



# Medical College of Georgia **Neuroscience Outlook**

Department of Neurosurgery Newsletter

Volume 7, Issue 1 - Summer 2010

## Inside This Issue

### Chairman's Message

### Department News

Transitions

Multidisciplinary skull base program launched

Article by faculty member is top 100 cited in the neurosurgical literature

Photograph from publication makes *Glia* cover

Two faculty members cited in *Augusta Magazine* as Best Doctors in America

Faculty member wins BBDI grant

Contributor acknowledgement

### Clinical Spotlight

Milestone in Gamma Knife radiosurgery at MCG

### Faculty Update

Accomplishments and recognition

### Residents' Corner

Accomplishments and recognition

Residency program update

### Presentations/Publications

January-June 2010

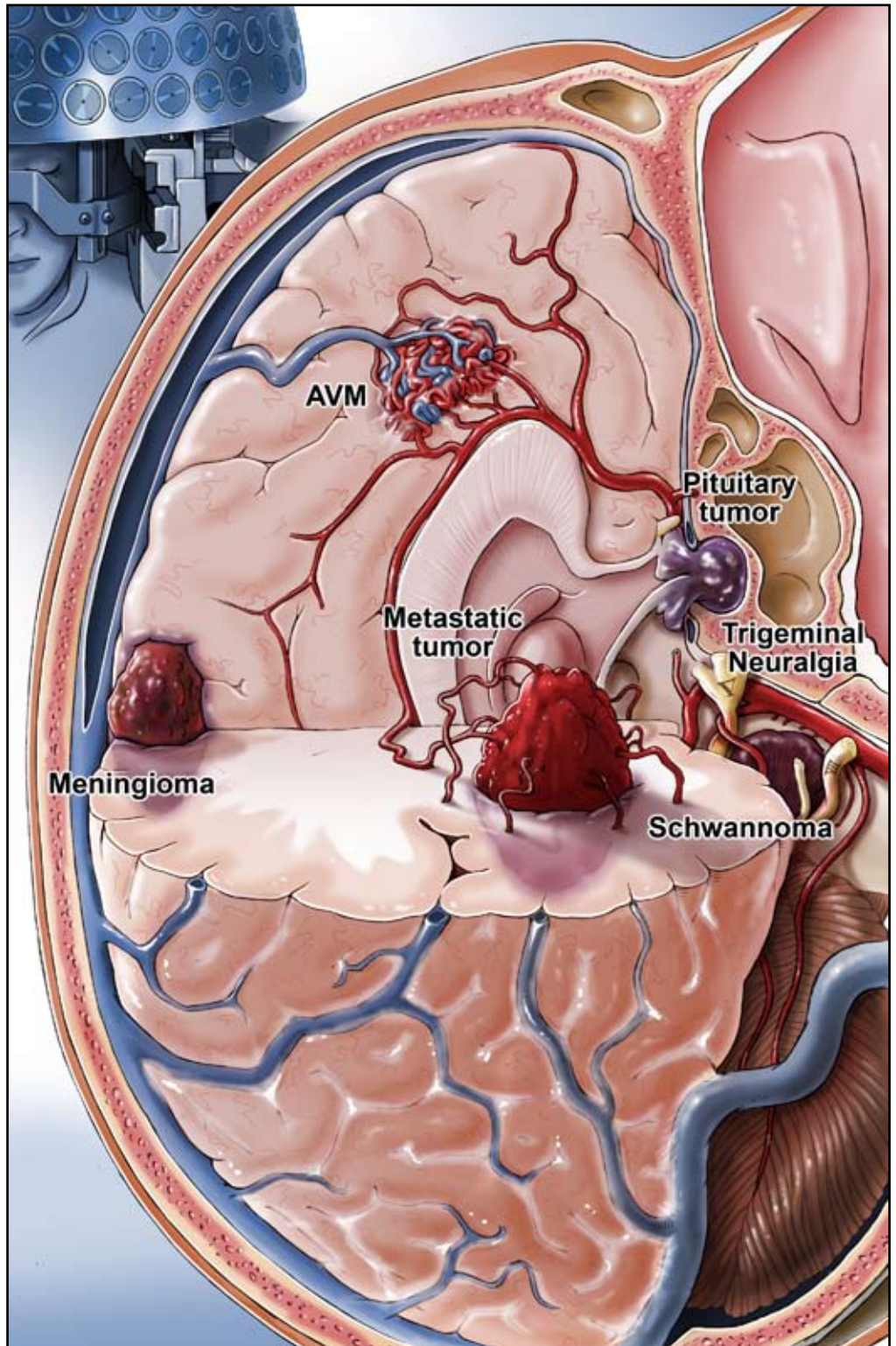
### Conference Schedule

July-December 2010

### Upcoming Meetings

July-December 2010

[www.mcg.edu/som/neurosurgery](http://www.mcg.edu/som/neurosurgery)



Clinical Spotlight: Milestone in Gamma Knife radiosurgery at MCG

## Chair's Message

We present you with the latest edition of our departmental newsletter in which an update on the state of our department is chronicled. We recently treated our 1000th patient with the Gamma knife and our clinical spotlight appropriately focuses on this technology. Consistent with our strategic expansion we welcome our most recent faculty recruit Dr. Scott Rahimi. Dr. Rahimi recently completed an endovascular/open vascular fellowship at Emory University after completing his residency here at MCG in 2008. His addition will expand our stroke service. We are also happy to report the launch of our multidisciplinary skull base tumor center co-directed by Dr. John Vender (Neurosurgery) and Dr. Arturo Solares (Otolaryngology).

We are proud of the many accomplishments of our faculty. One

publication led to an illustration on the cover of *Glia*, and another was recognized as one of the top 100 most cited neurosurgical articles in the literature. Two of our faculty members were recognized in *Augusta* magazine as Best Doctors in America. Other notable accomplishments are detailed in the Faculty update section. In this issue we also provide an update on our residency program and list our academic output. Enjoy!



**Cargill H. Alleyne, Jr., M.D.**  
Professor and Marshall Allen Distinguished Chair

## Department News

### Transitions



Scott Rahimi, M.D.

**Scott Rahimi, M.D.** joined our faculty as Assistant Professor in July bringing our total clinical complement to nine (including 2 affiliated positions at the VA). In addition we have 2 full-time Ph.D.'s in our department. Dr. Rahimi recently completed an endovascular/cerebrovascular fellowship at Emory University. He obtained a B.S. cum laude in Biochemistry from the University of Georgia in 1997, and his M.D. degree from the Medical College of Georgia in 2002. He finished his residency here at MCG in 2008. During his residency he garnered many awards including the Georgia Neurosurgical Society Resident Award in 2005, the BrainLAB Resident Program Best Resident Paper Award in 2008, and the Congress of Neurological Surgeons Resident Award also in 2008. He has published extensively and has numerous presentations to his credit.

Dr. Rahimi is an outstanding addition to our faculty and his unique expertise brings the number of dually trained neurovascular surgeons to two. He will work closely with Dr. Cargill Alleyne, Director of the Cerebrovascular program, to expand the stroke service.

### Multidisciplinary skull base program launched

The MCG Center for Skull Base Surgery was launched this year. Although cranial base surgery has always been performed at MCG, this initiative represents a new direction in facilitating and enhancing the care of patients with problems arising from the cranial base such as inflammatory disease, congenital malformations, benign and malignant neoplasms, traumatic injuries, and vascular lesions. The center has an emphasis on minimally invasive techniques such as endoscopic and endoscope-assisted approaches which have revolutionized this field. For example, the endonasal route is well suited to diverse patient populations, including pediatric patients, and offers improved access, superior visualization, decreased morbidity, shorter hospitalization, and cost-savings with equivalent or improved outcomes. This multidisciplinary center includes input from neurosurgery, otolaryngology, head and neck surgery, interventional neuroradiology, radiation oncology, and reconstructive plastic surgery. It is co-directed by **John Vender, M.D.** (Neurosurgery) and **C. Arturo Solares, M.D.** (Otolaryngology). Dr. Solares is a new recruit who completed his medical training at the Cleveland Clinic and his fellowship at the University of Pittsburgh.

To learn more about our center please visit our website at:  
[www.mcg.edu/som/neurosurgery/SkullBase](http://www.mcg.edu/som/neurosurgery/SkullBase)

### Article by faculty member is top 100 cited in the neurosurgical literature

A recent publication assessed the most frequently cited neurosurgical articles published in the literature (Ponce FA, Lozano AM: *Highly cited works in neurosurgery. Part I: the 100 top-cited papers in neurosurgical journals.* J Neurosurg 112:223-232, 2010). An article first authored by **Cole A. Giller, M.D., Ph.D., M.B.A.** made the list at number 88 with 302 citations. The article is "Giller CA, Bowman G, Dyer H, Mootz L, Krippner W: Cerebral arterial diameters during changes in blood pressure and CO2 during craniotomy. Neurosurgery 32:737-742, 1993"

### Photograph from publication makes *Glia* cover

One of the photographs from a recent publication by **Sergei Kirov, Ph.D.** (Witcher MR, Park YD, Lee MR, Sharma S, Harris KM, Kirov SA: Three-dimensional relationships between perisynaptic astroglia and human hippocampal synapses. *Glia* 58: 572-587 [Epub ahead of print; (2009) Nov 11], 2010) was selected for the cover of *Glia* (see pg.7).

### Two faculty members cited in *Augusta Magazine* as Best Docs

**Cargill H. Alleyne, Jr., M.D.** and **Cole A. Giller, M.D., Ph.D., M.B.A.** were cited in the June/July issue of *Augusta* magazine as two of the Best Doctors in America. Both surgeons have been previously honored with this citation.

### Faculty member wins BBDI grant

**John Vender, M.D.** was awarded a Brain and Behavior Discovery Institute grant for the proposal "Interleukin-1b (IL-1b) levels in cerebrospinal fluid as a novel diagnostic and prognostic marker of traumatic brain injury". The BBDI is of one of several Discovery Institutes conceived by Dean Douglas Miller to enhance collaboration between basic scientists and clinicians. Two additional members of our faculty (Drs. Dhandapani and Alleyne) won this grant last year.

### Contributor acknowledgement

We thank the **A.R. Staulcup Foundation** for their generous donation of funds to brain tumor research in our department. Their consistent support of our department is truly appreciated.

We also thank **Ms. Drena Brown** for her donation to the Children's Medical Network in honor of Dr. Cargill Alleyne.

## Clinical Spotlight

### Milestone in Gamma Knife radiosurgery at MCG

The Southeast Gamma Knife Center recently achieved a major clinical milestone when Ms. Ellen Walker, a 78-year old Georgian with refractory trigeminal neuralgia, became the 1000th patient to undergo stereotactic radiosurgery therapy at the Medical College of Georgia. This exciting event was the culmination of an almost ten-year history of the center. The Gamma Knife was initially installed on the first floor of the Medical College of Georgia Hospital and Clinics in the Southeast Gamma Knife suite in early 2000. The first patient was treated on May 30th, 2000. Since that time the unit has treated approximately 100 patients per year for a variety of disorders. The unit was offline for several months during a radioactive source reload



(left to right) Rebecca Cantrell, Ms. Ellen Walker, Dr. John Venter

**Metastatic and benign tumors were successfully controlled in 90% of cases.**

in mid 2007. Although many of the patients are from the surrounding counties, all of the Southern states, as well as nearly every county in Georgia, are represented among our patients. The unit remains the only Gamma Knife in eastern Georgia and the only Gamma Knife in the state affiliated with a pediatric hospital. This capability to offer stereotactic radiosurgery conveniently to pediatric patients has always been a key focus of the Center. The Southeast Gamma Knife Center also works in affiliation with the Augusta Veterans Administration Medical Center. The open staffing configuration provides access to the Gamma Knife for the academic Medical College of Georgia faculty as well as for the VA and community treating physicians.

A wide variety of conditions have been evaluated and treated in children and adults at the center, with low morbidity rates. In children, craniopharyngiomas followed by primary glial tumors have been consistently the most commonly treated. Pediatric patients represent approximately 5-7% of all patients treated. Although pediatric indications have remained stable, there has been a subtle evolution in treatment diagnoses among the adult patients over the 10 year history of the Southeast Gamma Knife center. There has been a steady increase in the percentage of patients with metastatic tumors and trigeminal neuralgia. Historically, benign and malignant tumors were the problems most commonly treated. Currently, benign tumors, metastatic tumors, and trigeminal neuralgia each represent approximately 30% of the lesions treated due predominantly to this increase in our metastatic

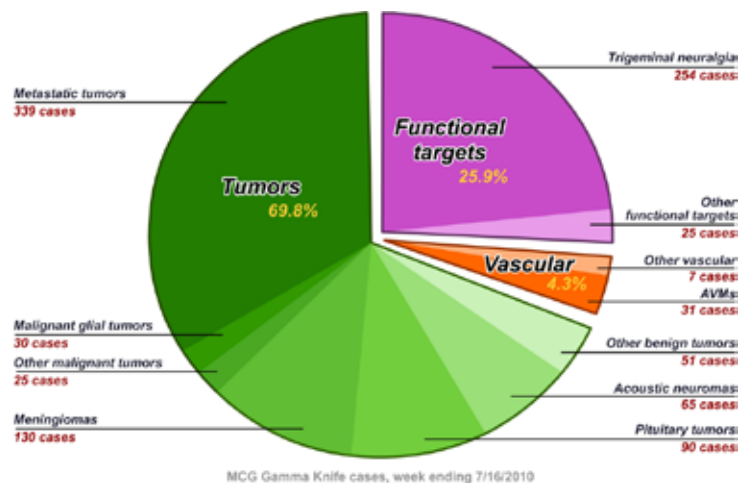
tumor and trigeminal neuralgia populations. Meningiomas consistently represent half of the benign tumor group, with pituitary adenomas and vestibular schwannomas nearly equally representing most of the remainder. Less common neoplasms such as adult craniopharyngiomas and benign lesions arising from the sinuses and skull base have also been successfully managed. Metastatic and benign tumors were successfully controlled in 90% of cases.

The global treatment of facial pain remains another major focus within our facility. Approximately 90% of patients undergoing radiosurgery for facial pain had classic trigeminal neuralgia. Responses were seen on average two to four weeks after treatment with over 90% of patients improving. Patients with a history of prior surgical procedures had a slightly lower success rate of 85%. Ongoing benefit is seen in almost 80% of patients at two years without prior surgical treatment and over 60% in patients with prior surgical treatment. The remaining cases of trigeminal neuropathy were predominantly related to post-herpetic and post-traumatic etiologies. Very few patients with multiple sclerosis

(MS) were included in this category due to the absence of any radiographic evidence of abnormality within the trigeminal nerve and its associated structures. Most MS patients undergoing radiosurgery were thus considered to have classic trigeminal neuralgia. Treatment responses were seen in a similar time frame in over 70% of patients. This is an exciting observation since historically these patients were not expected to respond as frequently as noted. Side effects and complications were rarely reported with the exception of

facial anesthesia in approximately 16%. Overall, no dosimetry or targeting errors have been identified. Documented cases of radiation necrosis were reported in less than 1% of patients, typically with larger malignant targets.

Gamma knife radiosurgery has its origins in the 1950s, when Swedish professors Lars Leksell (the Karolinska Institute), and Borje Larsson (Gustaf Werner Institute, University of Uppsala in Stockholm, Sweden) began to investigate combining proton beams with stereotactic (guiding) devices capable of pinpointing targets within



## Clinical Spotlight *(continued)*

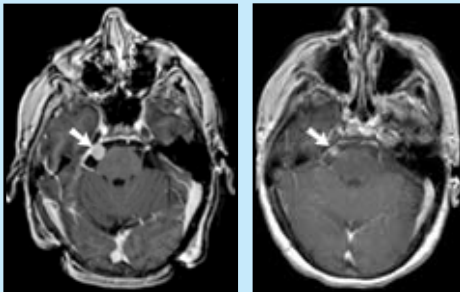
the brain. This approach was eventually abandoned because it was complex and costly. Instead, in 1967, the researchers arranged for construction of the first Gamma Knife device using cobalt-60 as the energy source. Leksell termed this new surgical technique "stereotactic radiosurgery." The prototype unit, used for 12 years in Sweden, was specifically designed for functional neurosurgical disorders, such as pain, movement disorders, and emotional disorders that were not responsive to conventional psychiatric treatment. Realizing the potential of stereotactic radiosurgery for treating other pathologies such as vascular malformations and brain tumors, Professor Leksell and his colleagues built a second Gamma Knife in 1975. It was installed at the Karolinska Institute and became an integral part of the neurosurgical service there. The third and fourth units, built in the early 1980s, were installed in Buenos Aires, Argentina, and Sheffield, England. Presently there are over 270 units world-wide which treat over 50,000 patients per year. Over 500,000 patients have received Gamma knife radiosurgical treatment. There are over 3,000 peer-reviewed articles reviewing the treatment, indications, and outcomes. This makes the Gamma knife the best studied and most widely used tool for delivering stereotactic radiosurgery.

Plans are underway for an upgrade to the current Gamma Knife suite in 2011. A Perfexion Model Gamma Knife unit will replace the current Gamma Knife. The Perfexion will dramatically increase our capabilities by broadening the anatomical range and scope of treatments we can provide. Lesions in the skull base, paranasal sinuses, orbits, larynx, upper cervical spine and paraspinal tissues not reachable with traditional Gamma Knife technology, can be treated. In addition, the Perfexion can deliver fractionated radiosurgery which can expand treatment options for certain lesions. This added capability will integrate clinically with the rapidly growing head and neck surgery program in the Department of Otolaryngology, the Medical College of Georgia Cancer Center, and the newly launched MCG Center for Skull Base Surgery. The faster set up and treatment capability of the new unit will decrease treatment times and further enhance patient comfort.

The SE Gamma Knife Center is fully integrated into our practice such that patients who are considered for surgery are also considered for radiosurgery and observation. The converse is also true. For referrals to the Southeast Gamma Knife Center, please call:

**706-721-8945.**

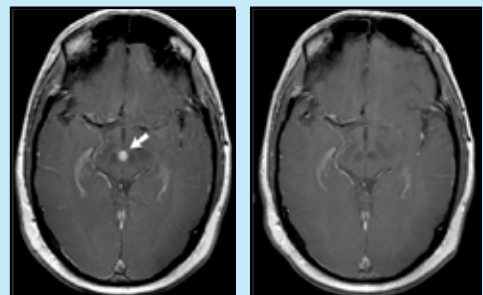
**Case 1:** A 68-year-old woman with headaches and dizziness was found to have an incidental right cerebellopontine angle meningioma. She was treated with 15 Gy to the 40% isodose line using one shot with the 8mm collimator. Yearly follow-up MRIs showed decrease in the lesion size.



Contrast MRI scan (axial view) shows small cerebellopontine angle tumor

Two-year follow-up MRI shows decrease in lesion size

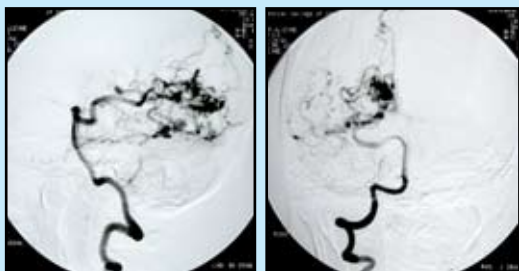
**Case 2:** A 45-year-old man with metastatic melanoma presented with headaches. 5-month post-treatment MRI reveals complete radiographic resolution of the third ventricular lesion.



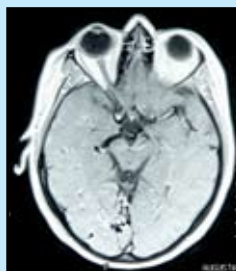
Contrast MRI (axial view) of the head shows a small enhancing lesion in the vicinity of the third ventricle

Post-treatment MRI shows no evidence of the lesion

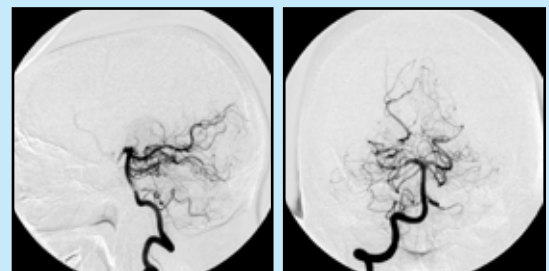
**Case 3:** A 47-year-old woman who presented with migraine headaches and was found to have a right parieto-occipital AVM. She was treated with 20 Gy to the 60% isodose line using one shot with the 18-mm collimator. A three-year follow-up angiogram shows complete resolution of the lesion.



AP & lateral angiograms (right vertebral injection) show an AVM



Axial MRI of the brain shows a right parieto-occipital AVM



Three-year post-treatment angiogram shows no evidence of the AVM

**John R. Vender, M.D., Director, Southeast Gamma Knife Center**

The Southeast Gamma Knife Center at MCG consists of John Vender, M.D., Cole Giller, M.D., Ph.D., M.B.A., F.A.C.S., Cargill Alleyne, Jr., M.D., Chris Shields, M.D. (Radiation Oncologist), Rebecca Cantrell, M.S. (Medical Physicist) and Sharon Owens, R.N., B.S.N. (Gamma Knife Nurse)

## Faculty update

### Accomplishments and recognition



Krishnan Dhandapani, Ph.D.

**Krishnan M. Dhandapani, Ph.D.** was an ad hoc reviewer for the Veterans Administration NURC R Special Emphasis Study Panel. He was also co-chair of the Defense Medical Research and Development Program (DMRDP) – Diagnosis and Treatment of Brain Injury (D-TBI) Study Panel in February. In addition he was an ad hoc grant reviewer for the Swiss National Science Foundation.



John Vender, M.D.

**John R. Vender, M.D.** was an ad hoc reviewer for the Defense Medical Research and Development Program (DMRDP) – Diagnosis and Treatment of Brain Injury (D-TBI) Study Panel in February. As mentioned in the Departmental News section he was also awarded a Brain and Behavior Discovery Institute (BBDI) grant for the proposal “Interleukin-1b (IL-1b) levels in cerebrospinal fluid as a novel diagnostic and prognostic marker of traumatic brain injury.



Cole Giller, M.D.

**Cole A. Giller, M.D., Ph.D., M.B.A.** was mentioned in the June/July issue of Augusta magazine as one of the Best Doctors in America. He was also a reviewer for the NIH study group (ZRG1-ETTN-K(10)), Emerging Technologies and Training in Neurosciences (ETTN) Small Business Innovation Research (SBIR) Study Section Meeting (ETTN-K 10). As mentioned in the Departmental News section, one of his papers was listed as one of the top 100 cited papers in neurosurgical journals.

**Sergei A. Kirov, Ph.D.** gave Distinguished Seminars in Neuroscience at University of Copenhagen in Denmark and at Charite University Hospital in Berlin, Germany respectively, in April 2010. The former presentation was “Two-photon microscopy: real-time imaging of single neurons and glia deep in cortex during ischemia and osmotic stress” and the latter was “Two-photon microscopy: real-time imaging of single neurons and glia deep in cortex during ischemia”. Dr. Kirov was the sponsor of the NIH NRSA application for Individual Predoctoral Fellowship (F31NS064753). His fellow was W.C. Risher and the project “Neuronal and astroglial injury and recovery from stroke-induced depolarizations”, National Institute of Neurological Disorders and Stroke, scored in the top 5 percent. He was also assigned to the National Institutes of Health Special Emphasis Panel on “Cellular and Developmental Neuroscience” (2010/05 ZRG1 MDCN-P(02) M) in March. In addition, as mentioned in the Department News section, one of his articles made the cover of *Glia*.



Sergei Kirov, Ph.D.

**Cargill H. Alleyne, Jr., M.D.** was mentioned in the June/July issue of Augusta magazine as one of the Best Doctors in America. He was elected as the Secretary/Treasurer of the Georgia Neurosurgical Society at its Spring meeting in Amelia Island, Florida. He also passed the American Board of Neurological Surgery Maintenance of Certification examination in March.



Cargill Alleyne, Jr., M.D.

**Michael A. Jensen, M.S.**, passed the portfolio section of the Certified Medical Illustrator board exam in February, completing the final requirement to earning his board certification. Subsequently, he was also elected to the Board of CMI. Congratulations, Mike!



Michael Jensen, M.S., C.M.I.

## Residents' corner

### Accomplishments and recognition



(left to right) Dion Macomson, M.D., Hamid Shah, M.D., and Cargill Alleyne, M.D.



Dr. Shah shares a laugh with colleagues



Patrick Youssef, M.D.

**Hamid M. Shah, M.D.** was honored at our annual resident graduation ceremony in June. Dr. Shah is currently completing a one-year spine fellowship with Dr. Kevin Foley in the Department of Neurosurgery at the University of Tennessee. We wish him all the best

as he embarks on his independent practice of neurosurgery.

**Patrick Youssef, M.D.** (PGY-5) passed the written portion of the neurosurgical board examinations in March. Congratulations!

## Residents' corner (continued)

### Residency program update



June Yowtak, M.D., Ph.D.

This summer we welcomed two new PGY-1 residents into our residency. **June Yowtak, M.D., Ph.D.** graduated from the University of Texas Medical Branch at Galveston. Her Ph.D. is in Neuroscience and her dissertation focused on the role of oxidative stress in the development of neuropathic pain, particularly looking at its effects on the GABA system in the spinal cord.

**Angela Viers-Costello, M.D.** was hired

from the Navy outside of the match. She graduated AOA from the Uniformed Services University of the Health Sciences F. Edward Hebert School of Medicine and completed an internship at Bethesda Naval hospital. She recently completed an assignment as Senior Medical Officer, Marine Airwing Logistical Support 36, in Futenma, (Okinawa) Japan.

We welcome them both as they begin their neurosurgical training.



Angela Viers-Costello, M.D.

## Presentations and Publications (January 2010 - June 2010)

### Presentations

**Vender JR:** *Applying for a neurosurgical residency.* Residency Advisory Seminar, MCG School of Medicine, Augusta, GA, January 2010

**Choudhri HF:** *Disc Replacement Surgery: Is it Prime Time?* American Society of Spine Radiology Meeting, Las Vegas, NV, February 2010

**Choudhri HF:** *Surgical Considerations in Patients with Degenerative Spine Disease.* American Society of Spine Radiology Meeting, Las Vegas, NV, February 2010

**Vender JR:** *Vestibular schwannoma.* Masters of Otolaryngology Symposium: Temporal bone dissection and Otology Update, Medical College of Georgia, Augusta, GA, February 2010

**Vender JR:** *Common neurological tumors.* Clinical Medicine Lecture Series, Physician Assistant training Program, Medical College of Georgia, Augusta, GA, February 2010

**Kirov SA, Risher WC, Ard D:** *Peri-infarct depolarizations are the predominant cause of acute injury to dendrites and spines in the ischemic penumbra.* Structural Plasticity in the Mammalian Brain. Janelia Farm, Ashburn, VA, March 2010.

**Kirov SA, Risher WC, Ard D, Yuan J:** *Two-photon imaging reveals astroglial injury alongside neuronal damage during stroke-induced ischemic depolarizations.* Joint South East Nerve Net and GA/SC Neuroscience Consortium Conference, Atlanta, GA, March 2010

**Alleyne CH:** *Ruptured and unruptured aneurysms: How to diagnose and who to treat.* Comprehensive Stroke Management Update. Hilton Head, SC, April 2010

**Alleyne CH:** *Introduction to Neurosurgery.* Surgery 5000 lecture series, Medical College of Georgia, Augusta, GA, April 2010

**Rahimi SR:** *Carotid artery disease: Diagnosis and Treatment.* Emory Stroke Conference. Emory University, Atlanta, GA, April 2010

**Kirov SA:** *Two-photon microscopy: real-time imaging of single neurons and glia deep in cortex during ischemia.* Neuroscience Seminar Series. Charite University Hospital, Berlin, Germany, April 2010

**Kirov SA:** *Two-photon microscopy: real-time imaging of single neurons and glia deep in cortex during ischemia and osmotic stress.* Distinguished Seminars in Neuroscience and Pharmacology. University of Copenhagen, Copenhagen, Denmark, April 2010

**Alleyne CH:** *Ruptured and unruptured aneurysms: How to diagnose and who to treat.* Family Practice Grand Rounds. Medical College of Georgia, Augusta, GA, May 2010

**Alleyne CH, King MD, McCracken J, Dhandapani KM:** *Curcumin attenuates blood-brain barrier opening and vasogenic edema following intracerebral hemorrhage in mice.* American Association of Neurological Surgeons Meeting, Philadelphia, PA, May 2010

**Alleyne CH, Hughes D:** *Massive cervical arteriovenous fistula treated with multistaged endovascular technique.* Georgia Neurosurgical Society Meeting, Amelia Island, FL, May 2010

**Giller CA:** *Identification of Gamma Knife strategies by calculation of Pareto dominant plans using genetic algorithms.* 15th International Meeting of the Leksell Gamma Knife Society, Athens, Greece, May 2010

**Hughes D, Floyd, D:** *Pontine venous angioma associated with trigeminal neuralgia.* Georgia Neurosurgical Society Meeting, Amelia Island, FL, May 2010

**Wang DC, Jensen MA, Shakir B, Shellito K, Choudhri HF:** *Use of morselized autograft for fusion after anterior cervical decompression.* Georgia Neurosurgical Society Meeting, Amelia Island, FL, May 2010

**Kirov SA, Masuda T, Hida H:** *In vivo imaging of microglial process dynamics in ischemic stroke models.* The 87th Annual Meeting of

## Presentations and Publications (continued)

### Presentations

the Physiological Society of Japan, Iwate, Japan, May 2010.

**Choudhri HF:** *Surgical evaluation and management of back pain.* Internal Medicine, Recent Advances, Kiawah Island SC, June 2010

**Kimble DE, Dhandapani KM.** *Brilliant blue G (BBG), a P2X7 antagonist, reduced cerebral edema following controlled cortical impact in mice.* National Neurotrauma Society Annual Meeting, Las Vegas, NV, June 2010

**Laird MD, Dhandapani KM:** *Toll-like receptor-4 inhibition reduces cerebral edema and improves neurological outcomes after traumatic brain injury in mice.* National Neurotrauma Society Annual Meeting, Las Vegas, NV, June 2010

**Vender JR:** *Update on neuromodulation: Stims and Pumps.* Georgia Association of Case Managers, Augusta, GA, June 2010

### Publications

**Laird MD, Sukumari-Ramesh S, Swift AE, Meiler SE, Vender JR, Dhandapani KM:** *Curcumin attenuates cerebral edema following traumatic brain injury in mice via a reduction in aquaporin-4 expression.* J Neurochem 113: 637-648, 2010

**King MD, Laird MD, Ramesh SS, Youssef P, Shakir B, Vender JR, Alleyne CH, Dhandapani KM:** *Elucidating novel mechanisms of brain injury following subarachnoid hemorrhage: an emerging role for neuroproteomics.* Neurosurg Focus 28(1):E10, 2010

**Alleyne CH:** *Editorial: Aneurysmal subarachnoid hemorrhage: Have outcomes really improved?* Neurology 74:1486-1487, 2010

**Choudhri HF:** *Transthoracic thoracotomy,* in: Connolly ES, Fundamentals of Operative Techniques in Neurosurgery. Second edition. New York, Thieme Medical Publishers, Inc., 2009, pp 457-460

**Choudhri HF, Choudhri AF & Choudhri TF:** *Surgical management of postoperative spinal infections,* in: Connolly ES, Fundamentals of Operative Techniques in Neurosurgery. Second edition. New York, Thieme Medical Publishers, Inc., 2009, pp 610-612

**Choudhri HF:** *Posterior thoracic/thoracolumbar instrumentation,* in: Connolly ES, Fundamentals of Operative Techniques in Neurosurgery. Second edition. New York, Thieme Medical Publishers, Inc., 2009, pp 495-497

**Choudhri HF:** *Anterior thoracic/thoracolumbar stabilization,* in: Connolly ES, Fundamentals of Operative Techniques in Neurosurgery. Second edition. New York, Thieme Medical Publishers, Inc., 2009, pp 464-467

**Choudhri HF:** *Anterior thoracic/thoracolumbar decompression,* in: Connolly ES, Fundamentals of Operative Techniques in Neurosurgery. Second edition. New York, Thieme Medical Publishers, Inc., 2009, pp 461-463

**Choudhri HF, Choudhri AF, Choudhri TF:** *Surgical management of primary spinal infections: Osteomyelitis, discitis, and epidural*

*abscess,* in: Connolly ES, Fundamentals of Operative Techniques in Neurosurgery. Second edition. New York, Thieme Medical Publishers, Inc., 2009, pp 613-616

**Choudhri HF:** *Retropharyngeal approach,* in: Connolly ES, Fundamentals of Operative Techniques in Neurosurgery. Second edition. New York, Thieme Medical Publishers, Inc., 2009, pp 393-395

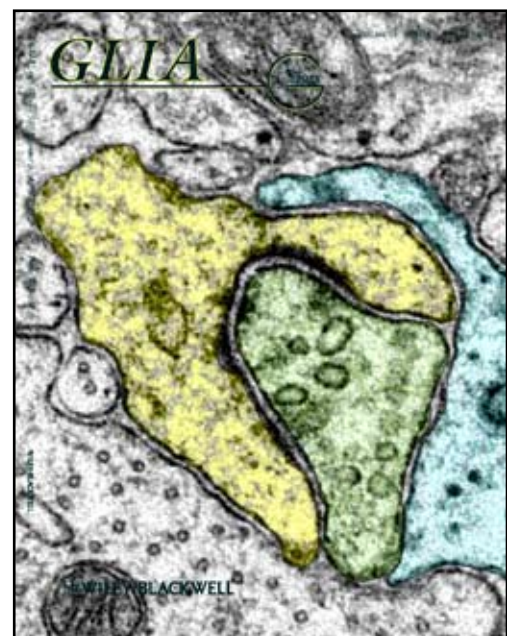
**Choudhri HF:** *Anterior cervicothoracic junction approach,* in: Connolly ES, Fundamentals of Operative Techniques in Neurosurgery. Second edition. New York, Thieme Medical Publishers, Inc., 2009, pp 428-431

**Choudhri HF:** *Odontoid screw placement,* in: Connolly ES, Fundamentals of Operative Techniques in Neurosurgery. Second edition. New York, Thieme Medical Publishers, Inc., 2009, pp 395-398

**Choudhri HF:** *Surgical evaluation and management of neck pain.* Internal Medicine, Recent Advances, Kiawah Island, SC, June 2010

**Laird MD, Wakade C, Sangeetha SR, Vender JR, Dhandapani KM:** *Curcumin attenuates cerebral edema following traumatic brain injury in mice via a reduction in aquaporin-4.* Journal of Neurochemistry 113(3):637-48, 2010

**Wakade M, Dhandapani K, Vender JR:** *Delayed reduction in hippocampal post synaptic density protein-95 expression temporally correlates with cognitive dysfunction following controlled cortical impact in mice.* Journal of Neurosurgery [Epub ahead of print, April 16, 2010]



Cover of issue of Glia, (Witcher MR, Park YD, Lee MR, Sharma S, Harris KM, Kirov SA: Three-dimensional relationships between perisynaptic astroglia and human hippocampal synapses. Glia 58: 572-587 [Epub ahead of print; (2009) Nov 11], 2010)



Department of Neurosurgery  
 Medical College of Georgia  
 1120 15th Street  
 Augusta, GA 30912  
 706-721-3071

# Neuroscience Outlook

To learn more about the MCG Department of Neurosurgery, please visit:  
[www.mcg.edu/som/neurosurgery](http://www.mcg.edu/som/neurosurgery)

## Conference Schedule (July 2010 - December 2010)

All grand rounds and conferences take place on Friday in the 3 West amphitheater.

Aug 06	9:00 - 10:00 10:00 - 11:00 11:00 - 12:00 12:00 - 1:00	Radiology Anatomy Spine Conference Case Conference	Sep 24	9:00 - 10:00 10:00 - 11:00 11:00 - 12:00 12:00 - 1:00	Journal Club Board Review Cerebrovascular Conference M&M	Nov 12	9:00 - 10:00 10:00 - 11:00 11:00 - 12:00 12:00 - 1:00	Board Review Gamma Knife Spine Conference Case Conference
Aug 13	9:00 - 10:00 10:00 - 11:00 11:00 - 12:00 12:00 - 1:00	Board Review Gamma Knife GUEST LECTURE Case Conference	Oct 01	9:00 - 10:00 10:00 - 11:00 11:00 - 12:00 12:00 - 1:00	Radiology Anatomy GUEST LECTURE Case Conference	Nov 19	9:00 - 10:00 10:00 - 11:00 11:00 - 12:00 12:00 - 1:00	Anatomy Business of Healthcare Neuro 101: Dr. Neil Woodall Back Pain Case Conference
Aug 20	9:00 - 10:00 10:00 - 11:00 11:00 - 12:00 12:00 - 1:00	Anatomy Business of Healthcare Neuro 101: Dr. Douglas Hughes Pulmonary Case Conference	Oct 08	9:00 - 10:00 10:00 - 11:00 11:00 - 12:00 12:00 - 1:00	Board Review Gamma Knife Spine Conference Case Conference	Nov 26	THANKSGIVING HOLIDAY	
Aug 27	9:00 - 10:00 10:00 - 11:00 11:00 - 12:00 12:00 - 1:00	Journal Club Board Review Cerebrovascular Conference M&M	Oct 15	9:00 - 10:00 10:00 - 11:00 11:00 - 12:00 12:00 - 1:00	Anatomy Business of Healthcare Neuro 101: Dr. Basheer Shakir Pediatric Brain Tumors Case Conference	Dec 03	9:00 - 10:00 10:00 - 11:00 11:00 - 12:00 12:00 - 1:00	Radiology Anatomy GUEST LECTURE Case Conference
Sep 03	9:00 - 10:00 10:00 - 11:00 11:00 - 12:00 12:00 - 1:00	Radiology Anatomy GUEST LECTURE Case Conference	Oct 22	9:00 - 10:00 10:00 - 11:00 11:00 - 12:00 12:00 - 1:00	Journal Club Board Review Cerebrovascular Conference M&M	Dec 10	9:00 - 10:00 10:00 - 11:00 11:00 - 12:00 12:00 - 1:00	Board Review Gamma Knife Spine Conference Case Conference
Sep 10	9:00 - 10:00 10:00 - 11:00 11:00 - 12:00 12:00 - 1:00	Board Review Gamma Knife Spine Conference Case Conference	Oct 29	NO CONFERENCE		Dec 17	9:00 - 10:00 10:00 - 11:00 11:00 - 12:00 12:00 - 1:00	Anatomy Business of Healthcare Neuro 101: Dr. Dion Macomson Hydrocephalus Case Conference
Sep 17	9:00 - 10:00 10:00 - 11:00 11:00 - 12:00 12:00 - 1:00	Anatomy Business of Healthcare Neuro 101: Dr. David Wang C1/C2 Trauma Case Conference	Nov 05	9:00 - 10:00 10:00 - 11:00 11:00 - 12:00 12:00 - 1:00	Radiology Anatomy GUEST LECTURE Case Conference	Dec 24	CHRISTMAS EVE	
						Dec 31	NEW YEAR'S EVE	

## Upcoming Meetings (July 2010 - December 2010)

### Society of Neuro-Interventional Surgery Meeting

7/26-29, Carlsbad, CA

### North American Spine Society

10/05-10, Orlando, FL

### Congress of Neurological Surgeons

10/16-21, San Francisco, CA

### Research Update in Neuroscience for Neurosurgeons

10/23-30, Woods Hole, MA

### American Board of Neurological Surgery (Orals)

11/9-11, Houston, TX

### Georgia Neurosurgical Society

11/19-20, Atlanta, GA

### AANS/CNS Section on Pediatric Neurological Surgery

11/30-12/3, Cleveland, OH

## Credits

Editor-in-chief: **Cargill H. Alleyne, Jr., M.D.**

Illustration, design and layout: **Michael A. Jensen, M.S., C.M.I.**

Contributing authors: **John R. Vender, M.D., Cargill H. Alleyne, Jr., M.D., Cole A. Giller, M.D.**

**MCGHealth**  
 Neuroscience Center

For information or inquiries:

please call  
**(706) 721-3071**

or e-mail Christopher Bonham  
**[cbonham@mcg.edu](mailto:cbonham@mcg.edu)**

[www.mcg.edu/som/neurosurgery](http://www.mcg.edu/som/neurosurgery)



This issue's cover illustration depicts the 6 most common pathologies treated by the Gamma Knife. See the article, "Milestone for Gamma Knife radiosurgery at MCG", by John R. Vender, M.D. on page 3. The illustration is by Michael A. Jensen, M.S., C.M.I., departmental illustrator.