.  
2000; 46 (1): 226-230
- **Gene therapy using viral vectors for acute neurologic insults** *NEUROLOGY*  
Sapolsky, R. M., Steinberg, G. K.  
1999; 53 (9): 1922-1931
- **The neuroprotective potential of heat shock protein 70 (HSP70)** *MOLECULAR MEDICINE TODAY*  
Yenari, M. A., Giffard, R. G., Sapolsky, R. M., Steinberg, G. K.  
1999; 5 (12): 525-531
- **Long-term outcomes after carotid stent placement for treatment of carotid artery dissection** *NEUROSURGERY*  
Liu, A. Y., Paulsen, R. D., Marcellus, M. L., Steinberg, G. K., Marks, M. P.  
1999; 45 (6): 1368-1373
- **The usefulness of electrophysiological monitoring during resection of central nervous system vascular malformations.** *Journal of stroke and cerebrovascular diseases : the official journal of National Stroke Association*  
Chang, S. D., Lopez, J. R., Steinberg, G. K.  
1999; 8 (6): 412-422

- **Intraoperative electrical stimulation for identification of cranial nerve nuclei** *45th Annual Meeting of the American Association for Electrodiagnostic Medicine*  
Chang, S. D., Lopez, J. R., Steinberg, G. K.  
JOHN WILEY & SONS INC.1999: 1538-43
- **Direct and combined revascularization in pediatric moyamoya disease** *NEUROSURGERY*  
Golby, A. J., Marks, M. P., Thompson, R. C., Steinberg, G. K.  
1999; 45 (1): 50-58
- **Correlation of magnetic resonance characteristics and histopathological type of angiographically occult vascular malformations** *Neurosurgery*  
Vanefsky, M. A., Cheng, M. L., Chang, S. D., Norbash, A., Snipe, J., Marks, M. P., Steinberg, G. K.  
1999; 44 (6): 1174-80; discussion 1180-1
- **Outcome of angioplasty for atherosclerotic intracranial stenosis** *STROKE*  
Marks, M. P., Marcellus, M., Norbash, A. M., Steinberg, G. K., Tong, D., Albers, G. W.  
1999; 30 (5): 1065-1069
- **Embolization of basal ganglia and thalamic arteriovenous malformations** *NEUROSURGERY*  
Paulsen, R. D., Steinberg, G. K., Norbash, A. M., Marcellus, M. L., Marks, M. P.  
1999; 44 (5): 991-996
- **Recanalization and rupture of a giant vertebral artery aneurysm after Hunterian ligation: Case report** *NEUROSURGERY*  
Chang, S. D., Marks, M. P., Steinberg, G. K.  
1999; 44 (5): 1117-1120
- **Embolization of rolandic cortex arteriovenous malformations** *NEUROSURGERY*  
Paulsen, R. D., Steinberg, G. K., Norbash, A. M., Marcellus, M. L., Lopez, J. R., Marks, M. P.  
1999; 44 (3): 479-484
- **Moyamoya syndrome in children with Alagille syndrome: Additional evidence of a vasculopathy** *PEDIATRICS*  
Woolfenden, A. R., Albers, G. W., Steinberg, G. K., Hahn, J. S., Johnston, D. C., Farrell, K.  
1999; 103 (2): 505-508
- **The use of electrophysiological monitoring in the intraoperative management of intracranial aneurysms** *JOURNAL OF NEUROLOGY NEUROSURGERY AND PSYCHIATRY*  
Lopez, J. R., Chang, S. D., Steinberg, G. K.  
1999; 66 (2): 189-196
- **Remote-rendered 3D CT angiography (3DCTA) as an intraoperative aid in cerebrovascular neurosurgery.** *Computer aided surgery*  
Wilkinson, E. P., Shahidi, R., Wang, B., Martin, D. P., Adler, J. R., Steinberg, G. K.  
1999; 4 (5): 256-263
- **Reliance on TCD during carotid endarterectomy may lend to overshunting: A comparison of EEG, SSEP and TCD monitoring during carotid endarterectomy.**  
Cockroft, K. M., Lee, J. A., Loper, Tong, D. C., Steinberg, G. K.  
LIPPINCOTT WILLIAMS & WILKINS.1999: 270
- **Diagnosing cerebral vasospasm: The correlation rate between cerebral angiograms and transcranial Doppler**  
Chang, S. D., Bell, T., Ceranski, J., Tong, D., Marks, M. P., Steinberg, G. K.  
LIPPINCOTT WILLIAMS & WILKINS.1999: 259
- **Transgenic mice which overexpress HSP70 are protected against some but not all central nervous system insults**  
Yenari, M. A., Lee, J. E., Sun, G. H., Giffard, R. G., Steinberg, G. K.  
LIPPINCOTT WILLIAMS & WILKINS.1999: 233
- **Long-term effects of mild hypothermia on SOD2 expression following transient focal ischemia**  
Maier, C. M., Onley, D., Yenari, M. A., Steinberg, G. K.  
LIPPINCOTT WILLIAMS & WILKINS.1999: 275
- **Unruptured intracranial aneurysms - Risk of rupture and risks of surgical intervention** *NEW ENGLAND JOURNAL OF MEDICINE*

- Wiebers, D., Whisnant, J., Forbes, G., Meissner, I., Brown, R., Piepgras, D., Huston, J., Nichols, D., O'Fallon, W., Peacock, J., Jaeger, L., Kassell, N., Kongable-Beckman, et al  
1998; 339 (24): 1725-1733
- **Optimal depth and duration of mild hypothermia in a focal model of transient cerebral ischemia - Effects on neurologic outcome, infarct size, apoptosis, and inflammation** *STROKE*  
Maier, C. M., Ahern, K. V., Cheng, M. L., Lee, J. F., Yenari, M. A., Steinberg, G. K.  
1998; 29 (10): 2171-2180
  - **Gene therapy with HSP72 is neuroprotective in rat models of stroke and epilepsy** *ANNALS OF NEUROLOGY*  
Yenari, M. A., Fink, S. L., Sun, G. H., Chang, L. K., Patel, M. K., Kunis, D. M., Onley, D., Ho, D. Y., Sapolsky, R. M., Steinberg, G. K.  
1998; 44 (4): 584-591
  - **Mild hypothermia: an alternative to deep hypothermia for achieving neuroprotection.** *journal of cardiovascular nursing*  
Bell, T. E., Kongable, G. L., Steinberg, G. K.  
1998; 13 (1): 34-44
  - **Microsurgical resection of incompletely obliterated intracranial arteriovenous malformations following stereotactic radiosurgery** *NEUROLOGIA MEDICO-CHIRURGICA*  
Chang, S. D., Steinberg, G. K., Levy, R. P., Marks, M. P., Frankel, K. A., Shuster, D. L., Marcellus, M. L.  
1998; 38: 200-207
  - **Hu23F2G, an antibody recognizing the leukocyte CD11/CD18 integrin, reduces injury in a rabbit model of transient focal cerebral ischemia** *EXPERIMENTAL NEUROLOGY*  
Yenari, M. A., Kunis, D., Sun, G. H., Onley, D., Watson, L., Turner, S., Whitaker, S., Steinberg, G. K.  
1998; 153 (2): 223-233
  - **The management of patients with arteriovenous malformations and associated intracranial aneurysms** *NEUROSURGERY*  
Thompson, R. C., Steinberg, G. K., Levy, R. P., Marks, M. P.  
1998; 43 (2): 202-211
  - **Stereotactic radiosurgery of angiographically occult vascular malformations: 14-year experience** *NEUROSURGERY*  
Chang, S. D., Levy, R. P., Adler, J. R., Martin, D. P., Krakovitz, P. R., Steinberg, G. K.  
1998; 43 (2): 213-220
  - **Aneurysms and arteriovenous malformations** *NEUROSURGERY CLINICS OF NORTH AMERICA*  
Cockroft, K. M., Thompson, R. C., Steinberg, G. K.  
1998; 9 (3): 565-?
  - **Thrombolysis with reteplase, an unglycosylated plasminogen activator variant, in experimental embolic stroke.** *Journal of stroke and cerebrovascular diseases : the official journal of National Stroke Association*  
Yenari, M. A., Lee, L. K., Beaulieu, C., Sun, G. H., Kunis, D., Chang, D., Albers, G. W., Moseley, M. E., Steinberg, G. K.  
1998; 7 (3): 179-186
  - **Pathological changes in surgically resected angiographically occult vascular malformations after radiation** *NEUROSURGERY*  
Gewirtz, R. J., Steinberg, G. K., Crowley, R., Levy, R. P.  
1998; 42 (4): 738-742
  - **Neuropsychological recovery from childhood moyamoya disease** *BRAIN & DEVELOPMENT*  
Bowen, M., Marks, M. P., Steinberg, G. K.  
1998; 20 (2): 119-123
  - **Management of intracranial aneurysms.** *Vascular medicine*  
Chang, S. D., Steinberg, G. K.  
1998; 3 (4): 315-326
  - **Multi-modality management of high flow AVMs in pediatric patients**  
Cockroft, K. M., Marcellus, M. L., Marks, M. P., Huhn, S. L., Steinberg, G. K.  
LIPPINCOTT WILLIAMS & WILKINS.1998: 335
  - **In vivo imaging of apoptotic cell death associated with cerebral hemispheric ischemia using Tc-99m radiolabeled annexin V.**

Blankenberg, F. G., Busch, E., Yenari, M. A., Davis, R. E., Sun, G. H., Tait, J. F., Koyama, S., Ohtsuki, K., Steinberg, G. K., Strauss, H. W.  
LIPPINCOTT WILLIAMS & WILKINS.1998: 330

- **Direct revascularization for Moyamoya disease in pediatric patients**  
Golby, A. J., Thompson, R. C., Huhn, S., Steinberg, G. K.  
LIPPINCOTT WILLIAMS & WILKINS.1998: 335
- **Dose escalation safety and tolerance study of the competitive NMDA antagonist Selfotel (CGS 19755) in neurosurgery patients** *CLINICAL NEUROPHARMACOLOGY*  
Yenari, M. A., Bell, T. E., Kotake, A. N., Powell, M., Steinberg, G. K.  
1998; 21 (1): 28-34
- **SNX-111, a novel, presynaptic N-type calcium channel antagonist, is neuroprotective against focal cerebral ischemia in rabbits** *JOURNAL OF THE NEUROLOGICAL SCIENCES*  
Perez-Pinzon, M. A., Yenari, M. A., Sun, G. H., Kunis, D. M., Steinberg, G. K.  
1997; 153 (1): 25-31
- **Diffusion-weighted magnetic resonance imaging characteristics of hemorrhagic transformation in experimental embolic stroke** *JOURNAL OF NEUROIMAGING*  
Yenari, M. A., Beaulieu, C., Steinberg, G. K., Moseley, M. E.  
1997; 7 (4): 227-231
- **Herpes simplex viral vectors expressing Bcl-2 are neuroprotective when delivered after a stroke** *JOURNAL OF CEREBRAL BLOOD FLOW AND METABOLISM*  
Lawrence, M. S., McLaughlin, J. R., Sun, G. H., Ho, D. Y., McIntosh, L., Kunis, D. M., Sapolsky, R. M., Steinberg, G. K.  
1997; 17 (7): 740-744
- **Improved perfusion with rt-PA and hirulog in a rabbit model of embolic stroke** *JOURNAL OF CEREBRAL BLOOD FLOW AND METABOLISM*  
Yenari, M. A., deCrespigny, A., Palmer, J. T., Roberts, S., Schrier, S. L., Albers, G. W., Moseley, M. E., Steinberg, G. K.  
1997; 17 (4): 401-411
- **Mixed arteriovenous malformation and capillary telangiectasia: A rare subset of mixed vascular malformations - Case report** *JOURNAL OF NEUROSURGERY*  
Chang, S. D., Steinberg, G. K., Rosario, M., Crowley, R. S., Hevner, R. F.  
1997; 86 (4): 699-703
- **Stereotactic radiosurgery of arteriovenous malformations: Pathologic changes in resected tissue** *CLINICAL NEUROPATHOLOGY*  
Chang, S. D., Shuster, D. L., Steinberg, G. K., Levy, R. P., Frankel, K.  
1997; 16 (2): 111-116
- **Antibodies against the leukocyte CD11/CD18 integrin reduces injury in a model of transient focal cerebral ischemia**  
Yenari, M., Kunis, D., Sun, G. H., Onley, D., Wu, A., Cosgrove, S., Steinberg, G.  
AMER HEART ASSOC.1997: 132
- **Time-course and treatment response with SNX-111, an N-type calcium channel blocker, in a rodent model of focal cerebral ischemia using diffusion-weighted MRI** *BRAIN RESEARCH*  
Yenari, M. A., Palmer, J. T., Sun, G. H., deCrespigny, A., Moseley, M. E., Steinberg, G. K.  
1996; 739 (1-2): 36-45
- **Phenytoin-related chorea in children with deep hemispheric vascular malformations** *JOURNAL OF CHILD NEUROLOGY*  
Koukkari, M. W., Vanefsky, M. A., Steinberg, G. K., Hahn, J. S.  
1996; 11 (6): 490-491
- **CGS 19755 (Selfotel): A Novel Neuroprotective Agent Against CNS Injury.** *CNS drug reviews*  
Pérez-Pinzón, M. A., Steinberg, G. K.  
1996; 2 (3): 257-268
- **Surgical resection of large incompletely treated intracranial arteriovenous malformations following stereotactic radiosurgery** *JOURNAL OF NEUROSURGERY*  
Steinberg, G. K., Chang, S. D., Levy, R. P., Marks, M. P., Frankel, K., Marcellus, M.  
1996; 84 (6): 920-928

- **Vertebral artery stenting following percutaneous transluminal angioplasty - Technical note** *JOURNAL OF NEUROSURGERY*  
Storey, G. S., Marks, M. P., Dake, M., Norbash, A. M., Steinberg, G. K.  
1996; 84 (5): 883-887
- **Dose escalation safety and tolerance study of the N-methyl-D-aspartate antagonist dextromethorphan in neurosurgery patients** *JOURNAL OF NEUROSURGERY*  
Steinberg, G. K., Bell, T. E., Yenari, M. A.  
1996; 84 (5): 860-866
- **Rapid and near-complete resolution of moyamoya vessels in a patient with moyamoya disease treated with superficial temporal artery middle cerebral artery bypass** *PEDIATRIC NEUROSURGERY*  
Wang, M. Y., Steinberg, G. K.  
1996; 24 (3): 145-150
- **Overexpression of the glucose transporter gene with a Herpes simplex viral vector protects striatal neurons against stroke** *JOURNAL OF CEREBRAL BLOOD FLOW AND METABOLISM*  
Lawrence, M. S., Sun, G. H., Kunis, D. M., Saydam, T. C., Dash, R., Ho, D. Y., Sapolsky, R. M., Steinberg, G. K.  
1996; 16 (2): 181-185
- **Cost-effectiveness of endovascular therapy in the surgical management of cerebral arteriovenous malformations** *AMERICAN JOURNAL OF NEURORADIOLOGY*  
Jordan, J. E., Marks, M. P., Lane, B., Steinberg, G. K.  
1996; 17 (2): 247-254
- **MR and cerebrospinal fluid enzymes as sensitive indicators of subclinical cerebral injury after open-heart valve replacement surgery** *AMERICAN JOURNAL OF NEURORADIOLOGY*  
Steinberg, G. K., Delapaz, R., Mitchell, R. S., Bell, T. E., Albers, G. W.  
1996; 17 (2): 205-212
- **Overexpression of bcl-2 with herpes simplex virus vectors protects CNS neurons against neurological insults in vitro and in vivo** *JOURNAL OF NEUROSCIENCE*  
Lawrence, M. S., Ho, D. Y., Sun, G. H., Steinberg, G. K., Sapolsky, R. M.  
1996; 16 (2): 486-496
- **Herpes simplex virus mediated gene transfer protects against focal ischemia**  
Lawrence, M., Sun, G. H., Sapolsky, R., Steinberg, G.  
AMER HEART ASSOC.1996: 43
- **Surgical obliteration for vein of galen malformation: A case report** *SURGICAL NEUROLOGY*  
Moriarity, J. L., Steinberg, G. K.  
1995; 44 (4): 365-369
- **CORRELATION OF CGS-1975 NEUROPROTECTION AGAINST IN-VITRO EXCITOTOXICITY AND FOCAL CEREBRAL-ISCHEMIA** *JOURNAL OF CEREBRAL BLOOD FLOW AND METABOLISM*  
PEREZPINZON, M. A., Maier, C. M., Yoon, E. J., Sun, G. H., Giffard, R. G., Steinberg, G. K.  
1995; 15 (5): 865-876
- **NEUROPROTECTION BY THE N-METHYL-D-ASPARTATE RECEPTOR ANTAGONIST CGP-40116 - IN-VIVO AND IN-VITRO STUDIES** *JOURNAL OF NEUROCHEMISTRY*  
Maier, C. M., Sun, G. H., Kunis, D. M., Giffard, R. G., Steinberg, G. K.  
1995; 65 (2): 652-659
- **IMAGING STUDIES OF CEREBRAL HYPERPERFUSION AFTER CAROTID ENDARTERECTOMY - CASE-REPORT** *JOURNAL OF NEUROSURGERY*  
Penn, A. A., Schomer, D. F., Steinberg, G. K.  
1995; 83 (1): 133-137
- **A RANDOMIZED TRIAL OF INTRAOPERATIVE, INTRACISTERNAL TISSUE-PLASMINOGEN ACTIVATOR FOR THE PREVENTION OF VASOSPASM** *NEUROSURGERY*  
FINDLAY, J. M., KASSELL, N. F., WEIR, B. K., HALEY, E. C., KONGABLE, G., GERMANSON, T., TRUSKOWSKI, L., ALVES, W. M., HOLNESS, R. O., KNUCKEY, N. W., YONAS, H., STEINBERG, G. K., WEST, et al

1995; 37 (1): 168-76

- **NARROW TEMPORAL THERAPEUTIC WINDOW FOR NMDA ANTAGONIST PROTECTION AGAINST FOCAL CEREBRAL-ISCHEMIA** *NEUROBIOLOGY OF DISEASE*  
Steinberg, G. K., Panahian, N., PEREZPINZON, M. A., Sun, G. H., Modi, M. W., SEPINWALL, J.  
1995; 2 (2): 109-118
- **THROMBOLYSIS WITH TISSUE-PLASMINOGEN ACTIVATOR (TPA) IS TEMPERATURE-DEPENDENT** *THROMBOSIS RESEARCH*  
Yenari, M. A., Palmer, J. T., Bracci, P. M., Steinberg, G. K.  
1995; 77 (5): 475-481
- **NEUROPROTECTION BY N-METHYL-D-ASPARTATE ANTAGONISTS IN FOCAL CEREBRAL-ISCHEMIA IS DEPENDENT ON CONTINUED MAINTENANCE DOSING** *NEUROSCIENCE*  
Steinberg, G. K., Yoon, E. J., Kunis, D. M., Sun, G. H., Maier, C. M., Grant, G. A.  
1995; 64 (1): 99-107
- **ANGIOPLASTY OF INTRACRANIAL CIRCULATION STENOSIS**  
MARKS, M., NORBASH, A., CLARK, J., ALBERS, G., STEINBERG, G.  
AMER HEART ASSOC.1995: 159
- **CURRENT SURGICAL-MANAGEMENT OF MOYA-MOYA DISEASE**  
VANEFSKY, M. A., STEINBERG, G. K.  
AMER HEART ASSOC.1995: 172
- **CGS-19755 - CORRELATION OF IN-VITRO NEUROPROTECTION, PROTECTION AGAINST EXPERIMENTAL-ISCHEMIA AND CSF LEVELS IN CEREBROVASCULAR SURGERY PATIENTS**  
PEREZPINZON, M. A., MAIER, C. M., SUN, G. H., YOON, E., BELL, T. E., POWELL, M., KOTAKE, A., GIFFARD, R. G., STEINBERG, G. K.  
AMER HEART ASSOC.1995: 182
- **COMBINED USE OF ENDOVASCULAR COILS AND SURGICAL CLIPPING FOR INTRACRANIAL ANEURYSMS** *AMERICAN JOURNAL OF NEURORADIOLOGY*  
Marks, M. P., Steinberg, G. K., Lane, B.  
1995; 16 (1): 15-18
- **CEREBRAL-DAMAGE CAUSED BY INTERRUPTED, REPEATED ARTERIAL-OCCLUSION VERSUS UNINTERRUPTED OCCLUSION IN A FOCAL ISCHEMIC MODEL** *JOURNAL OF NEUROSURGERY*  
Steinberg, G. K., Panahian, N., Sun, G. H., Maier, C. M., Kunis, D.  
1994; 81 (4): 554-559
- **THE ANATOMY OF THE POSTERIOR COMMUNICATING ARTERY AS A RISK FACTOR FOR ISCHEMIC CEREBRAL INFARCTION** *NEW ENGLAND JOURNAL OF MEDICINE*  
Schomer, D. F., Marks, M. P., Steinberg, G. K., Johnstone, I. M., Boothroyd, D. B., Ross, M. R., Pelc, N. J., Enzmann, D. R.  
1994; 330 (22): 1565-1570
- **A MECHANICALLY DETACHABLE COIL FOR THE TREATMENT OF ANEURYSMS AND OCCLUSION OF BLOOD-VESSELS** *AMERICAN JOURNAL OF NEURORADIOLOGY*  
Marks, M. P., CHEE, H., Liddell, R. P., Steinberg, G. K., Panahian, N., Lane, B.  
1994; 15 (5): 821-827
- **STENT PLACEMENT FOR ARTERIAL AND VENOUS CEREBROVASCULAR-DISEASE - PRELIMINARY EXPERIENCE** *RADIOLOGY*  
Marks, M. P., Dake, M. D., Steinberg, G. K., Norbash, A. M., Lane, B.  
1994; 191 (2): 441-446
- **FAILURE OF INTRACISTERNAL TISSUE-PLASMINOGEN ACTIVATOR TO PREVENT VASOSPASM IN CERTAIN PATIENTS WITH ANEURYSMAL SUBARACHNOID HEMORRHAGE** *NEUROSURGERY*  
Steinberg, G. K., Vanefsky, M. A., Marks, M. P., Adler, J. R., KOENIG, G. H.  
1994; 34 (5): 809-813
- **NEURONAL PROTECTION TO FOCAL CEREBRAL-ISCHEMIA BY THE COMPETITIVE NMDA RECEPTOR ANTAGONIST CGS-19755 IN RABBITS**  
PEREZPINZON, M. A., SUN, G. H., YOON, E., STEINBERG, G. K., LUTZ, P.

FEDERATION AMER SOC EXP BIOL.1994: A654

- **PROTECTION AGAINST FOCAL CEREBRAL-ISCHEMIA FOLLOWING EXPOSURE TO A PULSED ELECTROMAGNETIC-FIELD** *BIOELECTROMAGNETICS*  
GRANT, G., Cadossi, R., Steinberg, G.  
1994; 15 (3): 205-216
- **A MULTIVARIATE-ANALYSIS OF MAGNETIC-RESONANCE CHARACTERISTICS AND HISTOPATHOLOGY OF ANGIOGRAPHICALLY OCCULT VASCULAR MALFORMATIONS**  
VANEFSKY, M., NORBASH, A., SNIPES, J., MARKS, M., STEINBERG, G.  
AMER HEART ASSOC.1994: 252
- **SURGICAL RESECTION OF BRAIN-STEM AND THALAMIC ANGIOGRAPHICALLY OCCULT VASCULAR MALFORMATIONS - ADVANTAGES AND LIMITATIONS**  
STEINBERG, G. K.  
AMER HEART ASSOC.1994: 248
- **Migraine and vertebrobasilar dissection: Case reports.** *Journal of stroke and cerebrovascular diseases : the official journal of National Stroke Association*  
Yenari, M. A., Steinberg, G. K., Marks, M. P.  
1994; 4 (1): 36-41
- **Neuropsychological improvements following endovascular embolization of arteriovenous malformation.** *Journal of stroke and cerebrovascular diseases : the official journal of National Stroke Association*  
Bowen, M., Steinberg, G. K., Marks, M., ACOSTA, Y.  
1994; 4 (3): 194-199
- **STEREOTAXIC RADIOSURGICAL ABLATION - AN ALTERNATIVE TREATMENT FOR RECURRENT AND MULTIFOCAL HEMANGIOBLASTOMAS - A REPORT OF 4 CASES** *SURGICAL NEUROLOGY*  
Page, K. A., WAYSON, K., Steinberg, G. K., Adler, J. R.  
1993; 40 (5): 424-428
- **NEUROPROTECTION BY THE ALPHA-2-ADRENOCEPTOR AGONIST DEXMEDETOMIDINE IN A FOCAL MODEL OF CEREBRAL-ISCHEMIA** *ANESTHESIOLOGY*  
Maier, C., Steinberg, G. K., Sun, G. H., ZHI, G. T., Maze, M.  
1993; 79 (2): 306-312
- **DELIBERATE BASILAR OR VERTEBRAL ARTERY-OCCLUSION IN THE TREATMENT OF INTRACRANIAL ANEURYSMS - IMMEDIATE RESULTS AND LONG-TERM OUTCOME IN 201 PATIENTS** *JOURNAL OF NEUROSURGERY*  
Steinberg, G. K., Drake, C. G., Peerless, S. J.  
1993; 79 (2): 161-173
- **PROFILES OF EXTRACELLULAR AMINO-ACID CHANGES IN FOCAL CEREBRAL-ISCHEMIA - EFFECTS OF MILD HYPOTHERMIA** *NEUROLOGICAL RESEARCH*  
Lo, E. H., Steinberg, G. K., Panahian, N., Maidment, N. T., Newcomb, R.  
1993; 15 (4): 281-287
- **INTRAARTERIAL PAPAVERINE FOR THE TREATMENT OF VASOSPASM** *AMERICAN JOURNAL OF NEURORADIOLOGY*  
Marks, M. P., Steinberg, G. K., Lane, B.  
1993; 14 (4): 822-826
- **NEUROPROTECTION FOLLOWING FOCAL CEREBRAL-ISCHEMIA WITH THE NMDA ANTAGONIST DEXTROMETHORPHAN, HAS A FAVORABLE DOSE-RESPONSE PROFILE** *NEUROLOGICAL RESEARCH*  
Steinberg, G. K., Kunis, D., Delapaz, R., Poljak, A.  
1993; 15 (3): 174-180
- **ENDOVASCULAR TREATMENT OF CEREBRAL ARTERIOVENOUS-MALFORMATIONS FOLLOWING RADIOSURGERY** *AMERICAN JOURNAL OF NEURORADIOLOGY*  
Marks, M. P., Lane, B., Steinberg, G. K., FABRIKANT, J. I., Levy, R. P., Frankel, K. A., Phillips, M. H.  
1993; 14 (2): 297-303
- **LOCALIZED HYPERTROPHIC MONONEUROPATHY OF THE TRIGEMINAL NERVE** *ARCHIVES OF PATHOLOGY & LABORATORY MEDICINE*  
Chang, Y., Horoupian, D. S., Jordan, J., Steinberg, G.

- 1993; 117 (2): 170-176
- **Transcranial Doppler: correlation of blood velocity measurement with clinical status in subarachnoid hemorrhage.** *journal of neuroscience nursing*  
Bell, T. E., LaGrange, K. M., Maier, C. M., Steinberg, G. K.  
1992; 24 (4): 215-219
  - **CLINICALLY DOCUMENTED HEMORRHAGE IN CEREBRAL ARTERIOVENOUS-MALFORMATIONS - MR CHARACTERISTICS** *RADIOLOGY*  
CHAPPELL, P. M., Steinberg, G. K., Marks, M. P.  
1992; 183 (3): 719-724
  - **EFFECTS OF HYPOTHERMIA ON EVOKED-POTENTIALS, MAGNETIC-RESONANCE-IMAGING, AND BLOOD-FLOW IN FOCAL ISCHEMIA IN RABBITS** *STROKE*  
Lo, E. H., Steinberg, G. K.  
1992; 23 (6): 889-893
  - **INTRANIDAL ANEURYSMS IN CEREBRAL ARTERIOVENOUS-MALFORMATIONS - EVALUATION AND ENDOVASCULAR TREATMENT** *RADIOLOGY*  
Marks, M. P., Lane, B., Steinberg, G. K., Snipes, G. J.  
1992; 183 (2): 355-360
  - **Stereotactic, angiography-guided clipping of a distal, mycotic intracranial aneurysm using the Cosman-Roberts-Wells system: technical note.** *Neurosurgery*  
Steinberg, G. K., GUPPY, K. H., Adler, J. R., Silverberg, G. D.  
1992; 30 (3): 408-411
  - **HIGH-DOSE SINGLE-FRACTION BRAIN IRRADIATION - MRI, CEREBRAL BLOOD-FLOW, ELECTROPHYSIOLOGICAL, AND HISTOLOGICAL STUDIES** *INTERNATIONAL JOURNAL OF RADIATION ONCOLOGY BIOLOGY PHYSICS*  
Lo, E. H., Frankel, K. A., Steinberg, G. K., DeLaPaz, R. L., FABRIKANT, J. I.  
1992; 22 (1): 47-55
  - **Charged-particle radiosurgery for intracranial vascular malformations.** *Neurosurgery clinics of North America*  
FABRIKANT, J. I., Levy, R. P., Steinberg, G. K., Phillips, M. H., Frankel, K. A., Lyman, J. T., Marks, M. P., Silverberg, G. D.  
1992; 3 (1): 99-139
  - **DEXTROMETHORPHAN ALTERS CEREBRAL BLOOD-FLOW AND PROTECTS AGAINST CEREBRAL INJURY FOLLOWING FOCAL ISCHEMIA** *NEUROSCIENCE LETTERS*  
Steinberg, G. K., Lo, E. H., Kunis, D. M., Grant, G. A., Poljak, A., Delapaz, R.  
1991; 133 (2): 225-228
  - **PROTECTION AFTER TRANSIENT FOCAL CEREBRAL-ISCHEMIA BY THE N-METHYL-D-ASPARTATE ANTAGONIST DEXTROPHAN IS DEPENDENT UPON PLASMA AND BRAIN LEVELS** *JOURNAL OF CEREBRAL BLOOD FLOW AND METABOLISM*  
Steinberg, G. K., Kunis, D., Saleh, J., Delapaz, R.  
1991; 11 (6): 1015-1024
  - **MEDULLOBLASTOMA - FREEDOM FROM RELAPSE LONGER THAN 8 YEARS - A THERAPEUTIC CURE** *JOURNAL OF NEUROSURGERY*  
BELZA, M. G., Donaldson, S. S., Steinberg, G. K., Cox, R. S., Cogen, P. H.  
1991; 75 (4): 575-582
  - **GLIOFIBROMA - CASE-REPORT** *JOURNAL OF NEUROSURGERY*  
Snipes, G. J., Steinberg, G. K., Lane, B., Horoupian, D. S.  
1991; 75 (4): 642-646
  - **EFFECTS OF NMDA AND CALCIUM-CHANNEL ANTAGONISTS ON REGIONAL CEREBRAL BLOOD-FLOW** *NEUROSCIENCE LETTERS*  
Lo, E. H., Sun, G. H., Steinberg, G. K.  
1991; 131 (1): 17-20
  - **EFFECTS OF DEXTROMETHORPHAN ON REGIONAL CEREBRAL BLOOD-FLOW IN FOCAL CEREBRAL-ISCHEMIA** *JOURNAL OF CEREBRAL BLOOD FLOW AND METABOLISM*  
Lo, E. H., Steinberg, G. K.  
1991; 11 (5): 803-809



- **VASCULAR CHARACTERISTICS OF INTRACEREBRAL ARTERIOVENOUS-MALFORMATIONS IN PATIENTS WITH CLINICAL STEAL** *AMERICAN JOURNAL OF NEURORADIOLOGY*  
Marks, M. P., Lane, B., Steinberg, G., Chang, P.  
1991; 12 (3): 489-496
- **MRI AND PET OF DELAYED HEAVY-ION RADIATION-INJURY IN THE RABBIT BRAIN** *INTERNATIONAL JOURNAL OF RADIATION ONCOLOGY BIOLOGY PHYSICS*  
Lo, E. H., DeLaPaz, R. L., Frankel, K. A., Poljak, A., Phillips, M. H., Brennan, K. M., WOODRUFF, K. H., Valk, P. E., Steinberg, G. K., FABRIKANT, J. I.  
1991; 20 (4): 689-696
- **STEREOTAXIC HELIUM ION BRAGG PEAK RADIOSURGERY FOR INTRACRANIAL ARTERIOVENOUS-MALFORMATIONS - DETAILED CLINICAL AND NEURORADIOLOGICAL OUTCOME** *HARVARD RADIOSURGERY UPDATE COURSE ON RADIOSURGERY : ENHANCEMENT OF CLINICAL EXCELLENCE*  
Steinberg, G. K., FABRIKANT, J. I., Marks, M. P., Levy, R. P., Frankel, K. A., Phillips, M. H., Shuer, L. M., Silverberg, G. D.  
KARGER.1991: 36-49
- **CLINICAL DOSE-ESCALATION SAFETY STUDY OF THE NMDA ANTAGONIST, DEXTROMETHORPHAN IN NEUROSURGICAL PATIENTS**  
STEINBERG, G. K., BELL, T.  
AMER HEART ASSOC.1991: 141
- **STEREOTAXIC HELIUM ION BRAGG PEAK RADIOSURGERY FOR ANGIOGRAPHICALLY OCCULT INTRACRANIAL VASCULAR MALFORMATIONS** *HARVARD RADIOSURGERY UPDATE COURSE ON RADIOSURGERY : ENHANCEMENT OF CLINICAL EXCELLENCE*  
Steinberg, G. K., Levy, R. P., FABRIKANT, J. I., Frankel, K. A., Phillips, M. H., Marks, M. P.  
KARGER.1991: 64-71
- **CEREBRAL SPARGANOSIS - CASE-REPORT AND REVIEW** *REVIEWS OF INFECTIOUS DISEASES*  
Holodniy, M., ALMENOFF, J., Loutit, J., Steinberg, G. K.  
1991; 13 (1): 155-159
- **ACUTE CEREBRAL-ISCHEMIA IN RABBITS - CORRELATION BETWEEN MR AND HISTOPATHOLOGY** *AMERICAN JOURNAL OF NEURORADIOLOGY*  
DeLaPaz, R. L., Shibata, D., Steinberg, G. K., Zarnegar, R., George, C.  
1991; 12 (1): 89-95
- **CEREBRAL BLOOD-VESSELS - DISCUSSION** *STROKE*  
Welch, K. M., SAPER, C. B., Koenig, H., DiRocco, R., Moskowitz, M., Dietrich, W. D., HALLENBECK, J. M., Lipton, P., Wieloch, T., Reis, D., Kraig, R. P., Caplan, L., Ackerman, et al  
1990; 21 (11): 177-178
- **MODULATORS .2. - DISCUSSION** *STROKE*  
Ginsberg, M., Simon, R., Krnjivic, K., Nowak, T. S., Bazan, N., Lipton, P., Auer, R. N., Steinberg, G. K., Wasterlain, C., DeLorenzo, R. J., Zivin, J., Grotta, J. C., Leon, et al  
1990; 21 (11): 125-126
- **OCCULT VASCULAR MALFORMATIONS OF THE OPTIC CHIASM - MAGNETIC-RESONANCE-IMAGING DIAGNOSIS AND SURGICAL LASER RESECTION** *NEUROSURGERY*  
Steinberg, G. K., Marks, M. P., Shuer, L. M., SOGG, R. L., Enzmann, D. R., Silverberg, G. D.  
1990; 27 (3): 466-470
- **HEMORRHAGE IN INTRACEREBRAL ARTERIOVENOUS-MALFORMATIONS - ANGIOGRAPHIC DETERMINANTS** *RADIOLOGY*  
Marks, M. P., Lane, B., Steinberg, G. K., Chang, P. J.  
1990; 176 (3): 807-813
- **STEREOTAXIC HEAVY-CHARGED-PARTICLE BRAGG-PEAK RADIATION FOR INTRACRANIAL ARTERIOVENOUS-MALFORMATIONS** *NEW ENGLAND JOURNAL OF MEDICINE*  
Steinberg, G. K., FABRIKANT, J. I., Marks, M. P., Levy, R. P., Frankel, K. A., Phillips, M. H., Shuer, L. M., Silverberg, G. D.  
1990; 323 (2): 96-101
- **EFFECT OF HYPERGLYCEMIA ON NEURONAL CHANGES IN A RABBIT MODEL OF FOCAL CEREBRAL-ISCHEMIA** *STROKE*  
KRAFT, S. A., Larson, C. P., Shuer, L. M., Steinberg, G. K., BENSON, G. V., Pearl, R. G.  
1990; 21 (3): 447-450

- **STEREOTACTIC HEAVY-CHARGED-PARTICLE BRAGG PEAK RADIOSURGERY FOR ANGIOGRAPHICALLY OCCULT INTRACRANIAL VASCULAR MALFORMATIONS**  
STEINBERG, G. K., LEVY, R. P., FABRIKANT, J. I., FRANKEL, K. A., PHILLIPS, M. H., MARKS, M. P.  
AMER HEART ASSOC.1990: 172
- **CEREBROVASCULAR AND METABOLIC PERTURBATIONS IN DELAYED HEAVY CHARGED-PARTICLE RADIATION-INJURY** *BRAIN RESEARCH*  
LO, E. H., FRANKEL, K. A., DELAPAZ, R. L., POLJAK, A., WOODRUFF, K. H., BRENNAN, K. M., PHILLIPS, M. H., VALK, P. E., STEINBERG, G. K., FABRIKANT, J. I.  
1989; 504 (1): 168-72
- **PRETREATMENT WITH THE NMDA ANTAGONIST DEXTROPHAN REDUCES CEREBRAL INJURY FOLLOWING TRANSIENT FOCAL ISCHEMIA IN RABBITS** *BRAIN RESEARCH*  
Steinberg, G. K., Saleh, J., Delapaz, R., Kunis, D., Zarnegar, S. R.  
1989; 497 (2): 382-386
- **CARDIORESPIRATORY ARREST FOLLOWING INITIATION OF CRANIAL IRRADIATION FOR TREATMENT OF A BRAIN-STEM TUMOR** *ANESTHESIOLOGY*  
Brose, W. G., SAMUELS, S. I., Steinberg, G. K.  
1989; 71 (3): 450-451
- **PROTECTIVE EFFECT OF N-METHYL-D-ASPARTATE ANTAGONISTS AFTER FOCAL CEREBRAL-ISCHEMIA IN RABBITS** *STROKE*  
Steinberg, G. K., Saleh, J., Kunis, D., Delapaz, R., Zarnegar, S. R.  
1989; 20 (9): 1247-1252
- **POSTERIOR-FOSSA STEREOTAXIC BIOPSY USING THE BROWN-ROBERTS-WELLS STEREOTAXIC SYSTEM - TECHNICAL NOTE** *JOURNAL OF NEUROSURGERY*  
Guthrie, B. L., Steinberg, G. K., Adler, J. R.  
1989; 70 (4): 649-652
- **HYPERGLYCEMIA DECREASES ACUTE NEURONAL ISCHEMIC CHANGES AFTER MIDDLE CEREBRAL-ARTERY OCCLUSION IN CATS** *STROKE*  
ZASSLOW, M. A., Pearl, R. G., Shuer, L. M., Steinberg, G. K., LIEBERSON, R. E., Larson, C. P.  
1989; 20 (4): 519-523
- **MAGNETIC-RESONANCE IMAGING OF VASCULAR COMPRESSION IN TRIGEMINAL NEURALGIA - CASE-REPORT** *JOURNAL OF NEUROSURGERY*  
Wong, B. Y., Steinberg, G. K., Rosen, L.  
1989; 70 (1): 132-134
- **DEXTROMETHORPHAN PROTECTS AGAINST CEREBRAL INJURY FOLLOWING TRANSIENT FOCAL ISCHEMIA IN RABBITS** *STROKE*  
Steinberg, G. K., George, C. P., Delapaz, R., Shibata, D. K., Gross, T.  
1988; 19 (9): 1112-1118
- **MR OF ACUTE CEREBRAL-ISCHEMIA - CORRELATION WITH HISTOPATHOLOGY IN THE RABBIT**  
DELAPAZ, R., SHIBATA, D., ZARNEGAR, R., STEINBERG, G.  
AMER SOC NEURORADIOLOGY.1988: 1037-38
- **THE EFFECTS OF A PROPHYLACTIC BOLUS OF LIDOCAINE IN FOCAL CEREBRAL-ISCHEMIA** *CANADIAN JOURNAL OF ANAESTHESIA-JOURNAL CANADIEN D ANESTHESIE*  
Gelb, A. W., Steinberg, G. K., Lam, A. M., Manninen, P. H., Peerless, S. J., RASSINETO, A.  
1988; 35 (5): 489-493
- **DELAYED TREATMENT WITH DEXTROMETHORPHAN AND DEXTROPHAN REDUCES CEREBRAL-DAMAGE AFTER TRANSIENT FOCAL ISCHEMIA** *NEUROSCIENCE LETTERS*  
Steinberg, G. K., Saleh, J., Kunis, D.  
1988; 89 (2): 193-197
- **DEXTROMETHORPHAN REDUCES NEOCORTICAL ISCHEMIC NEURONAL DAMAGE INVIVO** *BRAIN RESEARCH*  
George, C. P., Goldberg, M. P., Choi, D. W., Steinberg, G. K.  
1988; 440 (2): 375-379

- **REDUCTION CRANIOPLASTY AND SEVERE HYPOTENSION** *ANESTHESIOLOGY*  
Parsons, D., SAMUELS, S. I., Steinberg, G., Shuer, L.  
1988; 68 (1): 145-146
- **DEXTRMETHORPHAN PROTECTS AGAINST CEREBRAL INJURY FOLLOWING TRANSIENT FOCAL ISCHEMIA**  
STEINBERG, G. K., GEORGE, C. P., DELAPAZ, R., SHIBATA, D. K.  
AMER HEART ASSOC.1988: 146
- **PRELIMINARY-RESULTS OF HEAVY PARTICLE RADIATION FOR ARTERIOVENOUS-MALFORMATIONS OF THE BRAIN**  
STEINBERG, G. K., SILVERBERG, G. D., FABRIKANT, J. I., SHUER, L. M., FRANKEL, K. A., PHILLIPS, M. H., LEVY, R. P., MARKS, M. P.  
AMER HEART ASSOC.1988: 149
- **CORRELATION BETWEEN SOMATOSENSORY EVOKED-POTENTIALS AND NEURONAL ISCHEMIC CHANGES FOLLOWING MIDDLE CEREBRAL-ARTERY OCCLUSION** *STROKE*  
Steinberg, G. K., Gelb, A. W., Lam, A. M., Manninen, P. H., Peerless, S. J., Neto, A. R., Floyd, P.  
1986; 17 (6): 1193-1197
- **AN UNUSUAL NEOPLASM OF THE CAUDA-EQUINA WITH GANGLIOMATOUS AND EPENDYMOMATOUS ELEMENTS** *SURGICAL NEUROLOGY*  
Steinberg, G. K., ROWAN, L. M., WHITE, J. E., Kristt, D. A.  
1984; 22 (2): 164-166
- **SYMPTOMATIC RATHKE CLEFT CYSTS - REPORT OF 2 CASES** *JOURNAL OF NEUROSURGERY*  
STEINBERG, G. K., KOENIG, G. H., GOLDEN, J. B.  
1982; 56 (2): 290-95