Greetings and best wishes for the new academic year!

I am pleased to welcome our new faculty member, Joshua Osbun, M.D., to the department. Dr. Osbun attended Texas A&M University prior to obtaining his M.D. degree at The University of Texas Southwestern. He subsequently completed his residency training in neurological surgery at The University of Washington, which was followed by a fellowship at Emory University in cerebrovascular surgery and interventional neuroradiology. I am very excited that we have recruited Dr. Osbun to Washington University and believe he will be a wonderful addition to our faculty.

I also want to extend a warm welcome to our new fellows and interns. You follow in the footsteps of giants, including Dr. Albert L. Rhoton, Jr., Dr. Sidney Goldring, Dr. Henry Schwartz, and others. We have high expectations of all of you and have confidence that you will achieve and surpass them.

Ralph G. Dacey Jr., M.D.
Henry G. & Edith R. Schwartz Professor
and Chairman of Neurological Surgery

David Limbrick Named Division Chief of Pediatric Neurosurgery

David D. Limbrick Jr., M.D., Ph.D., assumed the role of Chief of Pediatric Neurosurgery at Washington University School of Medicine in St. Louis and Neurosurgeon-in-Chief at St. Louis Children’s Hospital in May 2016.

Dr. Limbrick completed his neurosurgery residency and pediatric neurosurgery fellowship at Washington University. After completing his fellowship in 2008, he joined the department as an assistant professor. He has been very active in the department, serving as associate director of the neurosurgery residency program, the co-director of the pediatric neurosurgery fellowship and co-director of the pediatric neuro-oncology program at Washington University School of Medicine.

Most recently Dr. Limbrick was awarded a multi-year Patient-Centered Outcomes Research Institute (PCORI) grant for a 47-center randomized controlled trial comparing the two most common neurosurgical treatments for Chiari type I malformation with syringomyelia. Dr. Limbrick is also the principal investigator and associate director of the Park/Reeves Center for Syringomyelia Research and is the Washington University principal investigator for the Hydrocephalus Clinical Research Network (HCRN).
A Neurosurgeon’s Nightmare: Essential Tremor

By Eric W. Sherburn, M.D.
Excerpted from AANS Neurosurgeon: Volume 25, Number 1, 2016

I never dreamed that I would be forced to stop operating during my career as a neurosurgeon, especially at 49 years of age; however, it happened.

I started my freshman year at the University of Oklahoma as a pre-med student and graduated with a Bachelor of Science in Zoology and a Bachelor of Arts in Philosophy. Luckily, by adding a second major, I spent another year in college, and the summer before my super-senior year, I met my future wife. Ironically, and in retrospect, I also remember that’s when my tremors began. At that time, I only seemed to have it while nervous, so I didn’t think much about it.

After graduation, I started medical school at the University of Oklahoma. I remember when I tried to draw blood from one of my classmates for the first time, it was an epic fail due to my hands shaking. Again, it only occurred if I was nervous or anxious. Once I became comfortable in the operating room and doing various other procedures (central lines, suturing), I had no issues with the tremors. During the spring of my third year, I was allowed to take my surgical elective, and I chose neurosurgery, mostly because I had done general surgery and I was not interested in orthopaedics. I knew nothing about neurosurgery and had never seen a craniotomy or a spine operation.

I was assigned to a group of three private practice neurosurgeons and reported to the operating room where the surgeon was getting ready to start a craniotomy for a resection of a large convexity meningioma. I assisted him as directed, and I watched him turn the bone flap (which was cool), then open the dura, which was way cool. I then watched him resect the tumor, and all I could think was this poor patient is going to be maimed if they even survive.

After the resection, we closed, and I continued to think about was how doomed this patient was. Shortly after taking the patient out of the head holder, the anesthesiologist extubated her and she immediately began talking — I was hooked.

Blurry Internship and Residency Years
I spent the rest of the month with that group and loved all aspects of neurosurgery. At the advice of one of my professors, I went to Washington University in St. Louis for a month-long rotation at the beginning of my fourth year. That rotation was the best experience I had in medical school. At the recommendation of Ralph G. Dacey, Jr., M.D., F.A.A.N.S., I applied to about 25 residency programs. I was granted about 19 interviews, but stopped after 12 because I knew what I wanted. I remember it like it was yesterday — the day I was paged by medical school administration to tell me that I had matched and would be going to Washington University for my residency.

The first three years of residency are somewhat fuzzy in my memory. I do not recall my tremors being an issue; however, one of my attendings noticed it. Every year, we (the residents) would have a one-on-one meeting with Dr. Dacey to review board scores and discuss our future. I was just starting in the research lab and feeling good about things, when Dr. Dacey asked me to see a movement disorder specialist about my tremors. This was the first time anyone had ever mentioned this, and I was scared.

Essential Tremor Diagnosis
I blew off seeing Dr. Perlmutter, the specialist, for about six months because I was in denial. However, in the research lab, I was trying to develop a novel functional tumor model by injecting glioma cells into the whisker barrel cortex of rats and mice, and these surgeries were becoming more and more difficult to do. After I saw Dr. Perlmutter, however, it was official — I had essential tremor.

I was bummed until I started taking the Primidone that he prescribed, and it helped significantly. I then finished my research, my wife and I had our first child, I was getting ready to be chief resident and I had signed a contract to join the group of neurosurgeons that I worked with as a student. All was going well.

The Primidone continued to work well. I can only recall one time during my chief year that it was a problem. I was clipping an aneurysm with Dr. Dacey, and as I started to deploy the clip, I could feel the clip applicator start to slip in my hand. I froze, knowing my hands were going to start shaking. I feared that if I deployed the clip, I would have avulsed the aneurysm off the parent vessel and probably would have killed the patient. Fortunately, I was able to remove the clip and then watched as Dr. Dacey smoothed and precisely clipped the aneurysm. I knew he could see my hands shaking, but he never said a word to me about it.

Working with Essential Tremor
In July 2000, my family and I moved to Tulsa, Okla., so I could begin my practice. At that time, I was the seventh neurosurgeon in my group, and I got busy very quickly. The Primidone was working well, and I was not having any issues. However, I applied for...
A Neurosurgeon’s Nightmare cont.

I got home early that day and told my wife my decision. Without hesitating, she expressed her full support and understanding, and at that moment, I felt an immediate burden being lifted.

Restructuring a New Career
I then began the task of rebuilding a meaningful career, as well as applying for disability benefits. I had been the concussion doctor at my kids’ school for four years and was interested in this, especially now, because concussions are non-operative. This past year, I have become a concussion specialist for a Division I university, as well as an unaffiliated neurotrauma consultant for the NFL, in large part thanks to the friends I have made along this journey. I will also be joining the faculty at the University of Oklahoma School of Community Medicine to help develop a comprehensive concussion center. What I miss the most about operating is not so much the actual surgery (although I certainly do miss that), but the surgery “family.” I miss the interaction with colleagues and staff that I had for 15 years. Also, being trained as a surgeon, and not being able to operate anymore, I feel somewhat marginalized at times. However, there are other ways to be involved. For me, one of the most gratifying ways is through various surgical organizations.

The decrease in income has also been an issue for me, and more importantly, for my family. I worry about paying for my kids’ education, and I feel guilty my wife now has to plan our vacations based on how expensive they might be. On the other hand, I do get to spend more time with my family, which means a great deal to me. Although I no longer have the stress of being an active surgeon anymore, it has been replaced with others, such as financial stress and remaining relevant to my community, as well as the neurosurgical community.

In conclusion, the best advice I have to offer is to find good disability insurance, and get as much as you can, because you never know.

Patient Voices
Comments directly from our patients about the care they received from the Neurosurgery healthcare team at Washington University

- My doctors and nurses were all outstanding. My neurosurgeons took wonderful care of me no matter what time of day or night.
- My entire stay was excellent. My doctor was always there, the therapists were so patient. They all made me happy while I was there.
- I was happy with my entire experience. Everybody was so positive, upbeat, and they dealt with my nonsense well.
- Everything about my stay was outstanding. Patients are well taken care of, and the doctors and nurses are great. It was just an excellent experience.
- My level of care was outstanding. My doctors took the time to answer all of my questions and explain what was going on.
Ralph G. Dacey, Jr., Receives Cushing Medal from AANS

Ralph G. Dacey, Jr., M.D., has been awarded the Harvey Cushing Medal by the American Association of Neurological Surgeons (AANS). He was honored with the medal, the association’s most prestigious award, for his many years of outstanding leadership, dedication and contributions to the field of neurosurgery.

The medal – named in honor of the father of modern neurosurgery – was awarded May 3, 2016 at the AANS annual meeting in Chicago.

“It means a lot to me to be recognized by my peers,” said Dr. Dacey. He counts among his achievements the recruitment of outstanding clinicians and researchers to his department.

“We’ve added great faculty and trained superb residents,” said Dacey. “We have some really innovative research being done here – for example, on the effective management of malignant brain tumors and spinal cord injuries, and on brain computer interfaces and complex cerebrovascular conditions.”

Dr. Dacey is a former chairman of the American Board of Neurological Surgery and has served as president of the Congress of Neurological Surgeons, the American Academy of Neurological Surgeons, and the Society of Neurological Surgeons. He was elected to the Institute of Medicine of the National Academy of Sciences in 2010 and is an honorary fellow of the Royal College of Surgeons in Ireland.

Founded in 1931 as the Harvey Cushing Society, the AANS is a scientific and educational association with more than 8,000 members worldwide. The AANS is dedicated to advancing the specialty of neurological surgery to provide the highest quality of neurosurgical care to patients.

Departmental Promotions, Notable Appointments and Awards

- Eric Leuthardt, M.D., was promoted to Professor in November 2015.
- David Limbrick, M.D., Ph.D., was promoted to the role of Pediatric Division Chief in May 2016.
- Joshua Dowling, M.D., has been appointed as President of the Executive Council of the Southern Neurosurgical Society
- Eric Arias, M.D., and Jarod Roland, M.D., earned “Top Gun” honors at the 2016 annual meeting of the American Association of Neurological Surgeons (AANS).

Left to Right: Eric Arias, M.D., Kristopher Kimmell, M.D., and Jarod Roland, M.D.
Profile of New Faculty Member: Joshua Osbun, M.D.

Joshua Osbun, M.D., will join the faculty of the Department of Neurological Surgery as an assistant professor in August 2016. He recently completed a fellowship in cerebrovascular surgery and interventional neuroradiology at Emory University after finishing his neurological surgery residency at the University of Washington in Seattle in 2014.

Dr. Osbun earned his medical degree at the University of Texas Southwestern Medical Center in Dallas and bachelor’s degrees in chemistry and English literature at Texas A&M University. He won several awards during his neurosurgery residency, including the “Courage to Lead Award” at the Department of Neurological Surgery, University of Washington.

Dr. Osbun’s clinic interests are in cerebrovascular surgery and endovascular neurosurgery, including the treatment of aneurysms, arteriovenous malformations, neurofistulas and ischemic stroke.

His research interests are outcomes in cerebrovascular surgery, stroke care and the genetics of aneurysms. Potential collaborators include Ralph Dacey, Jr., M.D., the Henry G & Edith R Schwartz Professor and chairman of neurological surgery; Gregory Zipfel, M.D., professor of neurological surgery; Christopher Moran, M.D., professor of radiology; and DeWitte Cross III, M.D., professor of radiology and director of interventional neuroradiology at Barnes-Jewish Hospital and St. Louis Children’s Hospital.

Away from work, Dr. Osbun likes to run, rock climb and ski.

Meet the Interns

Left to Right: Peter Yang, M.D., Anna Huguenard, M.D., and Rupen Desai, M.D.

Rupen Desai, M.D., was born in Galveston, Texas, and comes to us from Duke University, where he obtained his undergraduate and M.D. degrees. In his down time, Rupen enjoys watching basketball (particularly his favorite Duke Blue Devils), playing intramural sports, cooking, exploring new restaurants, travelling, and reading.

Anna Huguenard, M.D., was raised in Fort Wayne, Indiana, and attended Indiana University for her undergraduate training. She subsequently obtained her M.D. degree from Emory University. In her spare time, Anna enjoys running, hiking with her dog, playing volleyball, and reading.

Peter Yang, M.D., was born in Albuquerque, New Mexico, and obtained his undergraduate degree from Johns Hopkins University. He then received his M.D. degree from Columbia University. In his free time, Peter enjoys playing the trombone, singing, playing volleyball, and cooking.
New Pediatric Neurosurgery Fellow: Brandon Miller, M.D., Ph.D.

Brandon Miller, M.D., Ph.D., was born in Cleveland, Ohio. He completed his undergraduate degree at Washington University and obtained his M.D. and Ph.D. degrees from Ohio State University. He subsequently completed his Neurosurgery residency training at Emory University. In his spare time, he enjoys hiking, cycling, and reading American literature.

Neurosurgery at the Center for Advanced Medicine - South County

Ian Dorward, M.D., Albert Kim, M.D., Ph.D., Eric Leuthardt, M.D., and Greg Zipfel, M.D., are now seeing patients in the recently opened Center for Advanced Medicine-South County.

The new 84,000-square-foot facility, situated several miles west of the primary medical campus, is close to Interstate 55, a main artery for the metropolitan area. The new center contains physician offices for neurosurgery and 14 other subspecialties, as well as radiology services, outpatient surgical suites and rehabilitative services.

“The neurosurgeons caring for patients in our new center offer expertise in a number specialties,” says Gregory Zipfel, M.D., co-director of the Barnes-Jewish and Washington University Stroke and Cerebrovascular Center located on the main medical campus.

“We want to offer patients convenient access and one-stop clinic visits by coordinating patient appointments with same-day radiology and imaging services,” says Dr. Zipfel. Patients requiring surgery, he adds, can be seen both pre- and post-operatively in the south county center; surgeries take place at Barnes-Jewish Hospital.

The Center for Advanced Medicine-South County is located at 5201 Midamerica Plaza, near the intersection of I-55 and Butler Hill Road, in St. Louis, Missouri.
School of Medicine joins Exclusive Pediatric Neuro-Oncology Consortium

The Pediatric Neuro-Oncology program at Washington University School of Medicine in St. Louis and St. Louis Children’s Hospital recently joined a prestigious network of the nation’s top childhood cancer centers. That development widens treatment options for children whose brain tumors don’t respond to standard care.

The network, the Pacific Pediatric Neuro-Oncology Consortium, provides physicians with access to the latest technologies as well as clinical trials at its 15 medical centers, thereby expanding overall treatment options, and, ideally, patient success rates, said the program’s co-directors: the School of Medicine’s Joshua B. Rubin, M.D., Ph.D., professor of pediatrics and of neuroscience; and David D. Limbrick, M.D., Ph.D., an associate professor of neurological surgery and of pediatrics.

Physicians and staff within the consortium can share data, expertise and resources regarding brain tumor biology and possible new treatments, said Rubin, who is also co-leader of the Solid Tumor Therapeutics Program for Washington University’s Siteman Cancer Center. “Being a part of the consortium brings cutting-edge brain tumor therapies to the children of St. Louis and the surrounding region.”

“As part of the consortium, we are better able to offer our patients the option of participating in clinical trials for personalized treatments for their brain tumors and to be part of the larger movement to understand the molecular basis of brain tumors.”

The School of Medicine’s program offers individualized treatment plans through a multi-disciplinary approach that involves pediatric neuro-oncologists, neurosurgeons, radiation oncologists, radiologists, pathologists, endocrinologists, psychologists, social work, nurses and other specialty staff. The team meets weekly to evaluate every child’s unique needs.

The neuro-oncology program provides top-of-the-line imaging technology and neurosurgical approaches. Children’s Hospital is one of the few pediatric medical centers that offers intraoperative MRI, considered a major advance in the treatment of brain tumors because it allows neurosurgeons to remove tumors more precisely, thanks to MRI images and computer guidance during surgery. The Pediatric Neuro-Oncology program is also the first to ever evaluate laser ablation surgery for pediatric brain tumors in a clinical trial.

Neurosurgery First-Year Medical Student Lab Day

March 15, 2016, marked the end of the first-year Medical Student Selective, run by Dr. Gavin Dunn. Each year the course is capped off with a cadaver lab. This year’s lab was graciously supported by Stryker. During the course, students do basic skull and spine dissections with introductory information about general neurosurgery cases. Over the past 2 years, the number of students taking the course has increased from 8 to 20, and the number of students that participate in the lab has met the maximum capacity of 40. This past year, faculty and resident participation in the cadaver lab were at an all-time high. Dr. Dunn was joined at the course by Drs. Albert Kim, Greg Zipfel, Jenn Strahle, Eric Arias, Bhuvic Patel, Jarod Roland, and Chester Yarbrough.

**Tom Beaumont**  
NREF  
“Epigenetic Regulation of Hippocampal Epileptogenesis by the NuRD Complex”  
07/01/2015 – 06/30/2016  
Declined due to overlap with R25

**Zack Ray**  
UM SCIRP  
“Diffusion basis spectrum imaging predicts neuroinflammation and axonal loss in acute and chronic spinal cord injury”  
11/01/15 – 11/30/17

**Albert Kim**  
Siteman Investment Program (SIP)  
“Regulation of glioblastoma stem-like cells by CDC20-Anaphase-Promoting Complex”  
01/01/16 – 12/31/17

**Jarod Roland**  
R25  
“Resting State MRI in Patients with Corpus Callosotomy Procedures in the Pediatric Population”  
01/01/2016-06/30/2017

**Itender Singh**  
Brain Aneurysm Foundation  
“The role of cyclophilin A in blood-brain barrier, neuroinflammation and vasospasm after subarachnoid hemorrhage”  
10/15/15 – 09/15/16

**Dave Limbrick**  
Patient-Centered Outcomes Research Institute (PCORI)  
“Posterior fossa decompression with or without duraplasty for Chiari type I malformation with syringomyelia”  
11/01/15 – 08/31/19

**Jenn Strahle**  
Pediatric Hydrocephalus Association  
“Mechanisms of Hydrocephalus after Intraventricular Hemorrhage”  
12/01/15 – 11/30/16

**Ananth Vellimana**  
R25  
“The Role of Cerebrovascular Microthrombosis in Delayed Cerebral Ischemia after Subarachnoid Hemorrhage”  
07/01/2016 – 06/30/2017

**Tom Beaumont**  
NREF  
“Epigenetic Regulation of Hippocampal Epileptogenesis by the NuRD Complex”  
07/01/2015 – 06/30/2016  
Declined due to overlap with R25

**Storz**  
“Endoscopic, Navigation-Assisted Third Ventriculostomy with Choroid Plexus Cauterization: Developing a Surgically Relevant Model”  
07/01/15 – 06/30/16

**Medtronic**  
“Endoscopic, Navigation-Assisted Third Ventriculostomy with Choroid Plexus Cauterization: Developing a Surgically Relevant Model”  
01/14/16 – 01/13/17

**Pat McAllister**  
Hydrocephalus Association  
“Therapeutic Modulation of Post-Hemorrhagic Hydrocephalus”  
12/01/15 – 11/30/16

**NREF**  
“Activation of Endogenous Protective Mechanisms: A Potential Therapeutic Strategy to Combat SAH-induced Neurovascular Dysfunction”  
07/01/2016 – 06/30/2017
Publications (October 2015 - May 2016)


Publications cont.


Publications cont.


Ray WZ, Akbari SH, Shah L, Bisson EF. Correlation of Foraminal Area and Response to Cervical Nerve Root Injections. cureus.com


Publications cont.


Dacey, R. Neurosurgical Decision Making: Indications and Operative Techniques. Grand Rounds, Emory University Visiting Professor, October 29, 2015, Atlanta, Georgia.

Dacey, R. Career Channels in Cerebrovascular Surgery. Tindall Distinguished Lecture, Emory University Department of Neurosurgery, October 29, 2015, Atlanta, GA.


Dacey, R. Leadership/Team Building/Conflict Resolution. Society of Neurological Surgeons Resident Boot Camp, April 15, 2015, PASE, St. Louis, MO.


National & International Presentations cont.


Wright, N. Cervical Arthroplasty: Indications vs Fusion, Available Devices. 9/3/15, 22nd Advanced Techniques in Cervical Decompression and Stabilization, St. Louis, MO.


Zipfel, G. Brain Aneurysms and Vascular Malformations. French Academy of Surgery Symposium, Department of Surgery, Washington University, St. Louis, MO, October 7, 2015.

Zipfel, G. The Future of Departments of Neurosurgery in Academic Medical Centers. Special Lecture. Department of Neurological Surgery, University of Minnesota, Minneapolis, MN, October 26, 2015.


Zipfel, G. The Promise of Conditioning-Based Therapy for Aneurysmal Subarachnoid Hemorrhage. The Center for Brain Hemorrhage Research Lecture Series, Loma Linda University, Los Angeles, CA, December 9, 2015.

New Department of Neurosurgery Staff

Meg Williams, MSN, RN - Patient Safety Nurse Coordinator
Debra Grochowski, RN - Dr. Ian Dorward
Leticia Cross, NP - Dr. Greg Zipfel
Drs. Tom and Najla Beaumont welcomed their first child, son Sebastian, on April 25, 2016 (Sebastian is pictured here with Ellie Ray).

Upcoming Events
- September 24-September 28, 2016 - CNS Meeting
- October 26, 2016 - Annual William S. Coxe Lecture
- January 21, 2017 - 11th Annual Research Symposium
- March 17, 2017 - ABNS Primary Exam
- April 22-April 26, 2017 - AANS Meeting
- May 10, 2017 - Annual Park Lecture
- June 3, 2017 - Annual Softball Tournament in New York City
- July 1, 2017 - Start of New Academic Year