“Every faculty member had a vested interest in my success and did their absolute best to give me all the right tools, in the operating room and out, to be a great neurosurgeon.”

Amy Lee, MD, FAANS, Pediatric Division Chief, associate professor of neurological surgery at the University of Washington, Seattle Children’s Hospital.

Lee completed her neurosurgery residency at Washington University School of Medicine/Barnes-Jewish Hospital and her fellowship at St. Louis Children’s Hospital.

Chair Gregory J. Zipfel, MD (below)
Supported by one of the top hospitals in the U.S., substantial research funding, some of the most creative minds in academic medicine, and the latest technologies, our residents learn how to study and solve neurosurgical problems at the very highest level. All of this takes place at the top-ranked Washington University School of Medicine as it embarks on its $1 billion 10-year growth plan.

Our culture of excellence is founded in our unique approach: a program intentionally designed to give residents one-on-one mentorship from world-class faculty members. This personal level of training prepares residents for long, successful, and fulfilling careers in academic and clinical medicine.

**Outstanding Training**

Recognized as one of the best in the world, the Washington University Neurosurgery Residency training program prepares residents for exceptional careers as neurosurgeons and neurosurgeon-scientists.

**TOP**

- **10** residency program as rated by Doximity / U.S. News & World Report
- **4,600+** neurosurgical cases per year
- **10** RO1s among seven faculty: most RO1-funded neurosurgeons in the U.S.
- **24** months for residents to pursue dedicated research
- **65%** of graduates go into academics including 8 Chairs/Division Chiefs and 6 Professors in the last 20 years
Dedicated to creating world-class surgeons

Our residents are exposed to high clinical volume and thorough immersion in every subspecialty including pediatrics. They learn directly from our 21 faculty members who are all experts in their respective fields.

CONTINUITY OF TRAINING

Our program gives residents continuity in each subspecialty in order to build their confidence, gain trust from the attending physicians, and ultimately, gain autonomy. Our junior and senior residents spend 3-month long rotations working with the same four or five attendings within a subspecialty. This continuity instills a deep understanding of the disease processes encountered by neurosurgeons across subspecialties.

RESIDENT CURRICULUM

Resident education is one of the centerpieces of the department. Surgical case conferences, grand rounds, a longitudinally designed curriculum conference, journal club, and surgical dissection experiences comprise the weekly didactic structure of the program.

STATE-OF-THE-ART FACILITIES

In St. Louis, our residents train at one of the country’s largest medical centers, which includes Barnes-Jewish Hospital, Alvin J. Siteman Cancer Center, and St. Louis Children’s Hospital. The center serves a diverse region of more than 3 million people and draws patients from all 50 states and more than 80 countries.

A new state-of-the-art neurosurgery and neurology intensive care unit including an in-unit CT scanner opened in August 2019, which increased neurocritical bed capacity at Barnes-Jewish Hospital from 20 to 44. In addition, a $620 million neuroscience research building is scheduled to open in 2022, which will dramatically expand neurosurgery research laboratory space including creation of a multidisciplinary Brain Tumor Research Center. Finally, a new inpatient bed tower designed to markedly expand the neurosurgery and neurology bed platform is scheduled to open in 2023.

IRELAND ROTATION

Our residents are given the opportunity to expand their surgical skills during a six-month
international elective at Beaumont Hospital in Dublin, Ireland. This rotation represents a critical point in training, when residents are able to increase their surgical independence and experience. The rotation also provides residents with exposure to a nationalized health care system that consolidates specialty medical care into designated care centers like Beaumont, which cares for neurosurgical patients from more than 90% of the country. The experience is also personally enriching, as Ireland is a jumping off point to visit the many wonderful destinations throughout Europe.

“We see everything. We get the full scope of neurosurgery with a highly individualized education. With this kind of support, we are able to learn good habits and become confident — all in an environment where every specialty is world class.”

Chief resident
Daniel M. Hafez, MD, PhD

4,602
SURGICAL CASES PER YEAR

949
Neuro-oncology

368
Functional

1,307
Spine

534
Vascular

961
Pediatric
Commitment to world-class research

Washington University School of Medicine has one of the most comprehensive research programs in the country. Neurosurgery residents are provided expansive opportunities for basic science, clinical, and translational work across the major subspecialties of neurosurgery and related diseases. Dedicated research programs led by faculty in the department of neurosurgery include brain tumor immunotherapy, brain tumor stem cells, brain-computer interface, neural plasticity, neural networks, Chiari and syringomyelia, neonatal intraventricular hemorrhage/hydrocephalus, subarachnoid hemorrhage, vascular dementia, spinal cord injury, peripheral nerve injury and neuromodulation, neurogenetics, and Huntington’s disease. Our faculty and residents are integrated into many of the key research areas at the medical school, including neuroscience, immunology, cancer biology, developmental biology, genetics, and engineering.

UP TO 24 MONTHS PROTECTED RESEARCH TIME

Residents identify a mentor inside or outside the Department of Neurosurgery and develop a proposal for a research project that is pursued for up to 24 months during PGY5 and PGY6 years of training. Residents can
choose from a broad range of research topics in laboratories throughout the world-class research environment at Washington University. To aid in the development of their research projects, residents present their research plans to a prestigious committee of physician-scientists known as the Neuroscience Research Mentorship Group. These mentorship meetings are held on a quarterly basis and are attended by residents who are preparing for their research years and those that are in the midst of the research programs. Clinical responsibilities are extremely limited during this period of dedicated research to allow residents to focus on their academic productivity.

RESIDENT RESEARCH FUNDING AND AWARDS

Residents are often awarded independent funding and fellowships including awards from the NIH, NREF, and other foundations. Residents also have the opportunity to participate in the department’s prestigious R25 Resident Research Education Program Grant funded by the NIH. A neurosurgery research mentorship group meets quarterly to support resident efforts to develop projects and obtain funding.

MOST PRODUCTIVE

Our residency is a top-10 training program in average H-index ranking of our residents, making it one of the most productive in the country. Recent graduates have had high-quality publications in some of the most elite scientific journals including *Science, Nature Medicine, New England Journal of Medicine, JAMA, Stroke*, and *Journal of Neuroscience* and the highest impact neurosurgical journals including *Journal of Neurosurgery and Neurosurgery*.

$11.8 million

in research awards in 2020

R25

prestigious training grant to support neurosurgery resident research

12

federally funded laboratories

#11

neurosurgery research department in the country based on NIH funding
## Faculty

Our faculty hold or have held 18 national leadership roles in important academic and clinical societies and serve as members or chair on seven journal editorial boards. They are leaders in innovation and clinical care. Most importantly, they serve as mentors for our trainees.

<table>
<thead>
<tr>
<th>Name</th>
<th>Position and Titles</th>
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<tbody>
<tr>
<td>Ralph G. Dacey, Jr., MD</td>
<td>Henry G. &amp; Edith R. Schwartz Professor of Neurosurgery</td>
</tr>
<tr>
<td>Michael R. Chicoine, MD</td>
<td>August A. Busch, Jr. Professor of Neurosurgery</td>
</tr>
<tr>
<td>David D. Limbrick, MD, PhD</td>
<td>Executive Vice-Chair and Chief of Pediatric Division</td>
</tr>
<tr>
<td>Wilson Z. Ray, MD</td>
<td>Vice-Chair; Chief of Spine Division Professor of Neurosurgery</td>
</tr>
<tr>
<td>Gregory J. Zipfel, MD</td>
<td>Ralph G. Dacey Professor and Chair of Neurosurgery</td>
</tr>
<tr>
<td>Ian G. Dorward, MD</td>
<td>Assoc. Professor of Neurosurgery</td>
</tr>
<tr>
<td>Joshua L. Dowling, MD</td>
<td>Professor of Neurosurgery</td>
</tr>
<tr>
<td>Gavin P. Dunn, MD, PhD</td>
<td>Residency Program Director Assoc. Professor of Neurosurgery</td>
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<tr>
<td>Gabriel Haller, PhD</td>
<td>Asst. Professor of Neurosurgery</td>
</tr>
<tr>
<td>Albert H. Kim, MD, PhD</td>
<td>Director of Brain Tumor Program Assoc. Professor of Neurosurgery</td>
</tr>
<tr>
<td>Eric C. Leuthardt, MD</td>
<td>Chief of Neurotechnology Division Professor of Neurosurgery</td>
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<tr>
<td>Pat McAllister, PhD</td>
<td>Professor of Neurosurgery</td>
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<tr>
<td>Sean D. McEvoy, MD</td>
<td>Asst. Professor of Neurosurgery</td>
</tr>
<tr>
<td>Camilo Molina, MD</td>
<td>Deputy Director, Spine Innovation at CINT Asst. Professor of Neurosurgery</td>
</tr>
<tr>
<td>Joshua W. Osbun, MD</td>
<td>Assoc. Residency Program Director Asst. Professor of Neurosurgery</td>
</tr>
<tr>
<td>Tae Sung Park, MD</td>
<td>Shi H. Huang Professor of Neurosurgery</td>
</tr>
<tr>
<td>Brenton Pennicooke, MD</td>
<td>Asst. Professor of Neurosurgery</td>
</tr>
<tr>
<td>Allegra Petti, PhD</td>
<td>Asst. Professor of Neurosurgery</td>
</tr>
<tr>
<td>Keith M. Rich, MD</td>
<td>Professor of Neurosurgery</td>
</tr>
<tr>
<td>Paul Santiago, MD</td>
<td>Professor of Neurosurgery</td>
</tr>
<tr>
<td>Ismael Seáñez, PhD</td>
<td>Asst. Professor of Neurosurgery</td>
</tr>
</tbody>
</table>
Faculty

Matthew D. Smyth, MD
Appoline Blair Professor of Pediatric Neurosurgery | Professor of Neurosurgery

Jennifer M. Strahle, MD
Assoc. Professor of Neurosurgery

Jon T. Willie, MD, PhD
Director of Stereotactic, Functional, and Epilepsy Surgery | Assoc. Professor of Neurosurgery

Hiroko Yano, PhD
Assoc. Professor of Neurosurgery

Neurosurgery Residents

CHIEFS

Adam Bevan, MD, PhD
The Ohio State University

Dan Hafez, MD, PhD
Rosalind Franklin

Peter Sylvester, MD
Eastern Virginia

PGY6

Chris Dibble, MD, PhD
UNC – Chapel Hill

Jacob Greenberg, MD
Washington University

Bhuvic Patel, MD
Washington University

PGY5

Rupen Desai, MD
Duke University

Anna Huguenard, MD
Emory University

Peter Yang, MD
Columbia University

PGY4

Kevin Cross, MD
Washington University

Carl Hacker, MD, PhD
Washington University

Anja Srienc, MD, PhD
University of Minnesota

PGY3

Diane Aum, MD
Washington University

Ridhima Guniganti, MD
Washington University

Rowland Han, MD
Washington University

PGY2

Sean Gupta, MD
Columbia University

Derek Li, MD
Northwestern University

Benjamin Plog, MD, PhD
University of Rochester

PGY1

Michelle Connor, MD
University of Southern California

Charise Garber, MD, PhD
Washington University

David Giles, MD, PhD
University of Michigan
Neurosurgery alums
90% complete subspecialty fellowships
65% in academic practice

2020
Brendan Fong, MD
Skull Base Fellow, University of California Irvine
Richard Price, MD, PhD
Spine Fellow, Swedish Neuroscience Institute
Afshin Salehi, MD
Pediatric Fellow, Washington University in St. Louis

2019
S. Hassan Akbari, MD
Assistant Professor of Neurosurgery, Penn State
Ashwin Kamath, MD
Private Practice, Texas
Ananth Vellimana, MBBS
Endovascular Fellow, Washington University in St. Louis

2018
Katie Dlouhy, MD
Assistant Professor, University of Iowa
Jarod Roland, MD
Assistant Professor, UCSF
Zohny Zohny, MD
Private Practice, Oklahoma

2017
Eric Arias, MD
Private Practice, Colorado
Thomas Beaumont, MD, PhD
Assistant Professor, UCSD
Bradley Stephens, MD
Army, Hawaii

2016
Ammar Hawasli, MD, PhD
Private Practice, Missouri
Rory Murphy, MD
Assistant Professor, Barrow Neurological Institute
Chester Yarbrough, MD
Assistant Professor, Duke University

2015
S. Katie Bandt, MD
Assistant Professor, Northwestern University
Terry Holekamp, MD, PhD
Private Practice, Missouri

2014
Matthew Reynolds, MD, PhD
Assistant Professor, Loyola University
Devon Hayden, MD
Private Practice, Florida
Chad Washington, MD
Chairman; Associate Professor, University of Mississippi

2013
Manish Shah, MD
Assistant Professor, University of Texas/Houston
Ivan Stoev, MD
Private Practice, Florida

2012
Ian Dorward, MD
Associate Professor, Washington University in St. Louis
Eriks Lusis, MD
Private Practice, Michigan

2011
Wilson Z. Ray, MD
Vice-Chair; Chief of Spine Division
Professor, Washington University in St. Louis
Jon Willie, MD, PhD
Associate Professor, Washington University in St. Louis,
Director, Stereotactic, Functional and Epilepsy Surgery

2010
Spiros Blackburn, MD
Associate Professor, University of Texas/Houston
Amy Lee, MD
Associate Professor and Division Chief of Pediatrics,
University of Washington

2009
Jim Johnson, MD
Associate Professor, University of Alabama
Daniel Refai, MD
Associate Professor, Emory University

2008
Srinivas Prasad, MD
Associate Professor, Jefferson University
Nilesh Vyas, MD
Private Practice, Virginia

2007
William Ashley, Jr., MD, PhD
Private Practice, Maryland

2006
David Limbrick, Jr., MD, PhD
Executive Vice-Chair; Chief of Pediatric Division
Professor, Washington University
Sarah Fouke, MD
Private Practice, Missouri
Jose Menendez, MD
Private Practice, Arizona

2005
Douglas “Kit” Fox, MD
Private Practice, Texas
Eric Leuthardt, MD
Chief of Neurotechnology Division
Professor, Washington University

2004
Richard Lytle, Jr., MD
Private Practice, North Carolina
David Walker, MD
Private Practice, Oregon

2003
James Lu, MD
Private Practice, Missouri
Dennis Rivet, MD
Associate Professor, Virginia Commonwealth University

2002
Jeffrey Leonard, MD
Professor and Division Chief of Pediatrics, The Ohio State University
Todd Stewart, MD
Private Practice, Missouri

2001
Stuart Kaplan, MD
Private Practice, Nevada
John Wanebo, MD
Director, Moyamoya Center, Barrow Neurological Institute

2000
Eric Sherburn, MD
Private Practice, Oklahoma
Neill Wright, MD
Private Practice, Illinois

1999
Jeffrey Ojemann, MD
Professor and Vice-Chair, University of Washington
Michael Vogelbaum, MD, PhD
Chief of Neurosurgery and Professor, Cleveland Clinic
St. Louis quality of life

St. Louis is known as one of the most livable cities in the U.S., a place where residents can afford to buy their own home, commute to work by short car ride, bike, or on foot; and, at the same time, enjoy all the cultural activities a great city can offer.

ENTERTAINMENT

Within five miles of Washington University School of Medicine, residents cheer on the Cardinals at Busch Stadium, see Hamilton and other Broadway shows at the Fox Theatre, revel in Bach at the Saint Louis Symphony, attend Slam Poetry contests in north city, deconstruct Van Gogh and Monet paintings at the Saint Louis Art Museum, and pet stingrays at the Saint Louis Zoo. Because the winters are short, residents can also play golf or tennis in Forest Park, directly across the street from the hospital, starting as early as March and as late as November.

ENERGY

With substantial resources for startups, St. Louis has become a top destination for entrepreneurs, attracting a growing millennial population, and with them an expansive network of craft breweries, music venues and restaurants. In fact, Yelp recently named St. Louis the No. 2 “food city” in the U.S. just behind San Francisco.

CAMARADERIE

Neurosurgery residents enjoy many of these St. Louis venues together, during the monthly department-funded social events, at gatherings with faculty, and in outings planned on their own.

Because of the camaraderie within the program, and all of the fun activities they can do together in St. Louis, residents find that they make some of their best, lifelong friends here.
Washington University School of Medicine
Department of Neurosurgery

Gregory J. Zipfel, MD, Department Chair
Gavin P. Dunn, MD, PhD, Program Director
Joshua W. Osbun, MD, Associate Program Director
Sophie Church, Program Coordinator

Contact: Sophie Church
660 South Euclid Ave., CB 8057
St. Louis, MO 63110

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sophie.church@wustl.edu