



General Surgery Residency

U N I V E R S I T Y O F M I S S O U R I



School of Medicine
University of Missouri Health

From our Program Director

Time spent during surgical training whether one year as a preliminary resident or five years seeking board eligibility in general surgery is challenging and stressful but can be quite rewarding and fulfilling as one gains skills, knowledge, and tools to aid others in need. When proper effort is put into one's training, a resident can find tremendous growth as a physician, professional and person.

Often intimidating at the outset, during this time of intense training, surgical residents will find themselves becoming dedicated, focused, and confident while maturing to be physician leaders. You will gain skills to help improve lives, cure disease, and aid others in times of distress, heartache, and life-defining moments. At times you may cry with your patients, rejoice with them, and walk through some of the most challenging times they may experience during their lives.

This is a rare but powerful opportunity. Your number one priority in all things will be the health and care of your patients. To achieve the best for your patients it will require commitment, dedication to the acquisition of knowledge, and perfection of your surgical skills. Although the educational process will start during your training, it will continue for the rest of your life. This dedication to life-long learning will be necessary to be the surgeon and physician that represents this program well as well as provides the best care for your patients.

The training a surgical resident receives at the University of Missouri-Columbia reflects decades of refinement of the surgical training at this institution, the knowledge of the faculty of the University of Missouri-Columbia, and residents that have preceded you in training at Mizzou. The Mizzou surgical culture will support you during these training years and go with you as you move on to your future career.

Remember, we all walk in the paths of those before us, lifted on the shoulders of those who support us, but to grow you will need to step out, with support, to create your own path. Congratulations on the paths you will create and we, the faculty, and residents at the University of Missouri-Columbia hope to play a part in your journey.

Sincerely,

Andrew A. Wheeler

Andrew A. Wheeler, MD, FACS
Program Director, General Surgery Residency



Welcome to Mizzou

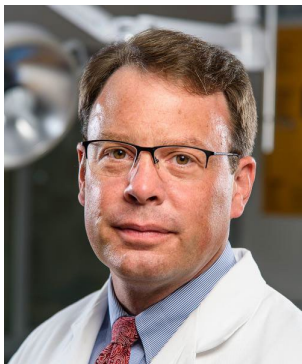
We wholeheartedly welcome you as you explore the University of Missouri General Surgery Residency Program. For over a hundred years, the Department of Surgery at Mizzou has trained leaders in surgery. Our long-lasting dedication to resident education has produced a plethora of highly proficient, clinically astute and professionally successful surgeons. Our program, which graduates five residents annually, emphasizes graduated resident responsibility, with early entry into the operating room. Our faculty are dedicated and devoted to advancing the technical skills and decision-making abilities of our residents.

Our focus on educational growth coincides with the great pride we take in our trainees. All of our graduates from the past three years have successfully passed both the ABS Qualifying and Certifying Examinations on their first attempt. They have obtained their desired fellowships, and employment following graduation. Half of our graduates pursue additional training, while half join practices immediately following graduation. **However, our focus is to graduate chief residents that are immediately prepared to enter into independent practice.**

Laboratory and clinical research opportunities abound within the Department of Surgery and the MU School of Medicine. We are well-positioned to both create and maintain high quality research collaborations and lead multi-institutional studies. Mentorship is a focus of our faculty, who publish prolifically, and welcome resident involvement with enthusiasm.

Settled in the heart of America, Columbia is a wonderful place to live, work and play. We have all the offerings of a metropolitan center, set in a beautiful town full of recreational and cultural offerings, with easy access to larger cities.

Thank you for your interest in our General Surgery Residency Program. We are dedicated to preparing our graduates to excel in their chosen fields.



Stephen L. Barnes, MD, FACS
Chairman, Department of Surgery
Professor of Surgery



Andrew A. Wheeler, MD, FACS
Program Director
Associate Professor of Surgery



Erik Grossmann, MD, FACS
Associate Program Director
Associate Professor of Surgery



Milot Thaqi, MD, FACS
Associate Program Director
Assistant Professor of Surgery

History of Mizzou Surgery

Our rich history began in 1872, as the first surgeon educator, Dr. Andrew W. McAlester, began teaching courses without pay. At that time, the Medical Department was a gathering of just a handful of faculty dedicated to providing quality care to the people of Missouri. With a mediocre budget, and a strong will to succeed, the faculty set upon the task of training future surgeons and physicians with strict adherence to high ethical and technical standards. Within those first few years, Missouri trained surgeons such as William W. Mayo, who later founded the Mayo Clinic, and Justus Ohage, the first person to perform a cholecystectomy in the Western Hemisphere.



Throughout the over 140-year history of Mizzou surgery, there have been several different hospitals on campus. Parker Hospital (now Parker Hall) was constructed in 1900 as one of the nation's first teaching hospitals. McAlester Hall was inaugurated shortly thereafter in honor of Dr. McAlester and became the home of the medical school. Twenty years later, Noyes Hospital (now Noyes Hall) was built to accommodate growing patient needs. Ellis Fischel Cancer Center, one of the first cancer centers in the country, was added in 1940. Its namesake, Dr. Fischel was a renowned cancer surgeon. In 1953, the MU School of Medicine transitioned to a four-year program, and the first of several buildings that would be known as University Hospital were constructed. Today, University Hospital comprises several buildings, including a new tower dedicated to cancer care and a stand-alone Women's and Children's Hospital.



Mizzou surgeons have fostered a tradition of innovation. Former chair and dean, Dr. Hugh Stephenson Jr., considered the founder of the current medical school, is also credited with devising the code cart concept. The first surgically treated coronary aneurysm was performed at MU, as well as the first pediatric angioplasty. Former chair, Dr. Donald Silver was the first to describe heparin-induced thrombocytopenia. Dr. Frank L. Mitchell, a national leader in trauma care, developed the first ambulance and air ambulance services in the state. Currently, we are at the forefront of burgeoning treatments in all aspects of surgical care.





Honored Surgical Values

Surgical training – rigorous, demanding and rewarding – is a period of immense personal and professional growth. Surgical residents undergo a profound transformation from timid uncertainty, to definitive, exacting clarity. Our residents will become masters of the science of surgery, and technical experts in the operating room. Our methods of teaching employ the four values of the University, and with those we ensure an environment conducive to success.

Respect

Respect is the foundation of honor, integrity and trust. Our patients, peers and leaders deserve our upmost respect in all endeavors, and in doing so our mission will be realized

Responsibility

We hold the ultimate responsibility for our patient's well-being and health as surgeons. Proper recognition of the obligations we have to our patients and peers, allows us to exercise calculated decision-making involving consideration of the risks and benefits of our craft.

Discovery

Advancing the care of our patients requires a dedication to discovery of contemporary treatment methodologies that challenge current techniques and proposed truths. Our indelible goal is to improve the lives of others, which requires research, study and discovery.

Excellence

Excellent care requires dedication and commitment to perpetual improvement and knowledge growth. We must not be satisfied with the mediocre and mundane, but rather strive to attain excellence in all that we do.



Targeted Surgical Education

Our current educational paradigm focuses on the six core competencies: Medical Knowledge, Patient Care, Interpersonal and Communication Skills, Professionalism, Practice-based Learning and Improvement, and Systems-Based Practice. These broad categories represent key conceptual areas of competency that all residents must achieve to complete their training. The latest changes in surgical education include the Milestones Project and a focus on outcomes-based competency evaluation and Entrusted Professional Activities which is a real-time, ongoing assessment of your surgical and patient management skills.

A variety of programs exist to augment surgical education in an era of rapid change. The Fundamentals of Laparoscopic Surgery curriculum, and well as the Fundamentals of Endoscopic Surgery were developed by SAGES in conjunction with the ACS and ABS to ensure residents were well-trained in laparoscopy and endoscopy. These two programs are well-integrated and required for training completion. Specialized curriculum in robotics, and other emerging technologies, are currently in development.

With ever-changing requirements and guidelines from a variety of sources, we strive to remain at the forefront of surgical education and resident training through diligence and creativity, creating curricula that provides, challenges and prepares residents to operate independently upon completion.



Invaluable Mentorship

We honor the time-tested benefits of mentorship at the University of Missouri. Mentoring is a powerful, essential component of professional and personal success and growth throughout training and beyond. Resident surgeons often cite their mentors as reasons for entering their chosen field, attending certain training programs and joining surgical societies. Practicing surgery in the manner of their mentors, mentees often seek to emulate their mentors, consciously and subconsciously. Successful mentorship relationships need not be only with those surgeons who have achieved prestigious accolades, mentorship may, and should, exist with peers as well. Senior residents mentoring junior residents, junior faculty guiding residents, and faculty mentoring students are all possible mentorship relationships.

Successful identification a mentor is not often accomplished through assignment. It requires a relationship built upon common ideals, goals and aptitudes of which both parties exhibit strength. However, many neophyte surgeons find difficulty initiating contact and beginning the relationship. For this reason, we assist residents to identify a potential mentor by the end of their first year of residency. The chosen mentor will be responsible for completing the resident's biannual evaluation starting the second year of training. Frequent meetings, both formal and informal, are encouraged to begin developing the all-important mentee-mentor relationship.





Progressive Research

Mizzou's faculty are dedicated to advancing the care of surgical patients, not only by training tomorrow's surgeons, but also through rigorous study and research. Funded faculty operate in each Division of the Department of Surgery and multiple opportunities for research abound within the training program. Over 75 active investigational projects are currently underway with focus on a variety of topics, including tumor immunology, surgical oncology, vascular surgery, trauma and acute care surgery, surgical education and surgical technology.

Experienced researchers from around the globe conduct basic and clinical science research in the Department of Surgery at Mizzou. Campus, multi-institutional and multi-global collaborations exist to aid in the completion of complex and meaningful research contributions to the surgical and medical community at large. Resident participation is encouraged and opportunities exist for those who choose research as a significant portion of their career. Each resident is required at least one research project during the five years of training, although many pursue multiple opportunities.





Advanced Simulation

Mizzou continues to be at the forefront of surgical simulation. With funded faculty dedicated to improving surgical education, our simulation curriculum is cutting edge. Monthly simulation courses are held for PGY 1-3 residents that encompass a variety of surgical topics, including laparoscopic skills, FLS training, hernia, foregut, hepatobiliary, vascular, trauma and thoracic.

We utilize simulation to improve competency in both basic skills, and surgical decision-making through experiential learning and focused feedback. Employing the state-of-the-art Sheldon Clinical Simulation Center, we utilize a number of methods to augment surgical training. High-fidelity simulation mannequins provide real-time physiologic feedback during simulations, allowing resident surgeons to see immediate results of their interventions. Virtual reality trainers, complete with haptic responses, present simulated realism to immerse learners and improve engagement, allowing for increased learning. We have multiple task trainers, including low-fidelity mechanisms for learning basic skills, and combined simulators that allow the use of ultrasound and other adjuncts to increase learning. Hybrid simulations with standardized patients and high-fidelity simulators provide a unique methods of working through surgical problems.

Senior residents participate in biannual aggressive trauma surgical skills simulations that replicates the fast pace and high stress of the multisystem environment, and are a favorite of Mizzou residents. We utilize live tissue models to address multi-cavity trauma in an immersive environment complete with triage and surgical decision-making.





Successful Graduates

100% Board Pass Rate

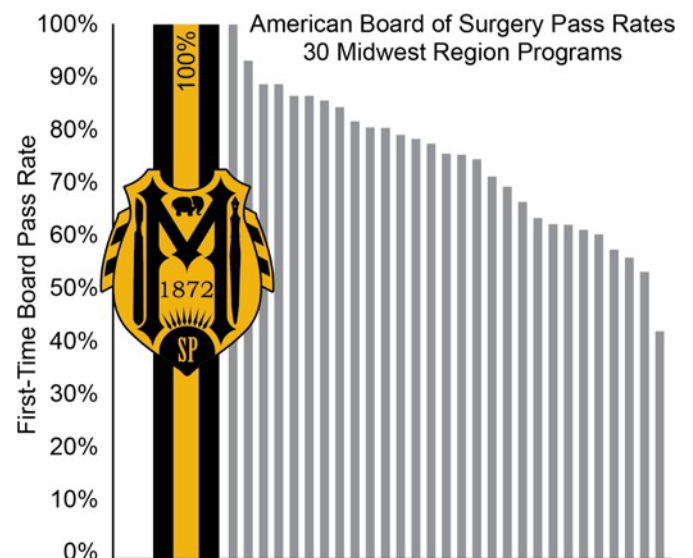
For the last three years, all of our residents have achieved a first-time American Board of Surgery pass rate of 100% for both the Qualifying Examination and the Certifying Examination. We are the top program in our state, region and nation in regard to board pass rates.

>90th Percentile Operative Experience

Extensive operative experience is crucial to the development of competent and capable surgeons. Our residents have consistently remained in >90th percentile for operative case volumes at time of graduation. The mean number of major cases for our residents is more than 150% greater than required by the RRC, and chief cases are 170% greater.

50/50 Practice Pattern

We train residents to become accomplished surgeons. With strong training, approximately half of our residents go straight into practice. As an academic center with a plethora of academic opportunities, half of our residents pursue additional training in specialized surgical professions.





Innovative Centers

Frank L. Mitchell, Jr., MD Trauma Center

As mid-Missouri's only ACS-Verified Level 1 Trauma Center, Mizzou has a large catchment area and receives patients via air and ground ambulance from more than 200 miles away. A large multidisciplinary team, led by six trauma and acute care surgeons, cares for approximately 1500 critically-injured patients annually.

Ellis Fischel Cancer Center

As Missouri's first cancer center, Ellis Fischel has remained at the front of cancer care. Multidisciplinary teams work to improve care through excellent patient care, and innovative research.

Robotics Program

Robotic surgery continues to expand the world of minimally invasive surgery. Embracing the newest technology, we have several da Vinci® robots offering innovative minimally invasive surgical platforms

Advanced Simulation

Through both advanced high-fidelity simulation center with 24/7 access and monthly live porcine labs, residents gain valuable experience to augment their surgical training in a safe and educational environment.



Training Locations

University Hospital

The flagship training center for the General Surgery Residency, University Hospital has over 250 patient beds, with additional dedicated Surgical, Cardiac, Neurosciences and Medical Intensive Care Units. The Emergency Department sees over 30,000 visits annually, with over 1500 trauma team activations. There are 26 operating rooms, including specialized operating environments.

Ellis Fischel Cancer Center

As Missouri's first cancer center, the Ellis Fischel tower at the University is a comprehensive cancer center with specialists providing multidisciplinary cancer care.

Children's Hospital

The facility, which opened recently, includes more than 160 beds and several pediatric specialties, as well as a Birthing Center with state-of-the-art operating rooms. The new hospital is connected to the University Hospital, providing a centralized location for specialists to collaborate and deliver coordinated, complex care. The Birthing center features low-intervention suites and a fetal surgery operating room.

Harry S. Truman Veteran's Hospital

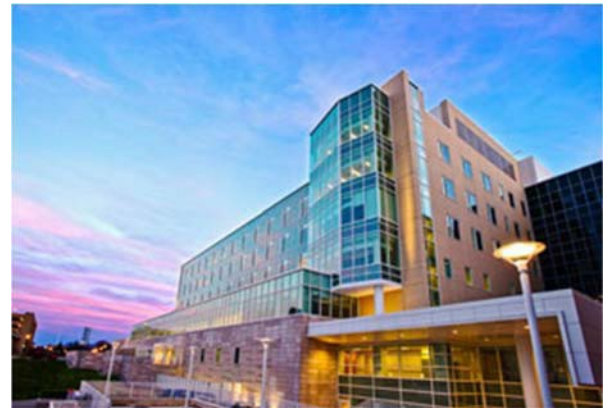
The HSTVA is one of the nation's best veteran's hospitals. Recently renovated, it houses expanded operating rooms fitted with the latest technology and offers resident surgeons opportunities not available at other centers.

Cox Health, Springfield, Missouri

Our PGY 4 resident surgeons rotate to Springfield, Missouri to engage in a high-volume, private practice experience with a number of highly-qualified and surgeons at one of the largest hospitals in the state.

Keene Street Medical Center

The University manages a dedicated outpatient surgery center to allow more expeditious completion of operative cases and endoscopies.





Educational Divisions

Our Department of Surgery is divided into multiple divisions of specialized surgical care. Resident surgeons spend time with each division throughout their training to ensure a wide breadth of surgical knowledge and skill. Affluent and renowned faculty teach residents and students in every area of General Surgery, providing operative and non-operative education for residents who care for adults and pediatrics with the widest variety of surgical disorders.

General Surgery (Colon and Rectal Surgery, Surgical Oncology, Breast Oncology, Minimally Invasive Surgery, Bariatric Surgery)

Acute Care Surgery and Surgical Critical Care

Pediatric Surgery

Cardiothoracic Surgery

Urologic Surgery

Vascular Surgery

Head and Neck Surgery

Didactics

SCORE

We utilize and provide a subscription to SCORE, a curriculum developed by the American College of Surgeons. Our educational program follows a weekly schedule outlined in the score curriculum.

Mortality & Morbidity Conference

M&M has long been revered as one of our most valued conferences. Selected cases are submitted and presented by residents. Lively discussion is often generated in an educationally inspiring manner.

Basic Science Conferences

Monthly conferences range from lectures, to interactive group discussion and are given by faculty and residents. Resident presentations are designed to improve knowledge via a thorough understanding of a chosen topic.

Journal Club

We utilize surgical questions to drive journal club discussions. Residents compete as groups through presentations of peer-chosen manuscripts to determine the best answer to a clinical question.

Grand Rounds

Speakers from around the world are invited by the Department of Surgery to give lectures on a variety of topics. Grand Rounds are held on a monthly basis and are an educational feast for our residents.

Mock Orals

At least annually, mock orals are administered to PGY 3-5 residents to aid them in preparation for the ABS Certifying Examination. Alumni are invited to give the exam in the same manner as the actual examination.

Socratic Circle

The Socratic Circle conference utilizes open-ended questions to each level of resident while working through a specific case that is presented in a format similar to oral boards. Virtual complications are guaranteed and must be addressed by the resident cadre.

Service Specific Educational Opportunities

Each service has its own, individually-directed educational opportunities for residents. All are welcome to attend any of the many conferences held throughout each week:

- Acute Care Surgery – Twice weekly conferences
- Cardiothoracic – Divisional M&M, Case conference, CT Journal Club
- Pediatric Surgery – Twice monthly conferences
- Surgical Critical Care – Weekly conference
- Surgical Oncology – Weekly Tumor Board and Breast Conference
- Vascular – Twice weekly conferences
- Bariatric Surgery – Monthly clinical committee and fellow didactic presentations
- General Surgery – Monthly complicated case conference





Clinical Rotations

Rotations are designed to enable residents graduated responsibility throughout their training, while being exposed to a variety of surgical subspecialties. We foster growth of surgical skills by expecting an early entry into the operating theatre. All residents are expected to participate in operations from the first day of residency. Our goal is to provide a uniform experience to ensure our graduates are prepared to operate independently as consummate surgeons. Each block is 4 weeks long and each resident does 13 blocks per year over the five years.

PGY 1

Acute Care Surgery – 2 blocks
 General Surgery – 2 blocks
 Surgical Oncology – 2 blocks
 VA General & Vascular Surgery – 2 blocks
 Night Float – 1 block
 Pediatric Surgery – 1 block
 Thoracic Surgery – 1 block
 Vascular Surgery – 1 block
 Surgical Critical Care – 1 block

PGY 3

Acute Care Surgery – 3 blocks
 General Surgery – 2 blocks
 Surgical Oncology – 1 block
 VA General & Vascular Surgery – 2 blocks
 Night Float – 1 block
 Pediatric Surgery – 1 block
 Surgical Critical Care – 1 block
 Vascular Surgery – 1 block
 Head and Neck Surgery – 1 block
 Urology – 1 block

PGY 5

Acute Care Surgery – 2 blocks
 General Surgery – 4 blocks
 Surgical Oncology – 3 blocks
 VA General & Vascular Surgery – 3 blocks
 Night Float – 1 block

PGY 2

Acute Care Surgery – 3 blocks
 General Surgery – 2 blocks
 Surgical Oncology – 2 block
 VA General & Vascular Surgery – 1 block
 Night Float – 1 block
 Pediatric Surgery – 1 block
 Thoracic Surgery – 1 block
 Vascular Surgery – 1 block
 Surgical Critical Care – 1 block

PGY 4

Acute Care Surgery – 2 blocks
 General Surgery – 2 blocks
 Surgical Oncology – 1 blocks
 Night Float – 2 blocks
 Pediatric Surgery – 1 block
 Cardiothoracic Surgery – 2 blocks
 Vascular Surgery – 1 block
 Off-site Private Practice Rotation – 2 blocks



About Columbia

Abundant cultural offerings, a plethora of outdoor activities, low cost of living, and an award-winning school system make Columbia, Missouri is a great place to live and work.

As the fourth largest city in Missouri, Columbia has been named as a Top City to Live and Work by Forbes, US News and others for more than 20 consecutive years. Columbia also holds the distinction of being the 13th most-educated city in the country.

Over 40 city and state parks combine with over 150 miles of hiking and biking trails to create an outdoor paradise. Additionally, theatres, art galleries and local entertainment venues provide cultural outlets.





Join the Mizzou Family

Quick Stats

- Graduate 5 chief residents annually
- 5-year program with options for research
- 100% ABS Board pass rate
- 50% go into private practice
- 50% pursue fellowship
- Participate in NRMP-ERAS

House Officer Salary & Benefits

Resident salaries are similar for all trainees within the Mizzou system, and are adjusted frequently to account for cost of living. Training conditions and work schedules follow the guidelines of the Surgery Residency Review Committee of the Accreditation Council on Graduate Medical Education. The program provides a wide range of benefits, including malpractice insurance, personal health insurance, short and long-term disability insurance, and a 24-hour physicians lounge with self-serve food. Each resident is allotted 3 weeks of vacation per year. Conference and educational stipends are also provided as a portion of the Department benefit package. Additionally, we pride ourselves on being a family-oriented program, and offer liberal leave for necessary emergencies or child birth in accordance with ABS guidelines regarding necessary training times.

Licensure

All residents must have a current Missouri license to practice medicine prior to the first day of service. Applications will be coordinated through our office to ensure compliance. We do not sponsor work or training visas for foreign trainees.

Application Process

Mizzou surgery participates in the National Resident Matching Program (NRMP), and follows all NRMP guidelines. Applications are only considered through the Electronic Residency Application Service (ERAS). Each application is reviewed with focus on academic excellence, leadership experience and potential and applicant resilience. Qualified individuals will be invited to interview during selected dates in November, December, with variable dates in January.

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