

LETTER FROM THE CHAIR

Maintaining Excellence and Reflecting on Our Past as We Look Ahead to U-M Neurosurgery's Centennial Year

As we near the end of another year in the Department of Neurosurgery, we look back proudly on the accomplishments achieved in 2017 and eagerly await all that 2018 – our centennial year – will bring. We sincerely hope that many will be joining us in 2018 as we celebrate 100 years of neurosurgical excellence here at the University of Michigan.

This year, the department has continued to flourish in many areas. Our faculty have continued to obtain notable national honors and awards, and our researchers have continued to push the boundaries of what is “possible” in neurosurgical practice and treatment. One of the most important areas of focus has been – and will continue to be – engaging our patients, faculty, staff, and students in the joy and family of the Department of Neurosurgery.

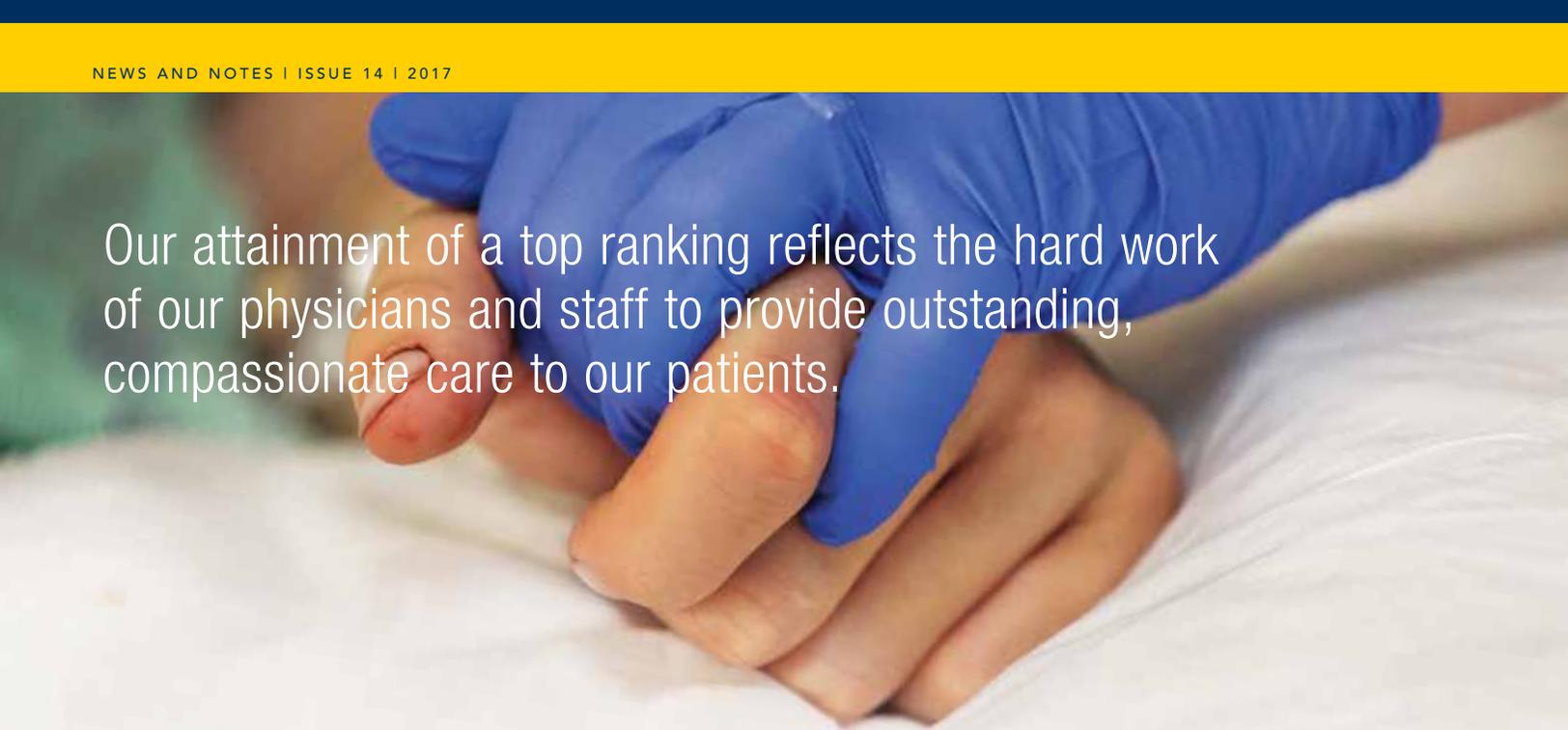
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Our attainment of a top ranking reflects the hard work of our physicians and staff to provide outstanding, compassionate care to our patients.

We were recognized this year by the U.S. News & World Report with a No. 8 ranking in the nation, as well as a No. 1 ranking in Michigan. We can all agree that attaining a high ranking requires a significant amount of time and effort from many in the department to achieve. Our attainment of a top ranking reflects the hard work of our physicians and staff to provide outstanding compassionate care to our patients. We are all very proud of this well-deserved achievement!

This year, we have also been closely tracking our patient feedback, as shared on various social media platforms. A compilation of feedback is featured in this newsletter and demonstrates how we are positively impacting the lives of our patients. We hope it will also encourage all within the department to continue thinking “outside the box” to provide outstanding patient care. Additionally, several compelling patient stories are shared within the pages of this newsletter to not only highlight the skill, expertise, and compassion of our faculty, but also to remind us all of our #1 priority – our patients.

Among our significant achievements this year were also recognition as a Comprehensive Stroke Program and collaboration with several important hospitals across the state. We now have an ownership of and affiliation with Metro Health Hospital, as well as a significant investment in Mid-Michigan Health. Both of these serve as resources for collaboration with our colleagues, both in medicine and within various surgical disciplines. In particular, a strong collaborative relationship with Metro Health has led to the development of a comprehensive cerebrovascular program there, similar to the one here at Michigan Medicine.

The University has been a strong supporter of the neurosciences and no more so than during the University of Michigan’s Bicentennial, which was celebrated this year. The department was heavily involved and highlighted during the bicentennial celebrations and our own alumnus Dr. Sanjay Gupta returned for one of the major events to talk about mentorship and innovation within the U-M Medical School.

The University-wide Diversity, Equity and Inclusion Initiative has served as a positive force of change and growth in our department this year as well. We have developed important collaborations across all levels to make certain that all individuals within the department recognize and address their unconscious biases. To that end, we have an ongoing dialogue about ways in which we can break down even the subtlest and invisible barriers.

We hope that our alumni and others will be able to join us September 13 – 15, 2018, as we celebrate 100 illustrious years of neurosurgery at the University of Michigan. We are planning a welcome reception on the evening of the 13th, followed by a full day of talks and presentations reflecting on the history of Michigan Neurosurgery – its present constellation, and its hopes for the future. On Friday evening, we will have a formal gala event, followed by a tailgate party and football game on Saturday, September 15th. We hope to renew old friendships and remember the many outstanding physicians who have passed through the halls of neurosurgery here at Michigan. We also plan to look to the future as we discern the path of neurosurgery in the coming years, including here at Michigan, where it will be intertwined with the developing structure for the new neuroscience hospital. The new neurosciences facility will be here on the medical campus and should be breaking ground next year during our centennial year!

This newsletter is put together with care and with the hope that you will be able to gain valuable insight into the department, catch up on the many comings and goings, and share in the enjoyment of our accomplishments. Most of all, I hope this year’s issue will serve as a precursor to our events celebrating the past, present, and future in our centennial year of 2018.

My Best Always,



Karin Muraszko, MD

Julian T. Hoff Professor and Chair

U-M Neurosurgery Ranked #1 in the State, #8 in the Nation by U.S. News & World Report

— AND —

Michigan Medicine Nationally Recognized for 25 Consecutive Years



Michigan Medicine Neurosurgery is proud to be ranked No. 1 in the state of Michigan and No. 8 in the nation, according to the 2017-2018 U.S. News and World Report rankings. This represents a significant jump in ranking from last year for the Department of Neurosurgery.

U.S. News and World Report annually judges hospitals for its Best Hospitals list by rating high-quality patient care, commitment to patient safety, clinical resources, family centeredness, and staff professionalism, among other measures. These rankings distinguish hospitals that excel in providing high-quality patient care and treating the most challenging health conditions.

In addition to a top 10 ranking in the nation for "Neurology and Neurosurgery," Michigan Medicine's adult hospitals were ranked No. 1 in Michigan and No. 6 in the country. Michigan Medicine is the only Michigan hospital to make this year's U.S. News & World Report Honor Roll; the Honor Roll includes 20 hospitals nationwide. "We are pleased that U.S. News & World Report recognizes the outstanding care we provide," said Marschall Runge, MD, PhD, Executive Vice President for Medical Affairs at the University of Michigan, Chief Executive Officer of Michigan Medicine and Dean of the U-M Medical School. "We appreciate that our values of caring, teamwork, integrity, innovation, and excellence are reflected in this ranking as one of the top six hospitals in the nation." Thanks to the teamwork, innovation, and excellence of our employees, both within the Department of Neurosurgery and across Michigan Medicine, this is the 25th consecutive year that the hospitals and health centers of Michigan Medicine have been nationally recognized by U.S. News and World Report for strong across-the-board performance.

U-M is recognized in 15 of 16 adult specialties. Only 3 percent, or 152 hospitals out of approximately 4,500, earned even one ranked spot. This year, C.S. Mott Children's Hospital also received recognition by U.S. News & World Report. Mott was ranked No. 1 in Michigan and was the only hospital in the state ranked in all 10 pediatric specialties.

Nine U-M specialty areas were ranked in the top 10 in the nation:

- Gynecology #3
- Otolaryngology #6
- Pulmonology #6
- Geriatrics #7
- Urology #7
- Neurology & Neurosurgery #8
- Ophthalmology #8
- Gastroenterology & GI Surgery #9
- Cardiology & Heart Surgery #10

M | NEUROSURGERY
RANKED #1 Michigan
#8 Nation

M | MICHIGAN MEDICINE
RANKED #1 Michigan
#6 Nation

MEDICAL EDUCATION NEWS



A Word from the Residency Program Director, Dr. Cormac Maher

This year, Dr. Greg Thompson completed an outstanding five years as the Program Director in Neurosurgery. During this time, we saw many enhancements in the residency program including the development of an outstanding Resident Research Symposium program and entry of our residency program into the new clinical competency matrix and curriculum process.

As of July 1, Dr. Cormac Maher assumed the role of Program Director.

The neurosurgery residency training program at Michigan has a long and proud history of training individuals who impact the entire field of neurosurgery. The work of the Department of Neurosurgery is magnified through the many outstanding achievements of the residency program graduates. All of us in the department are grateful for the efforts of former residency Program Directors including Dr. Oren Sagher and, most recently, Dr. Greg Thompson, for their outstanding efforts while leading the program. Although we have never set a minimum publication requirement for our residents during their training period, the academic production of our residents has been outstanding, rendering any minimum requirements unnecessary. As has always been the case at Michigan, our recent graduates have been in high demand at major medical centers across the country and continue to make the department proud of their achievements.

As with any successful enterprise, the residency program will continue to evolve in order to maintain its lofty position. Reflecting national neurosurgical trends, the program will begin to offer more enfolded fellowship opportunities for individuals who wish to sub-specialize during their residency. In addition to our CAST-accredited spine program, we have recently been accredited for enfolded training in peripheral nerve and functional neurosurgery, and we hope that endovascular accreditation will be obtained this academic year. These new opportunities for the residents will allow for more flexibility within their training but will certainly not replace the traditional emphasis on resident research. Two years will still be set aside for academic development, and participation in basic research will be strongly supported and encouraged. Dr. Richard Keep, Director of the Crosby Laboratory, will continue working with residents throughout their training in order to offer continuous guidance on research. Dr. Parag Patil has recently joined Dr. Keep in this endeavor and offers research mentorship from a clinical perspective.

We are currently in the midst of application season – an exciting time for the program. We screen approximately 300 applications and interview 60 candidates each year in order to find the two or three individuals who will become the newest members of our department. We look for team players who have the potential to be great technical surgeons. At Michigan, I believe that those criteria are necessary but not sufficient. As we evaluate candidates, we seek individuals who have the potential to change the practice of neurosurgery for the next generation.

Finally, I would like to acknowledge the efforts of Susie Hines in her role as Residency Program Coordinator. As coordinator, Susie has hundreds of official (and unofficial) duties – including the vital but increasingly complicated task of maintaining all accreditation and GME office requirements. It isn't easy – even if Susie makes it look that way. All of us in the department are very grateful for her hard work on behalf of the training program.



Chief Resident Graduates 2017



One of the highlights of every academic year is to gather and celebrate the graduation of our chief residents as they complete their rigorous and rewarding seven-year neurosurgical training journey. On June 17, 2017, neurosurgery faculty, residents, staff, friends, and family gathered at the Michigan Union for an evening of recognition and celebration honoring Drs. Nicole Bentley and Osama Kashlan.

Upon completing their residency training at U-M, both Drs. Bentley and Kashlan returned to their home state of Georgia and are now completing one-year fellowships at Emory University – Dr. Bentley in functional neurosurgery and Dr. Kashlan in spine surgery. We wish both of them the best in their neurosurgical careers.

Medical Education Awards 2017



Julian T. Hoff Teaching Award

The Julian T. Hoff Teaching Award is given each year to a faculty member within the department with an exemplary record in teaching our residents.

2017 Recipient: Martin Buckingham, MD



Max Peet Resident Teaching Award

The Max Peet Teaching Award is given annually to a resident who has distinguished themselves in the arena of teaching other residents and medical students.

2017 Recipient: Osama Kashlan, MD



Friend of Neurosurgery Award

The Friend of Neurosurgery Teaching Award is given each year to a faculty or staff member outside of our department who is instrumental in teaching our neurosurgical residents.

2017 Recipient: Meghan Wind, LMSW



McGillicuddy Resident Leadership Award

This award recognizes a resident who exhibits exemplary leadership in maintaining the highest standards of professionalism.

2017 Recipient: Nicole Bentley, MD

New Neurosurgery Residents 2017

In 2017, we welcomed Drs. Sravanthi Koduri & Michael Strong to our residency training program.



Sravanthi Koduri, MD

Undergraduate: Drexel University College of Medicine

Medical School: Drexel University College of Medicine

Hometown: Cupertino, CA

Why Neurosurgery? From a young age, I found it fascinating that a single organ could be responsible for so many different functions: from things as tangible as movement to concepts as abstract as emotions and personality. Neurosurgery offers the ability to treat – sometimes even cure – devastating conditions that afflict the nervous system. This capacity to not only diagnose the problem but also propose an immediate solution is one of the most attractive aspects of surgery. Neurosurgery, in particular, carries with it a specific set of considerations that add an additional layer of complexity. The brain and spinal cord have uniquely localized functions that turn even the most seemingly straightforward of medical conditions into surgical conundrums. As someone who grew up with a penchant for puzzles, the complexity surrounding neurosurgery intrigued me. Aside from the clinical depth of neurosurgery, what most excited me is the endless potential for change. Over the past few decades, the neurosurgeon's surgical repertoire has expanded exponentially. In the upcoming years, I have no doubt that great discovery and advancements lie ahead.

Hobbies / Interests: Tennis, traveling, jigsaw puzzles, kayaking, rock climbing

Clinical Interests: Undecided



Michael Strong, MD, PhD, MPH, MS

Medical School: Tulane University School of Medicine

Graduate School: Tufts University School of Medicine

Undergraduate: Kalamazoo College

Hometown: Flint, MI

Why Neurosurgery? I have been drawn to neurosurgery because it is an area of medicine that is technically complex and intellectually challenging. I developed an interest in neurosurgery early during my undergraduate studies where I was fortunate enough to work with a Michigan trained neurosurgeon. During this experience, I observed how challenging and demanding the field of neurosurgery is, but more importantly, I learned to appreciate how rewarding this field can be. As a medical student, I have witnessed the devastating neurological conditions that defy treatment due to the gaps in our current understanding of neurological diseases. This necessity to understand CNS disease pathogenesis has further motivated me to pursue a career in this field.

Hobbies / Interests: Traveling, football, bowling, weight-lifting, running, reading

Clinical Interests: Neuro-oncology, basic/translational research, functional, spine

2017 Neurocritical Care Fellow



The Department also welcomed a new neurocritical care fellow – Larry Morgan, DO – at the beginning of July. Dr. Morgan attended medical school at the Michigan State University College of Osteopathic Medicine, receiving his DO degree in May, 2013. He then completed his neurology residency training at Michigan State University/Sparrow Health System/McLaren Greater Lansing Hospital. Dr. Morgan's fellowship will last two years, ending in June, 2019.

Stryker Mobile Lab

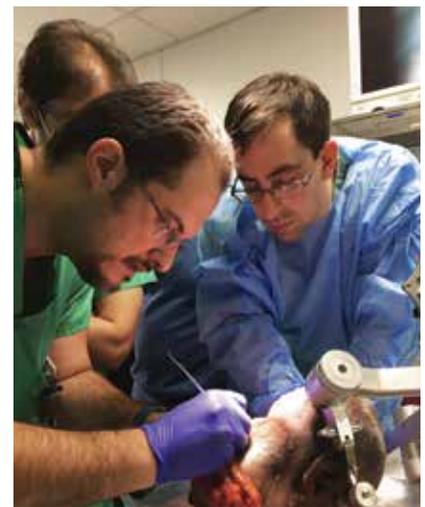
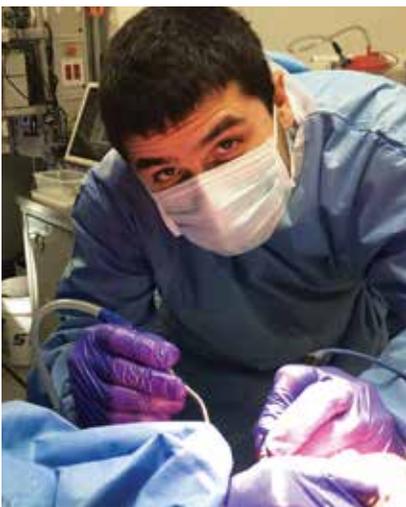
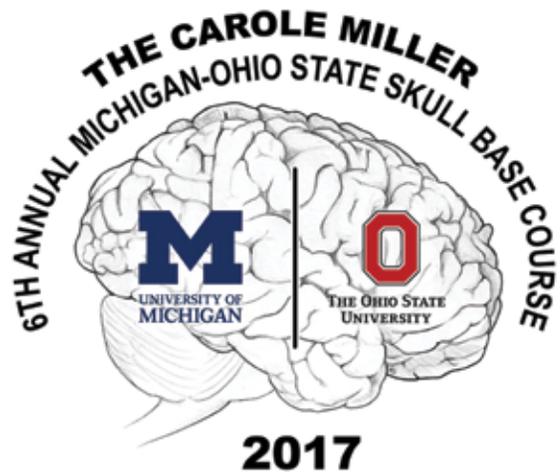
In January, Stryker Corporation hosted an educational event for our residents in their Mobile Operating Room Experience (M.O.R.E.) lab. The lab is housed in a traveling trailer and is equipped with eight lab stations and state-of-the-art surgical equipment including endoscopic towers, navigation equipment, and microscopes. During the two-day course here at U-M, our residents were given the opportunity to apply spine and cranial surgical techniques using cadaveric specimens. Several of our neurosurgical faculty were in attendance to coach residents through complex techniques. The event was a valuable opportunity to learn and practice in an environment designed specifically for this type of educational experience.



Carole Miller 6th Annual Michigan-Ohio State Skull Base Course

Each year, U-M neurosurgery residents have the opportunity to get together with neurosurgery residents from rival Ohio State University for the Cranial Base Cadaver Course. This intensive course offers residents a great mix of medical education and hands-on surgical training. The location of the course alternates each year between Ann Arbor and Columbus.

In February, eight of our residents, along with Dr. Thompson, entered “enemy-territory,” traveling to Columbus for the Carole Miller 6th Annual Michigan-Ohio State Skull Base Course. Together, they honed their surgical skills under the tutelage of Dr. Thompson and Director of OSU’s Minimally Invasive Cranial Surgery Program, Daniel Prevedello, MD, and enjoyed camaraderie with their OSU neurosurgical colleagues.



4th Annual U-M Resident Research Symposium

The Department of Neurosurgery held its fourth annual Neurosurgery Resident Research Symposium on May 12, 2017.

Dr. Nelson Oyesiku from Emory University served as the honored guest, in conjunction with being the 2017 Julian T. Hoff Visiting Professor. Dr. Todd Hollon was chosen as the recipient of the Chandler Clinical Research Award, which is awarded for the best clinical research presentation, while Dr. Luis Savastano received the Crosby Basic Science Research Award for the best basic science presentation.

The 2018 Neurosurgery Resident Research Symposium will be held on Friday, May 11, 2018. Dr. William Couldwell from the University of Utah will serve as our honored guest as well as the Julian T. Hoff Visiting Professor.

The Resident Research Symposium promotes the academic productivity of our residents and brings together research and clinical colleagues in neurosurgery.



Dr. Luis Savastano (PGY 6), left, and Dr. Todd Hollon (PGY 5), right, with honored guest Dr. Nelson Oyesiku.



Drs. Savastano and Hollon receive the Crosby Basic Science Research Award and the Chandler Clinical Research Award, respectively, from Dr. Thompson.



Resident Honors & Awards

U-M Neurosurgery residents continue to receive many prestigious awards and honors for their clinical and academic excellence; 2017 was no exception.

Notable achievements from the 2017 academic year include but are not limited to those listed below.



Nicole Bentley, MD

- Obtained fellowship in functional neurosurgery at Emory University for 2017-2018 academic year



Jay Nathan, MD

- Selected as 2017 MiChart (*Epic*) Physician Builder
- Accepted into the Healthcare Administration Scholars Program (HASP) for 2017 class
- Selected as co-chair of the House Officer Quality and Safety Council for 2017-2018



Todd Hollon, MD

- CNS Quarterly Executive Editorial Board, Congress of Neurological Surgeons, 2015-present
- Named Academy Scholar, American Academy of Neurological Surgeons, 2017
- Best Platform Presentation, UM Neuroscience Day, 2017
- 2017 Chandler Clinical Research Award, Resident Symposium, Department of Neurosurgery, University of Michigan



Luis Savastano, MD

- 2017-2019 CNS Resident Fellow Leadership Program, Congress of Neurological Surgeons
- 2017 Basic Science Award, Resident Symposium, Department of Neurosurgery, University of Michigan
- First place poster presentation at the Fast Forwarding Medical Device Innovation Symposium; "Cloth Buster Thrombectomy Device" invention was one of only eight inventions of the year out of a total of 444 highlighted at U-M's "Celebrate Invention 2017" event
- Received Coulter Grant to develop disruptive technology for mechanical thrombectomy in stroke



Jacob Joseph, MD

- Ranked in 87th percentile nationally on ABNS primary examination for credit
- 2016-2017 Codman Fellowship in Neurotrauma and Critical Care



Drew Wilkinson, MD

- Selected for 2017 NINDS Clinical Trials Course, including week-long residential course in Iowa City for clinical trial proposal on heparinization during treatment of ruptured aneurysms
- Michigan Association of Neurological Surgeons – 2017 Annual Meeting 2nd Place Outstanding Resident Research Presentation



Elyne Kahn, MD

- Leadership Fellow, Congress of Neurological Surgeons, 2015 – 2017
- Third Place History Poster, American Association of Neurological Surgeons Annual Meeting, 2017



Matt Willsey, MD

- Awarded Neurology T32 training grant, 2017-2018 academic year



Osama Kashlan, MD

- Obtained fellowship in spine surgery at Emory University for 2017-2018 academic year



Timothy Yee, MD

- Academic Recognition Award 2016; awarded to the top five graduates based on academic performance and USMLE scores, University of Michigan



Siri Khalsa, MD:

- Cover figure for *Journal of Neurosurgery: Pediatrics* (May 2017 issue)

Visiting Professors 2017

Renowned Guest Lecturers from Across the Country Present on the Latest Neurosurgery Topics

Several times throughout the year, the U-M Department of Neurosurgery welcomes invited guest speakers and lecturers to present on a variety of neurosurgery-specific topics. These visiting lectureships are named for U-M neurosurgeons and physicians who have helped to shape the practice of neurosurgery at the University of Michigan and beyond.



Presents the 2017 Julian T. Hoff & 4th Annual Neurosurgery Resident Research Symposium Visiting Professor

Nelson Oyesiku, M.D., Ph.D.
 Assistant Professor and Professor of Neurosurgery
 Emory University, Atlanta, GA

Friday, May 12, 2017, 5-6pm
 Neurosurgery Conference Room, 3558 Fullmer Center

Overexpression of MAMLD1 in Human and Dog Cushing's Disease

7-9am: Sleep and Parkinson's Disease

For more information, contact Susie Hines at 734-647-7960

Julian T. Hoff Visiting Professor

Nelson Oyesiku, MD, PhD, Al Lerner Chair of Neurosurgery; Residency Program Director and Professor of Neurosurgery; Professor of Medicine (Endocrinology), Emory University

Title: Over-expression of MAMLD1 in Human and Dog Cushing's disease



Presents the 2017 Joan Venes Visiting Professor

Bermans J. Iskandar, M.D.
 Pediatric Director of Neurosurgery Program
 University of Wisconsin School of Medicine and Public Health

Thursday, March 23, 2017, 7-9am
 Neurosurgery Conference Room, 3558 Fullmer Center

7-9am: Educating our Patients and Ourselves through Research. A Hydrocephalus Journey

8-9am: Parameters of Folate-Mediated Epigenetic Tissue Regeneration and Fairytales Heroines

For more information, contact Susie Hines at 734-647-7960

Joan Venes Visiting Professor

Bermans J. Iskandar, MD, Professor, Director, Pediatric Department of Neurosurgery Program, University of Wisconsin School of Medicine and Public Health

Titles: 1) Educating our Patients and Ourselves through Research. A Hydrocephalus Journey; 2) Parameters of Folate-Mediated Epigenetic Tissue Regeneration and Fairytales Heroines



Presents the 47th Annual Edgar Kahn Visiting Professor

E. Sander Connolly, Jr., M.D.
 Bernard M. Stein Professor and Vice-Chairman
 Department of Neurosurgery
 Columbia University, College of Physicians & Surgeons

Thursday, September 22, 2016, 7-9am
 Neurosurgery Conference Room, 3558 Fullmer Center

Carotid Endarterectomy: Trials and Tribulations

For more information, contact Susie Hines at 734-647-7960

Edgar Kahn Visiting Professor

E. Sander Connolly, Jr., MD, Bennett M. Stein Professor and Vice-Chairman, Department of Neurosurgery, Columbia University, College of Physicians and Surgeons

Title: Carotid Endarterectomy: Trials and Tribulations



Presents the 2017 Saeed Farhat Visiting Professor

Joseph S. Cheng, M.D., M.S.
 Professor and Vice Chairman
 Department of Neurosurgery
 Yale University School of Medicine

Thursday, June 22, 2017, 7-9am
 Neurosurgery Conference Room, 3558 Fullmer Center

Helping Solve Our Healthcare Crisis - What Neurosurgeons Need to Know

For more information, contact Susie Hines at 734-647-7960

Saeed Farhat Visiting Professor

Joseph S. Cheng, MD, MS, Professor and Vice Chairman, Department of Neurosurgery, Yale University School of Medicine

Title: Helping Solve our Healthcare Crisis – What Neurosurgeons Need to Know



Presents the 2017 James Taren Visiting Professor

Aviva Abosch, M.D., Ph.D.
 Vice Chair of Neurosurgery and Professor
 Director of Stereotactic and Epilepsy Surgery
 University of Colorado

Thursday, October 12, 2017, 7-9am
 Neurosurgery Conference Room, 3558 Fullmer Center

7-9am: Sleep and Parkinson's Disease

For more information, contact Susie Hines at 734-647-7960

James Taren Visiting Professor

Aviva Abosch, MD, PhD, Vice Chair for Research, Department of Neurosurgery; Professor of Neurosurgery and Neurology; Director of Stereotactic and Epilepsy Surgery, University of Colorado

Title: Sleep and Parkinson's Disease



Presents the 2017 Elizabeth Crosby Visiting Professor

Eric Holland, M.D., Ph.D.
 Senior Vice President, Fred Hutchinson Center
 Director, Nancy and Buster Alvord Brain Tumor Center
 Chief and Endovascular and Brain Aneurysm Clinic in Neuro-Oncology
 University of Washington

Thursday, October 26, 2017, 7-9am
 Neurosurgery Conference Room, 3558 Fullmer Center

7-9am: Mouse Models of Brain Tumors

8-9am: Big Data Visualization of Human Gliomas

For more information, contact Susie Hines at 734-647-7960

Elizabeth Crosby Visiting Professor

Eric Holland, MD, PhD, Senior Vice President, Fred Hutchinson Center; Professor, Department of Neurological Surgery; Director, Nancy and Buster Alvord Brain Tumor Center; Chap and Eve Alvord and Elias Alvord Chair in Neuro-Oncology, University of Washington

Titles: 1) Mouse Models of Brain Tumors; 2) Big Data Visualization of Human Gliomas

FACULTY NEWS

Faculty News & Notes

Promotions & Appointments

2017 Promotions

Effective Sept. 1, 2017

Teresa Jacobs, MD, promoted from Clinical Associate Professor to Clinical Professor, Department of Neurosurgery and Department of Neurology.

George Mashour, MD, promoted from Associate Professor to Professor, with tenure, Department of Anesthesiology and Professor, without tenure, Department of Neurosurgery.

Paul Park, MD, promoted from Associate Professor to Professor, with tenure, Department of Neurosurgery and Professor, without tenure, Department of Orthopaedic Surgery.

Jianming Xiang, MD, promoted from Assistant Research Scientist to Associate Research Scientist, Department of Neurosurgery.

2017 Appointments

Ilyas Aleem, MD, Clinical Assistant Professor of Orthopaedic Surgery, was granted a joint appointment of Clinical Assistant Professor in the Department of Neurosurgery.

Aditya Pandey, MD, Associate Professor of Neurosurgery, was granted a joint appointment of Associate Professor, Otolaryngology – Head and Neck Surgery, without tenure.

Magnus Teig, MBChB, Assistant Professor of Anesthesiology, was granted a joint appointment of Clinical Assistant Professor in the Department of Neurosurgery.

Awards & Accomplishments

Maria Castro, PhD, R.C. Schneider Collegiate Professor of Neurosurgery, received the 2017 Brain Cancer Research Investigator Award from B*CURED jointly with Dr. Joerg Lahann, with the U-M Biointerfaces Institute (title: Identification of Novel Glioblastoma-associated lncRNAs). She was also awarded a Collaborative Pilot Grant through the University of Michigan's Center for RNA Biomedicine. This award is shared with Dr. Mats Ljungman in Radiation Oncology. She is the UM Principal Investigator on a U01/Moonshot grant from the NIH's National Cancer Institute that was awarded to veterinary and pediatrics staff at the University of Minnesota, where the clinical trials are taking place. This grant will support the implementation of a novel gene therapy approach for high-grade glioma in pet dogs. She is collaborating with James Moon, College of Pharmacy, on a grant funded through the NIH's National Institute of Biomedical Imaging and Bioengineering (title: Tuning biomaterials – immune cell interactions for treatment of glioblastoma) and she was appointed Principal Investigator on the Cancer Biology Program's T32 training grant, a role she shares with Dr. Elizabeth Lawlor.

Pedro Lowenstein, MD, PhD, Richard C. Schneider Collegiate Professor of Neurosurgery, received the University of Michigan's Endowment for Basic Sciences (EBS) Award (title: Epigenetic Dysregulation in Human Glioma Stem Cells by a Long Noncoding RNA) jointly with Dr. Sundeep Kalantry, from the Department of Human Genetics. He is a co-investigator on awards to the College of Pharmacy (Dr. James Moon, Principal Investigator; title: Tuning biomaterials – immune cell interactions for treatment of glioblastoma) and a U01 Moonshot grant with the University of Minnesota (title: Novel combined immunotherapeutic strategies for glioma: using pet dogs with spontaneous high-grade glioma).

Cormac Maher, MD, Professor, assumed the role of Residency Program Director on July 1, 2017; he will serve in this role for the next five years. Dr. Maher was also appointed as the Director of the Accreditation Council for Pediatric Neurosurgery and became a member of the Committee for Advanced Subspecialty Training for the Society of Neurological Surgeons.

Karin Muraszko, MD, Julian T. Hoff Professor and Chair, served as the 2017 guest lecturer for the Annual Tana Grady-Weliky, MD Lecture on Women and Diversity in Medicine at the University of Rochester School of Medicine and Dentistry. Her talk was entitled "Leadership Development in a Neurosurgical Residency."

Mark Oppenlander, MD, Clinical Assistant Professor, was selected to be a Neurotrauma Consultant for the National Football League. During games, each team is assigned an Unaffiliated Neurotrauma Consultant ("UNC") by the NFL Head, Neck and Spine Committee and approved by the NFL Chief Medical Officer and the NFLPA Medical Director. The Neurotrauma Consultant is a physician who is impartial and independent from any Club in the NFL, providing sideline care for players sustaining head and spine injuries. Dr. Oppenlander was also invited to serve as faculty on the AANS Coding and Reimbursement Committee. Through this work, he teaches coding principles on a national level to other physicians and coding specialists. In addition, he serves on the AANS/CNS Rapid Response Committee for coding, which strives to maintain and advance surgical coding principles through legislation in Washington DC.

Daniel Orringer, MD, Assistant Professor, received the 2017 Congress of Neurosurgeons (CNS) Innovator of the Year Award for his work on rapid intraoperative diagnosis through stimulated Raman histology (see next page for details).

Stephen Sullivan, MD, Clinical Associate Professor, assumed the role of Service Chief for the adult neurosurgical service at University Hospital. In this role, he will help the Department of Neurosurgery meet requirements for safety, credentialing, and addressing physician and patient concerns regarding clinical care.

B. Gregory Thompson, MD, John E. McGillicuddy Professor of Neurological Surgery, was named Chairman of the American Board of Neurological Surgery (see next page for details).

Dr. Thompson Named Chairman of the American Board of Neurological Surgery



This year, Dr. Greg Thompson was named Chairman of the American Board of Neurological Surgery (ABNS). His term as Chairman began July 1, 2017 and will conclude June 30, 2018. He has been a Board member since July 1, 2012 and has served as Treasurer since July 1, 2014. Board members each serve a six-year term.

“I am both honored and humbled to have the opportunity to serve as Chair of the American Board of Neurological Surgeons. The Board is at a critical juncture in its

77-year history: it has just reunited with the American Board of Pediatric Neurological Surgery after 28 years splintered apart. In an era of increasingly subspecialized practice, the Board has also begun to offer diplomates the opportunity for formal recognition in areas of focused practice: in critical care, endovascular, and pediatric neurosurgery. In 2017, the Board is also completing and rolling out

revisions of the Written, Oral, and MOC examinations. The revisions are intended to make the exams more relevant, accessible, and in the case of MOC, more useful for our diplomates as well. I am particularly honored to have the opportunity to serve the ABNS with vice-chair Tony Asher, an outstanding Michigan Neurosurgery alumnus, and I am, of course, greatly humbled to walk in the footsteps of previous ABNS Chairs Drs. Buz Hoff and Bill Chandler,” said Dr. Thompson.

The primary purposes of the ABNS – which was formed in 1940 after a group of prominent neurosurgeons formally recognized the need for detailed training and special qualifications for the practice of neurosurgery – are to conduct examinations of candidates who voluntarily seek certification, and to issue certificates to those who meet the requirements of the Board and satisfactorily complete its examinations. Additionally, the Board, along with the Residency Review Committee for Neurological Surgery and the Accreditation Council for Graduate Medical Education, works to improve the standards of training in neurological surgical residency programs throughout the United States.

Dr. Orringer Receives 2017 CNS Innovator of the Year Award

Dr. Daniel Orringer was chosen as the recipient of the prestigious 2017 Congress of Neurological Surgeons (CNS) Innovator of the Year Award for his work on rapid intraoperative diagnosis through stimulated Raman histology.

“Our technique may disrupt the intraoperative diagnosis process in a great way, reducing it from a 30-minute process to about three minutes,” Dr. Orringer explained. “Initially, we developed this technology as a means of helping surgeons detect microscopic tumor, but we found the technology was capable of much more than guiding surgery.”

“I am honored by this award which, in truth, is a recognition of the work made possible by the culture of collaboration fostered by the Department of Neurosurgery at the University of Michigan. Our goal of developing a device to streamline tumor diagnosis and detection during brain tumor surgery reflects an ongoing partnership between clinicians, scientists, and engineers that brings together experts in academia and industry.”

The award was presented to Dr. Orringer – who was one of three finalists being considered out of more than 45 applicants nationwide – at the 2017 Annual CNS Meeting, which took place in Boston in October.



#2017CNS

**Innovator of the Year:
Daniel Orringer, M.D.**

Rapid Intraoperative Diagnosis through Stimulated Raman Histology



ALUMNI NEWS

Alumni News & Notes



Steven Giannotta, MD, (1978) Chair of Neurological Surgery, Keck School of Medicine, University of Southern California, received the Founders' Laurel Award at the 2017 Congress of Neurological Surgeons (CNS) annual meeting. This award recognizes exceptional service, dedication, and accomplishment in the field of medical education.



Judy Gorelick, MD, FAANS, FACS, (2001) Neurosurgeon, Neurosurgery, Orthopedics & Spine Specialists, PC (NOSS), has been the Section Chief of Neurosurgery at Griffin Hospital in Derby, CT since 2015. She has also been named a "top doc" in Connecticut by her peers every year since 2011.



David Kline, MD, (1967) Boyd Professor of Neurosurgery, Professor and Department Chairman Emeritus, Louisiana State University School of Medicine, received the gold medal at the 2017 Neurosurgical Society of America annual meeting.



Nathan Selden, MD, PhD, (1999) Campagna Professor and Chair of Neurological Surgery, Oregon Health & Science University School of Medicine, was elected secretary of the Society of Neurological Surgeons – the oldest neurosurgical organization in the world – in May, 2017. His term as SNS Secretary will continue until 2022.



Jerry Tuite, MD, (1995) Neurosurgeon, Johns Hopkins All Children's Hospital, received the 2017 Armstrong Award for Excellence in Quality & Safety from Johns Hopkins All Children's Hospital, where he practices as a pediatric neurosurgeon. This award is presented to the physician who partners with patients, families, colleagues, and staff members to optimize patient outcomes and eliminate preventable harm.



Cheerag Upadhyaya, MD, (2009) was appointed surgical co-director of the St. Luke's Marion Bloch Neuroscience Institute, part of Saint Luke's Health System, in Kansas City, MO, in July of 2017. He had served in this role on an interim basis since 2016.

Join us as we celebrate U-M Neurosurgery's Centennial Anniversary in 2018!

Our esteemed U-M Neurosurgery alumni have helped to make the U-M Department of Neurosurgery what it is today.

Save the date and join us as we celebrate 100 years of neurosurgical excellence at the University of Michigan – and the distinguished individuals who have shaped those 100 years – **September 13-15, 2018**. The celebration includes:

- U-M Neurosurgery Past, Present & Future Conference
- Social Gatherings at sought-after Ann Arbor venues
- Tailgate, Football Game (vs. SMU) & U-M Stadium Tour

See Page **27** Take a look back at the last 99 - soon to be 100 - years in the Department of Neurosurgery. Expect more to come on our Centennial Celebration in your mailboxes and inboxes throughout 2018.



STAFF NEWS

Welcome to U-M Neurosurgery!

The Department of Neurosurgery welcomed several new staff members this year. Take a moment to learn about your new colleagues.



Shawn Brown, Medical Assistant, Adult Clinic

Shawn is not new to the Department of Neurosurgery, as she has supported Dr. Yang and the Brachial Plexus Program at Burlington for several years. However, she is a new face in the Adult Clinic at Taubman, as she is now spending the majority of her time there – a change that took place in October. Shawn has been at U-M for seven years.



Katie Keister, Patient Services Assistant, Adult Clinic

Katie joined the Adult Clinic front desk staff in April. She came to us with eight years of varied experience in the medical field and is excited to be a part of the Neurosurgery team. Outside of work, she enjoys reading, watching movies, playing with her pets, and golfing.



Tom Cichonski, Senior Editor

Tom joined the department as Senior Editor in April. In this role, he supports faculty and residents in their academic publication endeavors. Tom came to us with a wealth of editorial experience. He has been at U-M since 1998. Just prior to joining our department, Tom was the Senior Editor in Orthopaedic Surgery. Prior to his years at U-M, Tom held several high-level editorial positions in reference book publishing and at a peer-reviewed journal.



Carlee Neal, Patient Services Assistant, Adult Clinic

Carlee joined the Adult Clinic staff in May; she serves as the front desk clinic technician and loads patient CDs in clinic. Carlee has a bachelor's degree in Psychology from Siena Heights University. Prior to joining the department, she worked as an optician, scribe, and pre-tester at a vision center. Outside of work, Carlee enjoys camping, traveling, and spending time with her husband, family, and friends.



Chuck Hayes, Patient Services Assistant, Adult Clinic

Chuck joined the Adult Clinic staff in August and assists patients at the front desk. He is a graduate of Eastern Michigan University; he spent 20 years in sales for distributors in the food service industry and has spent the last nine years working with his wife in owning and operating a preschool/daycare. Chuck enjoys exercise, reading, cooking, and family time.



Qiana Woodward, Medical Assistant Specialist, Adult Clinic

Qiana Woodward joined the Adult Clinic staff as an MA specialist, primarily supporting the spine service, in April. Prior to joining the department, she served as an MA in the pediatric non-cancer infusion area. She has been at U-M for eight years. Qiana is the proud mother of a college freshman; her hobbies outside of work include traveling, bowling, cooking, boating, reading, and spending time with her family.



Diversity, Equity, & Inclusion Workgroup Established to Lead Departmental DEI Efforts

In April 2016, President Schlissel kicked off a university-wide initiative called Diversity, Equity and Inclusion (DEI). Soon after, the University-wide mission statement and strategic plan were presented. Each department was asked to appoint a planning and implementation lead for DEI-related efforts; the Department of Neurosurgery appointed **Kait McMurray**, Brain Tumor Program Coordinator, to this role, and the DEI Workgroup was formed to support departmental DEI efforts. This group currently includes the following members:

Megan Curtis, Nurse Practitioner

Samantha Emanuel, Administrative Assistant to Drs. Heth and Sagher

Megan Foldenauer, Multimedia and Image-Guided Surgery Specialist, Medical Illustrator

Nicole Goguen, Nurse Practitioner

Erika King, Administrative Assistant to Drs. Muraszko, Maher, & Garton

Kait McMurray, Brain Tumor Program Coordinator

Ashley White, Patient Services Assistant

Since its formation, the group has worked to create and implement a mission that reflects the department's commitment to diversity, equity, and inclusion. In 2017, the DEI Workgroup led the department in establishing DEI educational opportunities for faculty, residents, and



staff. Nearly 75% of the department has been involved in some form of DEI activity in 2017. It is the group's goal, in 2018, to reach 100% of the department. Some of the educational courses that were attended by members of the department include Unconscious Bias Training, Disability Awareness, Crucial Conversations Training, Intercultural Awareness, and Bystander Training. In addition to continuing to orchestrate DEI-related educational opportunities, the DEI Workgroup plans to host quarterly multi-cultural informational sessions and to establish diverse focus groups to assess departmental DEI-related needs in 2018.

Employee Engagement Workgroup Forms to Foster Maximum Engagement Across Department

To maximize engagement throughout the Department of Neurosurgery, the Employee Engagement Workgroup was formed in March, 2017. The workgroup is led by our department's culture coach, Becky Sigler, and is comprised of volunteers from various work areas across the department. Current members include:

Sherry Bejster, Senior Administrative Assistant

Sherrill Bird, Clinic Operations Manager

Molly Dahlgren, Research Process Coordinator

Tom Ferguson, Nurse Practitioner

Carrie Lint, Nurse Practitioner

Nikki Nilsson, Clinical Outcomes Data Specialist

Becky Sigler, Executive Assistant

Sara Smith, Administrative Assistant to Dr. Park

In 2017, the Employee Engagement Workgroup focused many efforts around communication-related initiatives within the department. The group implemented a national monthly awareness ribbon campaign to bring awareness to the many conditions that our patients face.

Additionally, the Employee Engagement Workgroup, working closely with Dr. Richard Keep, Professor and Director of the Crosby Lab, organized and hosted tours of the Crosby Lab in September to foster greater connectivity between staff located in various work areas on campus. Administrative and clinic staff members, as well as a number of advanced practice providers, attended one of the three tours offered, which included presentations on the history of the Crosby Lab by Dr. Keep and a summary of administration duties by Donna Gauss. Attendees also learned about the department's brain tumor banking program and resident life during the residency research years. Presentations were followed by a tour of the fifth floor offices and lab. Because the event was so well-received, the group will be planning a similar tour of the Castro/Lowenstein Lab in 2018.

The Employee Engagement Workgroup is excited to continue working on the employee engagement survey action plan in order to promote employee engagement and appreciation throughout the Department of Neurosurgery. The next U-M staff employee survey will take place in the spring of 2018.

DEPARTMENT FEATURES

U-M Neurosurgery patients have utilized social media – Facebook in particular – throughout the year to express their gratitude for the great care they’ve received from our world-class faculty and staff.



Jessica D. ★★★★★ March 20

“Oh my darling it’s true, beautiful things have dents and scratches too.” It’s been a whole year since our sweet Mallory had her big neurosurgery to remove a cyst from her brain. Now it’s time to schedule a new MRI and pray that there has been no regrowth. Thank you, Dr. Maher and Dr. Buchman.



Denise O. ★★★★★ March 22nd

Dr. Park and his nurse practitioner, Nancy, are amazing. I’ve received great care since day one and never felt that I was treated as a number. Every concern is addressed. The office staff are great as well! I had surgery in December and the staff were great. Once I was home and had a few issues, I found that the residents on call were just as great.



Melinda A. ★★★★★ April 3

One year ago at this time, we were sitting in the Neuro ICU wondering what was going to happen to my mother-in-law. She arrived at U-M on April 2, 2016 – the fourth hospital she was taken to – after she’d had an aneurysm rupture. The other hospitals gave us a grave outlook, but Dr. Pandey and his team evaluated her and said we had a good chance of saving her. So, off to an eight-hour surgery she went. She spent 23 days in the Neuro ICU. The doctors and staff on the floor were phenomenal. They became our family away from home. They treated my mother-in-law with such dignity and respect. I am happy to say that we celebrated the one-year anniversary of her surgery recently with her in her home. She has some short-term memory issues but otherwise, is doing great. Our family is blessed to have a hospital like U of M here to help in an emergency.



Sandra H. ★★★★★ March 30

Dr. Thompson saved my life. I cannot thank him enough!



Kristy D. ★★★★★ October 15

Dr. Heth saved my husband’s life! His NP Elizabeth is equally fantastic!



Natalie G. ★★★★★ September 17

Dr. Patil was my neurosurgeon. He gave my children their mother back, a man his wife back, and me MY life back! I am forever grateful!



Stephanie C. ★★★★★ April 25

My daughter sees Dr. Sullivan and we couldn’t be happier with him and his staff. Everyone is great! He does a great job explaining and takes his time. We never feel rushed.



Marge V. ★★★★★ August 18

Twenty years ago I was sent to the University of Michigan Department of Neurosurgery to have a cyst removed from my spinal cord. Over the past two decades I’ve received nothing but wonderful care from the staff of this department. They are all are kind and caring, and see me as a person, not just a case. I see Dr. Oren Sagher, who oversees my pain pump placement and care. He and the physician assistants who work with him are wonderful people; they listen to my concerns, answer questions, and I’m very happy that I found them.



Andy & Luci B. ★★★★★ August 26

My NEURO team was FANTASTIC! Thanks to Drs. Oppenlander and Chen and the rest of the surgical staff for the awesome job they did on me. And to the AWESOME nursing staff of 4A: Annie, Stephanie, Megan, and Jana. Thank you all. It’s staff like you that make us the 6th best hospital in the country and I’m so proud to be a part of this great team at the University of Michigan Medical Center.



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Cross-Hospital Collaboration Proves Lifesaving for Brain Aneurysm Patient

Merrill Harvitt suffered an extensive neurovascular bleed that in most cases would be deadly. But teamwork led to a remarkable recovery – and more time with his beloved family.

The stars seem to be aligned for Merrill and Sandra Harvitt. After all, they've been together since 7th grade, have been blessed with four children and eight grandchildren, and celebrated their 50th wedding anniversary in August. But there's more to the couple's good fortune, which became evident on June 9, 2015. That's the day Merrill, then 71, suffered a brain aneurysm that might have killed him if it weren't for good timing and smart decisions.

The grim diagnosis

Merrill had just returned from a fishing trip in a remote area of Canada to his home in Traverse City, Michigan, when a debilitating headache landed him in the Munson Healthcare emergency room. The shocking cause was a brain aneurysm. "The doctors pretty much told us Merrill might not make it," says Sandra. The couple volunteers in the hospital emergency room, so are familiar with the environment. "They let us go down to room 15 where they take family members when they think a patient isn't going to make it."

Munson Healthcare on-call neurosurgeon Thomas Schermerhorn, MD, describes Merrill's critical condition: "There was a massive amount of bleeding in two areas: in the frontal lobe of the brain and in the subdural space on the outside portion between the surface of the brain and the skull. Both of these were causing increased pressure within the confines of the skull and shifting his brain from one side to the other." Despite the grim outlook, Schermerhorn wasn't giving up. "Dr. Schermerhorn told us about his association with the University of Michigan," Sandra recalls. He wanted to contact the experts there to discuss Merrill's condition. After consultation with Michigan Medicine neurosurgeon Aditya Pandey, MD, Schermerhorn was able to relieve the pressure from Merrill's head by removing part of his skull and implanting it in his abdomen to keep the tissue viable. Then, the patient was airlifted via Survival Flight to U-M for advanced treatment.

A team approach

Once Merrill arrived and was admitted to the U-M neurosurgical ICU, Pandey immediately assembled his team to begin further evaluation. "We needed to do further assessments to understand why he had the bleed in the first place because any repeat bleeding would be deadly," says Pandey. The team identified a rare type of aneurysm or vascular abnormality known as a dural arteriovenous fistula, which according to Pandey, "is extremely uncommon and can be deadly."



Merrill and Sandra Harvitt with their eight grandchildren.

During surgery, the U-M team determined the abnormality was complicated because of its location on the major artery going to Merrill's eye. "We didn't want to risk his vision," says Pandey, who stopped the surgery to explore a revised treatment plan. A week later, the team performed an open surgery to successfully excise the abnormal segment, with no danger of harming the patient's eyesight. "In fact," says Sandra, "Merrill's eye doctor told us he had absolutely no change in his eyesight after the surgery." Despite tremendous head pain in the weeks following surgery, Merrill began rehab and progressed quickly. Because of his love of fishing, one of Merrill's rehab exercises involved a fishing rod and reel. "They wanted to see if I could still cast. I was able to do it with no problem," the avid fisherman says.

Key collaboration

The relationship between Munson Healthcare and Michigan Medicine proved to be lifesaving for Merrill. "Collaborations like this are extensively important," says Schermerhorn. "The collaboration with Dr. Pandey ultimately led to a more refined, more direct treatment." According to Pandey, "Merrill has made a remarkable recovery. When I see him in clinic visits, and when Dr. Schermerhorn sees him in clinic visits, we're unable to tell a difference between his prior functionality and now." "We're just so thankful to Dr. Schermerhorn, Dr. Pandey, and everyone else involved for giving us more time together," says Sandra. Her junior high school crush Merrill concurs wholeheartedly.

Watch the Harvitt story:

 **YouTube** https://youtu.be/y6j7_olvlhM

For more patient stories, please visit
michiganhealthblog.org.

How Lasers Are Changing the Future of Epilepsy Treatment

People with medication-resistant epilepsy haven't had many options in the past. Now, a minimally invasive procedure uses lasers to stop the seizures.

It's a disease that can steal the most productive years of a person's life. And for some patients with epilepsy, medications aren't effective. Neurosurgery may not be in the cards, either. Challenging the status quo that those epilepsy patients must settle for managing seizures instead of stopping them, a Michigan Medicine neurosurgeon is among the first doctors to use a new therapy designed to offer relief. The method: lasers.

It's called laser interstitial thermal therapy – LITT for short – and it uses a beam of targeted heat to attack — and destroy — the portion of a patient's brain causing the seizures. Emily Levin, MD, says laser ablation for epilepsy has been an option for only about five years, and few centers offer it. Despite its newness and relative obscurity, the treatment has potential. "It's a less invasive procedure, which means the recovery is quicker and it may be a possibility for more patients," says Levin, an assistant professor of neurosurgery at the University of Michigan. "There are a lot of people who have been told they can't have surgery for their epilepsy and they just have to live with it, so they've stopped trying. This is a new procedure that can allow those people to have a surgery and, perhaps, a chance to live without epilepsy. It could help treat other conditions, too. LITT has been used to attack brain tumors such as glioblastoma.

Targeting the trouble tissue

Levin performs the LITT procedure in an MRI suite, using a fiber-optic system called NeuroBlate. LITT starts with a pinhole incision, and then the laser is employed. Levin goes in with a plan: She has mapped out the precise path the laser will take to target the trouble tissue. Meanwhile, technical precautions are in place to ensure the patient's safety. "The laser is MRI-compatible, to monitor the temperature of the brain," Levin says. "Our team watches the heating of the brain along the laser fiber in real time, targeting the part of the brain causing the seizures."

Levin says temperatures typically reach about 50 degrees Celsius (about 122 degrees Fahrenheit). And it takes her just minutes to heat and remove the trouble spot, rather than the hours that doctors would take to remove the tissue during a typical epilepsy surgery. Carbon dioxide cools the laser along its path so that only the tissue near the tip is affected. Spinal fluid cools and protects surrounding areas of the brain, Levin says.

New chance at relief

Edward Wilkerson was one of Levin's first Michigan Medicine patients to undergo the LITT procedure this summer. Wilkerson's seizures stem from his rare benign congenital tumor called hypothalamic hamartoma, or HH. "I'm trying to get to where I don't have this problem, period,"



LITT patient Edward Wilkerson speaks with Emily Levin, MD, & Nusha Mihaylova, MD, PhD.

the 46-year-old says. After several medications failed and a gamma knife surgery didn't stop all the seizures, his neurologist and neurosurgeon thought LITT was worth considering. The location of Wilkerson's brain tumor was tricky: It's near the area that transmits memory, called the fornix, and the area that controls body temperature, weight, appetite, and sleep cycles, called the hypothalamus. LITT allowed maximum precision and maneuvering. "The advantage of the laser is the minimal risk of damage to these surrounding areas," Levin says.

Wilkerson's neurologist, Nusha Mihaylova, MD, PhD, says LITT is gaining popularity at epilepsy centers, in particular for the treatment of HH. "There are only a few published series of patients with HH treated with LITT, but they show promising results in terms of post-surgical seizure freedom and low rate of complications," she says. "Long-term clinical follow-up of HH epilepsy patients treated with LITT will continue to define its role in the treatment of this pathology."

Life after LITT

Patients recover more quickly with LITT than after traditional brain surgery. This is key for people who need to return to work and other activities their epilepsy may have hindered, Levin says. Wilkerson went home the day after his procedure and is doing well three months later. Although he has had two provoked seizures, Levin says that his condition is likely to improve — and that LITT may be repeated if necessary. LITT provides a much-needed option for patients with HH. For other patients with epilepsy, it offers a less invasive option before others are considered. "We know the chances of being seizure-free are slightly less with LITT for temporal lobe epilepsy patients, the most common indication," Levin says, "but if someone does continue to have problems, it is possible to perform a traditional surgery later."

For more patient stories, please visit
michiganhealthblog.org.

Surviving Brain Cancer Inspires Incoming Freshman to Pursue Medicine

Four year after fighting multiple brain tumors at C.S. Mott Children's Hospital, an incoming freshman aims to emulate the care he received.

As he crossed the stage to accept his high school diploma this past spring, Jeffrey Brown was celebrating just one more milestone. Among his recent accomplishments: maintaining a 4.0 GPA, being accepted to two prestigious universities, and, perhaps biggest of all, conquering stage four brain cancer. But, the 18-year-old, who is now a freshman at the University of Michigan, is already looking toward future goals. Top of the list? To end up back at U-M's C.S. Mott Children's Hospital, a place where he spent an entire summer and more than half a year fighting cancer. This time, though, he intends to be on the other side of care.

"My dream is to some day care for kids with cancer on the seventh floor of Mott, to be part of a community that nurtures others and to inspire the hope that was given to me," Jeffrey wrote in one of his scholarship essays. A healthy Jeffrey celebrated his birthday in June, surrounded by family, friends and graduation festivities. It's a long way from how he spent his 14th birthday: in a hospital room receiving chemotherapy after the shocking diagnosis that rocked his family's world in May 2013, when an MRI confirmed their worst fears – multiple brain tumors.

Teamwork & treatment

Within days of diagnosis, a team led by pediatric neurosurgeon Hugh Garton, MD, performed a craniotomy to biopsy the most accessible tumor and obtain more detailed images differentiating between tumor tissue and healthy tissue. Jeffrey's diagnosis was primary central nervous system large B-cell lymphoma. Multiple tumors were found to be wreaking havoc on his nervous system.

Because this type of brain cancer is more common in adults, Jeffrey's doctors consulted with colleagues around the country. The Michigan Medicine tumor board analyzed images and discussed the best route for Jeffrey's care. His team of pediatric oncologists and neuro-oncologists chose a clinical trial option. Besides a chest port for intravenous chemotherapy treatment, the Mott neurosurgical team would insert a thin tube called a ventricular access catheter through a small hole in Jeffrey's skull to directly inject chemotherapy drugs into his cerebrospinal fluid. Jeffrey spent the next eight months, including most of the summer before his freshman year of high school, in and out of Mott for aggressive chemotherapy treatment. Based on historical outcomes, the treatment had a 50-50 chance of success. "Of course, no mother wants to hear that her child needs eight months of chemo and that there's a 50 percent chance it won't work," Jeffrey's mom, Michelle Brown says. "But this experience has definitely strengthened my faith and showed me the power of family, friends, and support.

Purposeful path

Today, Jeffrey is tumor-free. "There were definitely some agonizing moments, but I just knew that nothing could break my spirit," Jeffrey says. The treatment made me sick and it could be painful, but I was thankful for my family's support and our strong faith that helped me through it. I just knew I would get past it somehow. My battle with cancer really sparked a passion for medicine," he says. "I was surrounded by brilliant minds through all of the health care professionals at Mott. I knew I wanted to be a part of a team like that, a team not only focused on curing your disease but on helping you live your best life – even when the chemo is making you throw up and lose your hair." Going forward, the journey continues to give him perspective. "I know I was one of the fortunate ones," Jeffrey says. "I consider everyday a blessing, a gift of life. I don't want to waste a minute of it."



"I consider everyday a blessing, a gift of life. I don't want to waste a minute of it."

The Story of Dad's Brain Tumor, Told Through an 11-Year-Old's Eyes

In the midst of glioblastoma treatment, radio interviews & editing strengthened a father-daughter bond – and helped their family cope.

Brain surgery is a lot for anyone to process. So when Cecelia Brush's dad had to take some time away from his radio job for his surgery, the 11-year-old grabbed a microphone and hit record. Her dad, Mark Brush, is the director of digital media at Michigan Radio. He'd taught his two children, Cecelia and Elias, 13, how a radio story is made, which is how he became the subject of a deeply personal one. Brush had a glioblastoma, or a fast-growing brain cancer. The 17-year veteran of Michigan Radio underwent surgery in March of this year and completed radiation a few months later. "Mark had a concerning lesion in his brain, positioned in one of the toughest locations to operate on," said his neurosurgeon, Daniel Orringer, MD. Orringer participated in the radio piece, too, sitting for a tough interview with Cecelia about his inspiration for becoming a neurosurgeon and her dad's case.

Much-needed answers

Brush's tumor moved quickly. "Mark probably only had the tumor for a matter of months," Orringer says. "It was rapidly evolving, and it's typical for a patient to put symptoms on the back burner." Brush says, looking back, there were symptoms for about a month before he went to the emergency department. "I had some funny sensations in my mouth," he says. "I was talking to colleagues at work, and I'd all of a sudden have a feeling where I couldn't say the words I wanted to say."

When he looked in the mirror one morning and saw his lip drooping, Brush knew something more serious might be going on. "At first, I was relieved to find out what was causing the problem," he says. "The fact that it was a glioblastoma and cancer sunk in for me later." His children immediately had a lot of questions about what was going to happen and why. The informal interviews eventually turned into formal ones. "Cecelia figured this was her chance to make an actual story," Brush says, and he was ready to help as much as he could. His radio kit was sitting idle, and she already had an idea how to use the equipment.

A new project

Cecelia applied all of her dad's radio lessons to her new project: telling her dad's story. "Cecelia took this interview really seriously, and it was clear she looks up to her dad for working in the field and was honoring what he does with the story she made," said Dr. Orringer. "She's so mature." Glioblastoma is a tough diagnosis and a tough interview topic. To attack the tumor, Orringer and Brush opted for awake brain surgery.

Moving forward

Patients are awake during some brain surgeries so the medical team can test the parts of the body affected by the portion of the brain being operated on. For Brush, this meant answering questions during the procedure, moving his arms and fingers on his left side and giving a



thumbs-up on command. "It was crazy to be awake," Brush says, "but it was actually comforting to know I was helping Dr. Orringer as he worked on my tumor." "Our team kept him awake so we could be sure nothing we did during the surgery would harm Mark's ability to talk or move," Orringer says. "We were able to remove the most aggressive parts of the tumor."

Since surgery, Brush has continued on with chemotherapy, radiation, and an immunotherapy clinical trial. "The combination of surgery, radiation and chemotherapy can really deal a blow to these tumors," Orringer says. "Ultimately, we really aim to maximize quality of life for our patients. It was important to me to provide the Brushes with this quality time together."

Cecelia says she and her brother are already thinking of their next radio project. Audio storytelling has become a family activity, with Brush assisting on both the technical aspects, like sound quality, and the tricks of the trade, such as how to get the most information you can out of an interview. She also has her eye on the long term. "I might want to do what my dad does," Cecelia says.

For more patient stories, please visit
michiganhealthblog.org.

After Head Injury, U-M Student Benefits from Brain Trauma ICU

A fall from a second-story, off-campus roof could have been fatal for a college sophomore. Thanks to a specialized intensive care unit at Michigan Medicine, the student is back in class.

Last November, U-M sophomore Jonathon “John” Beckman fell more than 12 feet from the roof of an off-campus building and landed headfirst on the sidewalk. First responders quickly transported him to the Massey Emergency Critical Care Center at Michigan Medicine. More than seven hours away in Michigan’s Upper Peninsula, Beckman’s parents received word of their son’s accident. “Even before we knew the details of his condition, we just started to drive,” his mother, Liz, recalls. “Cell service in the U.P. is spotty, but miraculously his neurosurgeon called us just as we reached the first rest stop with good reception, and we discussed the plan.” As the Beckmans made their way to Ann Arbor, former U-M neurosurgeon Shawn Hervey-Jumper, MD, performed a decompressive craniectomy – surgery that involved removing a large part of John’s skull to try to relieve the pressure building up within his brain. By the time John’s parents arrived, their son was out of surgery and had been transferred to the neurointensive care unit (NICU).

Highly specialized care

For patients like John who suffer life-threatening neurological events, neuro-critical care offers the best hope for recovery. Michigan Medicine’s 15-bed NICU is staffed by experts who include board-certified neurointensivists, doctors trained to care for the most fragile neurological patients, as well as specialized nurses trained to care for critically ill and neurologically impaired patients. “John was extremely ill when he arrived on the unit,” says Venkatakrishna Rajajee, MBBS, medical director of Michigan Medicine’s NICU and the neurointensivist who cared for John. “He had multiple brain bleeds, severe brain swelling, contusions in the lungs and a burst fracture in his thoracic spine. He was not expected to survive without life support.”

As is the case with many neuro-critical care patients, the biggest threat to John’s survival and recovery was a dangerous elevation in the pressure within the brain. A number of advanced treatments were used to ease this pressure. A highly concentrated salt solution was infused into his veins to control brain swelling, and a device known as the Arctic Sun, which uses adhesive pads filled with circulating ice-cold saline, lowered his body temperature, thus reducing his critically injured brain’s need for oxygen. Eventually, John was placed in an induced coma. His intracranial pressure (ICP) level finally stabilized. The doctors and nurses worked closely with John’s parents and continuously monitored his progress. “I became obsessed with watching that ICP monitor,” Liz recalls.

Reversal & recovery

After nearly two weeks, the care team began gradually bringing John out of the coma. Regular checks of his neurological activity were eventually rewarded with a thumbs-up from the patient, who later showed signs of improvement by sticking out his tongue, then movement on his right side. Eventually, movement returned on his left side. A follow-up surgery soon afterward implanted two titanium rods in his spine to secure the burst vertebra. John was released Dec. 6, one month to the day after his accident. In January, the defect in his skull was closed with a procedure known as a cranioplasty.

Not surprisingly, he remembers nothing about his time in the NICU: “The first thing I remember was feeling like I wanted to get back to school as soon as possible.” John returned to campus for the spring term, resuming his biochemistry studies. He hopes to attend dental school one day. “I guess there’s no better word than grateful to describe how I feel about the doctors and nurses,” he says. “The same goes for my family and friends. Their emotional and spiritual support made a huge difference in my recovery.”

For more patient stories, please visit
michiganhealthblog.org.



RESEARCH NEWS

Clinical Trial Will Treat Glioblastoma in Pet Dogs

A new immunotherapy approach to a devastating brain cancer is showing great promise in the treatment of glioblastoma in pet dogs – and potentially human patients in the future – thanks to a collaboration between neurosurgery, pediatrics, and veterinary medicine.

Maria Castro, PhD, professor of neurosurgery at the University of Michigan, received support from the National Cancer Institute at the National Institutes of Health to implement a gene therapy approach, which boosts anti-tumor immunity, to treat pet dogs with high-grade glioma. It's a partnership with veterinary and pediatrics faculty at the University of Minnesota, where the canine clinical trial will take place. The National Cancer Institute's Cancer Moonshot, which appropriated \$300 million this year to fund cancer research, is funding the project.

"Unfortunately, pet dogs have a high incidence of high-grade gliomas, and the origin and poor prognosis of the disease are similar to human patients," Castro said. "But since we've already proven this therapy is safe and efficacious in pre-clinical models, we can help pet dogs with malignant brain cancer by adding immunotherapy to surgery and

chemotherapy." G. Elizabeth Pluhar, DVM, PhD, professor of veterinary surgery at the University of Minnesota College of Veterinary Medicine and principal investigator on the NCI grant, will lead the clinical trial on-site in Minnesota. "We've seen a beneficial effect delivering immunotherapy using Dr. Castro's gene therapy in a previous clinical trial in pet dogs with high-grade glioma," Pluhar said. "We expect to enhance that effect by adding a novel immune checkpoint blockade developed at the University of Minnesota." The immune checkpoint blockade allows the immune system to work more efficiently in fighting the tumor by blocking inhibitory signals the cancer gives the immune system.

Castro said the researchers hope to translate their results to provide a standard therapy for pet dogs, and if the results are encouraging, eventually a therapy for human patients. The award is \$2.7 million over five years. Additional researchers include the University of Minnesota's Michael Olin, PhD, and U-M's Pedro Lowenstein, MD, PhD.

The Cancer MoonshotSM to accelerate cancer research aims to make more therapies available to more patients, while also improving the ability to prevent cancer and detect it at an early stage.

To learn more, please visit: cancer.gov/research/key-initiatives/moonshot-cancer-initiative



Translational Stroke Research Workshop Draws Researchers from Around the Globe

Drs. Guohua Xi, Richard Keep, and Ya Hua hosted a Translational Stroke Research Workshop in July here at the University of Michigan. More than 50 individuals from across the University, the U.S., and the world – including attendees from China and Japan – attended, sharing their groundbreaking stroke research and gaining new ideas for collaboration. Attendees included 16 former research fellows who were trained in the Crosby Neurosurgical Laboratories. Attendees heard clinical and basic science presentations related to ischemic and hemorrhagic stroke and spent time reflecting on past collaborations and planning for future research collaborations.



Neurosurgery Meets Biotechnology

Drs. Orringer & Savastano Publish Groundbreaking Research in *Nature Biomedical Engineering*

In the February 2017 issue of *Nature Biomedical Engineering*, Drs. Orringer and Savastano (PGY 6) both published manuscripts on their respective, groundbreaking research incorporating novel biotechnology into neurosurgical practice. Dr. Orringer's article, *Rapid intraoperative histology of unprocessed surgical specimens via fibre-laser-based stimulated Raman scattering microscopy*, detailed his team's work in the area of rapid intraoperative diagnosis through stimulated Raman histology (SRH). SRH is an image-processing method introduced by Dr. Orringer and his team that leverages stimulated Raman scattering microscopy to rapidly reveal essential diagnostic features in tumor cells during surgery. Conventional methods for intraoperative diagnosis are time- and labor-intensive and can delay decision-making during brain tumor surgery, but SRH is rapidly performed and analyzed in a room adjacent to the operating room. It has great potential to improve the surgical care of brain tumor patients.

Dr. Savastano's work incorporates a new biotechnology to aid in the diagnosis and treatment of patients who are at risk for certain cardiovascular events, such as stroke and heart attack. His article, *Multimodal laser-based angioscopy for structural, chemical and*

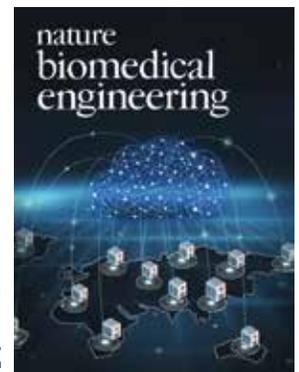


Dr. Orringer



Dr. Savastano

Image & cover courtesy of Prof. Haotian Lin, Sun Yat-sen University, Guangzhou, China



biological imaging of atherosclerosis, reports proof-of-concept results for a new imaging platform – a multimodal scanning fiber endoscope (SFE) – for atherosclerosis. Dr. Savastano and the research team showed that the SFE can generate high-quality images of possible stroke-causing regions of the carotid artery that may not be detected with conventional radiological techniques. The SFE has the potential to not only discover the cause of a stroke, but also assist neurosurgeons with therapeutic interventions by guiding stent placement, releasing drugs and biomaterials, and helping with surgeries.

As evidenced by the work of Drs. Orringer and Savastano, the Department of Neurosurgery is eager to continue collaborating with colleagues in bioengineering and biotechnology to pave the way for the future of neurosurgical practice at U-M and beyond.

Streamlining Clinical Trials through the Implementation of Clinical Trial Support Units (CTSUs)

CTSUs were created across the institution to improve clinical care, value, and health outcomes by facilitating the successful execution of high-quality clinical trials. The Department of Neurosurgery was joined with Neurology and Dermatology to create the Neurosciences and Sensory Clinical Trials Support Unit. The NSS-CTSU opened in January and provides the following services: pre-award support, post-award support, trial coordination, data acquisition and management, regulatory support, statistical support, and publication support. The Neurosurgery support unit consists of the following individuals: Dr. Parag Patil, CTSU Medical Co-Director; Karen Frisch, Manager and Clinical Study Coordinator;

Ron Ball, Clinical Study Coordinator; and Molly Dahlgren, Pre/Post award. Additionally, Donna Gauss, Research Process Senior Manager in the Crosby Lab, and Angela Collada, Research Administrative Specialist in the Castro-Lowenstein Lab, provide Pre/Post award support in certain instances. Diana Miller has served as the NSS-CTSU Administrator, overseeing the unit's business operations.

Please contact Dr. Patil for additional information regarding the NSS-CTSU or visit clinicaltrials.med.umich.edu for additional information on the various CTSUs across the institution.

MICHIGAN MEDICINE NEWS

Comprehensive Cerebrovascular Program Launches at Metro Health

In November, Michigan Medicine and its affiliate, Metro Health, announced the arrival of a Comprehensive Cerebrovascular Program in Grand Rapids. The new program at Metro Health offers 24-7 care for all patients with cerebrovascular conditions – allowing individuals to undergo treatment for stroke, brain aneurysms, and carotid disease closer to their homes. This program is one of the many ways that Michigan Medicine is expanding its reach across the state of Michigan and delivering complex care to local communities. “We are excited to help deliver advanced stroke care to the western Michigan community,” said Aditya Pandey, MD. “It’s vitally important to ensure that we touch and improve as many lives as possible.”



MICHIGAN MEDICINE
UNIVERSITY OF MICHIGAN

Neurosurgery and the University’s Bicentennial Celebration

This year – 2017 – marked the University of Michigan’s Bicentennial. Throughout the year, many events were held to commemorate the University’s impact on society over the last 200 years. The Department of Neurosurgery took part in several of these events. Dr. Karin Muraszko appeared with CNN medical correspondent and U-M Neurosurgery alumnus Sanjay Gupta, MD, at the “True Blue! A Tribute to Michigan” event in April – an event that brought together students, faculty, and alumni to celebrate the history, accomplishments, and traditions of Michigan.

Additionally, neurosurgery staff members represented our department at the MStaff200 event, which took place in June and honored the contributions of U-M staff members across the various U-M campuses and Michigan Medicine. The event featured staff-curated displays and opportunities for staff to share their artistic or performing talents, as well as their service to the community.



The last 200 Years...

In honor of the University’s Bicentennial celebration, we look back at some of the events that have built Michigan Medicine’s strong foundation.

1817 1848 1850 1869 1875 1891 1900 1916 1918 1925 1946 1986 2015

1817 The University of Michigan is founded as one of the first public universities in the nation.

1875 U-M adds two wooden pavilions to the hospital.

1925 The new 700-bed University Hospital replaces the Catherine Street Hospital.

1848 The Board of Regents establishes a three-member medical department, known today as the U-M Medical School.

1891 A new hospital on Catherine St. replaces the old Campus Pavilion Hospital.



1946 Neuroanatomist Elizabeth Crosby becomes the first female faculty member to deliver the prestigious Henry Russel Lecture.



1850 The Medical School opens its doors to more than 100 students, who are charged \$5 per year for a two years of education.

1900 The U.S. medical community recognizes the Catherine Street Hospital as the largest teaching hospital in the country.

1916 The first Chairman of Neurosurgery, Max Minor Peet, joins the Department of Surgery and specializes in surgery of the nervous system.

1986 A new 11-story, 550-bed adult general University Hospital is built and the A. Alfred Taubman Health Care Center is connected to the facility.



1869 U-M becomes the first university in the nation to own and operate its own hospital. The 20-bed facility is in the residence of a former professor and has no operating rooms or wards.

1918 Dr. Peet is doing mostly neurosurgery and the specialty is officially recognized as a subspecialty.

2015 Plans are set in motion for a new clinical inpatient tower – the anchor tenant of which will be the Neurosciences – planned to open in 2022.

FOCUS ON PHILANTHROPY & OUTREACH

Meet the Development Team

The Michigan Medicine Office of Development supports the fundraising priorities of faculty and staff with the goal of accelerating breakthrough discovery, transforming patient care, developing leaders, recruiting and retaining extraordinary minds, and creating innovative environments for all.



Mark Veich

Managing Director, Interdisciplinary & Global Initiatives,
Cardiovascular & Neuroscience Programs
734-763-1402 | mveich@umich.edu

As Managing Director, Mark is responsible for planning, implementing and managing development for several components of Michigan Medicine. Mark leads a diverse team of development professionals dedicated to advancing patient care, research and education. He serves as a senior member of the U-M Development community, working across schools, colleges, and units on interdisciplinary fundraising programs. As a senior leadership member, Mark identifies, cultivates, solicits and stewards an engaged portfolio of principal gifts for prospects and donors across Michigan Medicine. Mark earned his Bachelor of Arts in Administration of Justice from Southern Illinois University. He lives in Ann Arbor with his wife Lisa. They have two kids, Chandler, a senior at U-M and Kyle, a sophomore at MSU, and a dog named Princess.



Michelle Davis

Senior Associate Director of Development,
Neurosciences
734-763-3555 | bardma@umich.edu

Michelle has worked in development at the University of Michigan for over 12 years. She fundraised for the Department of Neurosurgery from 2007-2009. She has been leading fundraising for the Department of Neurology for the past three years and recently, her position expanded to include Neurosurgery. Together with Dr. Muraszko, she will help create fundraising strategies with a focus on major gifts for Neurosurgery. She is excited to re-familiarize herself with the department and the great team of faculty and staff.

Michelle earned her Bachelor of Arts in Journalism from Indiana University in Bloomington. She lives in Saline with her husband Jeff, two children Cooper and Georgia, and their golden doodle Lucia.



Kirsten Petriches

Assistant Director of Development, Neurosciences
734-763-5240 | kagwiz@umich.edu

Kirsten has worked for the University of Michigan for over seven years. In her previous role with Michigan Athletics, she managed the donor engagement and communications program focusing on increasing donor retention and increased philanthropy for the department. In her current position, Kirsten focuses on major gift fundraising and serving as a liaison to the annual giving, events, communications, donor relations, and stewardship teams within the Michigan Medicine development office in order to provide a holistic fundraising experience for donors who support the Department of Neurosurgery.

Kirsten earned her Bachelors of Arts in Sport Management from the University of Michigan in Ann Arbor. She will obtain her Master of Science in Integrated Marketing Communications from Eastern Michigan University in Ypsilanti in December of 2017. She lives in Whitmore Lake with her husband Joey, two daughters Madigan and Riley, and their dogs Peaches and Lucy.



Join Us – Be a Victor!

To learn more about philanthropy at U-M, or how you can make a gift to the Department of Neurosurgery, please contact Kirsten Petriches at 734-763-5240 or kagwiz@umich.edu.

Austin J. Nichols Memorial Golf Outing

The Austin J. Nichols Memorial Golf Outing is an event held by Jeffrey and Christine Nichols in memory of their son, Austin, who passed away in 2013 at age 23 from Diffuse Intrinsic Pontine Glioma (DIPG). It is their goal, and life-long commitment, to support research that will lead to a cure for DIPG in order to prevent other children and families from facing the challenges of this devastating form of childhood cancer. As golf was one of Austin's favorite sports, in 2015 and 2017, Jeffrey and Christine have held a memorial golf outing in his memory. Along with their friends and supporters of the Department of Neurosurgery, the Nichols have fundraised for the pediatric cause and to date, they've donated over \$40,000 to U-M!



Austin and his dad, Jeff, golfing in 2012, seven months after his diagnosis.



Austin's parents, Jeff and Christine, at the 2017 memorial outing.



The dollars raised support Xing Fan, MD, PhD, and his research, which is focused on developing novel therapies to target cancer stem cells in brain tumors. He works primarily on both medulloblastoma – the most common malignant brain tumor in children – and glioblastoma

– the most common malignant brain tumor in adults. Dr. Fan is an associate professor of neurosurgery, and cell and development biology at the University of Michigan Medical School.

It is their goal and life-long commitment to support research that will lead to a cure for DIPG in order to prevent other children and families from facing the challenges of this devastating form of childhood cancer.



Austin's brother, Marcus, and an uncle and family friend golfing in honor of Austin at the 2017 memorial outing.

2018 U-M Neurosurgery Centennial Anniversary



The University of Michigan Department of Neurosurgery has pushed the boundaries of medicine to provide better treatments and produce positive outcomes for patients for nearly 100 years. In 2018, the Office of Development will join the Department of Neurosurgery in celebrating and commemorating the U-M Neurosurgery Centennial anniversary.

We look forward to seeing what we can accomplish in 2018 and beyond as our amazing team of physicians, scientists, administrators, donors, alumni, and friends all come together to change the landscape of neurosurgical medicine. We hope you'll join us next year as we celebrate this amazing accomplishment!

Preparing for Neurosurgery's Centennial Celebration in 2018

A Brief Look Back at the Leaders Who Shaped the Department of Neurosurgery Over the Last Century

The Department of Neurosurgery is quickly approaching an exciting milestone; in 2018, we will celebrate our centennial anniversary... the culmination of 100 illustrious years of world-class neurosurgical services at the University of Michigan. As we prepare to celebrate this momentous occasion in 2018, let's take a brief look back at the last 99 – soon to be 100 – years. The U-M Department of Neurosurgery has a rich and proud history. To date, the department has had five chairpersons who have helped shape it into what it is today.



In 1918, Dr. Max Peet began to develop what would become a world-class neurosurgical service at U-M. He joined the Department of Surgery as an instructor in 1916 and was encouraged to specialize in surgery of the nervous system. By 1918, Dr. Peet was doing mostly neurosurgery and the specialty was officially recognized as a subspecialty. He was appointed Section Head and remained in that position until his death in 1949. Under his guidance, the subspecialty flourished, gaining a strong reputation for clinical and educational excellence.



In 1926, Dr. Edgar Kahn, son of famed architect Albert Kahn, became the first neurosurgical resident to work with Dr. Peet. In 1949, Dr. Kahn became the second head of the section. Dr. Kahn created a research laboratory with renowned neuroanatomist Elizabeth C. Crosby; together, they defined many important aspects of correlative neuroanatomy. Dr. Kahn was one of the first neurosurgeons to introduce contrast material into brain abscesses to follow their size. He also helped pioneer early nuclear medicine scans for localizing brain tumors. Dr. Kahn's entire career was a gift to the University, as he only accepted one dollar per year in salary.



When Dr. Kahn retired in 1969, Dr. Richard Schneider became the department's third chairman. Dr. Schneider trained at U-M under the direction of Dr. Peet. As chairman, he added a significant element of basic laboratory research to U-M's program and became famous for his work with brain and spinal cord trauma. Through close collaboration with Dr. Crosby, the two were able to describe in detail the anatomic alterations in various clinical syndromes of partial spinal cord injury. Together they authored many landmark papers as well as the classic textbook *Correlative Neurosurgery*. Through his work in traumatic spinal cord syndromes, he made major contributions in the field of head protection. Many of his concepts translated into better helmets for various sports.



In 1981, Dr. Julian ("Buz") Hoff became the fourth Chairman of Neurosurgery. Dr. Hoff helped lead the department into the modern era. Under Dr. Hoff's leadership, the neurosurgical service and training program become more diverse and comprehensive. He also expanded the scope of the laboratory and hired a number of full time PhD basic science research faculty. He remained chairman for 24 years and under his direction, the department grew and flourished.



1982 The Neurosurgery Laboratories that began under the leadership of Drs. Peet, Kahn, Schneider, and Crosby were named for Dr. Elizabeth Crosby.

2001 The Section of Neurosurgery officially became the Department of Neurosurgery.



After Dr. Hoff retired, Dr. Karin Muraszko became the fifth and current chair of the Department of Neurosurgery in 2005, making history as the first female head of an academic neurosurgery department in the country. She was also among the first pediatric neurosurgeons to become a chairperson, as well as the first female Chair of the American Board of Neurological Surgeons. In her time as chair, Dr. Muraszko has recruited world-class

basic science researchers to enhance our laboratory effort in the area of neuro-oncology. She has also recruited leaders to our clinical faculty – an effort that has been essential to the expansion of our residency training program. She maintains an active clinical practice with research interests in pediatric brain tumors, Chiari malformations, developmental anomalies of the spine (particularly spina bifida) and craniofacial anomalies. Notably, Dr. Muraszko received the Distinguished Service Award from the Congress of Neurological Surgeons in 2015 and the Humanitarian Award from the American Academy of Neurological Surgeons in 2016.



1918 **NEUROSURGERY** 2018
CENTENNIAL

We hope you'll join us

as we celebrate this milestone & all the distinguished people who have shaped Neurosurgery over the last 100 years.

SEPTEMBER 13 - 15, 2018

Look for more on our Centennial Celebration in 2018.



1918 **NEUROSURGERY** 2018
CENTENNIAL

**In 2018, we will celebrate 100 years of
neurosurgical excellence at U-M.**

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