Mary Culver
Department of Surgery

Formal instruction in surgery begins during the third year, with the required 12-week Integrated Surgical Disciplines Clerkship. During this surgical clerkship, students are assigned to clinical rotations, mostly within the Department of Surgery, with some exposure to other surgical-related disciplines outside of the department. The clerkship gives students opportunities to participate in the care of surgical patients (both inpatient and outpatient); to spend time in the operating rooms; and to attend seminars, teaching conferences and didactic sessions on a regular basis. During the fourth year, students may select sub-internship electives within the Division of General Surgery, which include a variety of general surgical specialties. In addition to the general surgery sub-internships, electives are available in several other surgical subspecialties (e.g., pediatric surgery, transplant surgery, vascular surgery, cardiovascular and thoracic surgery, urologic surgery, plastic and reconstructive surgery).

Website: http://www.surgery.wustl.edu

Degrees & Requirements

MPHS Program

Within the Department of Surgery, the Division of Public Health Sciences offers a Master of Population Health Sciences (MPHS) program, which prepares students for clinical research careers by accelerating and deepening their expertise in population health and clinical outcomes research. Students gain a strong foundation and hands-on experience in leading, designing, conducting and moving clinical research findings to applications that will improve patient care and treatment.

In the MD/MPHS program, medical students have an opportunity to add clinical research methods training to their medical school experience. Medical students in the program work on a research project and use that project to complete their MPHS course work in 10 months, creating the ideal combination of didactic training and hands-on experience. MPHS program leadership can help students find a research project or lab to work in that would provide a good fit for their goals and interests.

To learn more about the MD/MPHS Program, contact Blanka Hodzic at by phone at 314-286-0881 or by email at bhodzic@wustl.edu.

Other Courses

Some of the Department of Surgery's courses are also open to students in the MD and MSTP (MD/PhD) programs. Further information about the MD and MSTP degrees can be found in the Degrees & Programs (http://bulletin.wustl.edu/medicine/degrees) section of this Bulletin.

Research

M95 Surgery

Section of Minimally Invasive Surgery
660 S. Euclid, Box 8109
Phone: 314-454-8877

Under the direction of L. Michael Brunt, MD, students may investigate minimally invasive gastrointestinal and hernia surgery. The minimum rotation length is four weeks. Under the auspices of the Section of Minimally Invasive Surgery and the Washington University Institute for Minimally Invasive Surgery, a number of surgeons are investigating outcomes of various minimally invasive surgical approaches to abdominal wall hernias, benign foregut disorders, bariatric surgery and cholecystectomy. Dr. Brunt is currently investigating the clinical outcomes and standardization of various minimally invasive surgical procedures, opioid prescribing patterns and opioid use in surgical patients, and education-related research and skills training for medical students planning to enter a surgical internship.

Division of Plastic and Reconstructive Surgery
660 S. Euclid, Box 8238
Phone: 314-747-0541

The Division of Plastic Surgery offers many opportunities for research projects on various topics related to plastic surgery. A project will be designed with students prior to their rotation on plastic surgery so that all of the materials and methods will be available at the beginning of the rotation. The basic science laboratories primarily investigate nerve injury and regeneration, including nerve transplantation. Students will be encouraged to design and complete their own research study during the elective. The minimum rotation length is six weeks.

The research rotation can be conducted in the plastic surgery laboratories under the direction of Drs. Moore, Snyder-Warwick, Wood or Mackinnon.

Ongoing projects include the following:

- The influence of the immune system on nerve regeneration;
- Neural tissue engineering and regenerative medicine therapeutics, such as electrical stimulation to promote tissue regeneration
- The investigation of glial cells at the neuromuscular junction during development, maintenance, aging, and after nerve injury

Additional clinical and educational research opportunities in various fields of plastic surgery are available with Drs. Fox, Myckatyn, Patel, Tung, and Woo.
• These various projects include the following:
  • In vivo tissue generation and tissue differentiation
  • The mechanical, structural and biochemical effects of stress on scar tissue maturation
  • In vivo anatomy of craniofacial deformities
  • Outcome analysis of methods of cleft lip and palate management
  • Breast reconstruction (3D imaging of breasts after cosmetic or reconstructive surgery, interpretation of angiograms of the breast to measure nipple perfusion)
  • The use of nerve transfer to improve hand function in patients with cervical spinal cord injury/quadriplegia
  • Surgical education (specifically web-based multimedia strategies for peripheral nerve surgery education)

The Department of Surgery can host Washington University medical students in any of its labs either to receive credit for a class they are currently enrolled in or to add them into the system as Washington University student employees to be paid for their time worked. Student work may be obtained through the Federal Work-Study program, the Office of Medical Student Research, or direct communication initiated by the student with faculty they wish to work alongside on specific subjects of interest with the goal of furthering their education. This can occur during any year of a medical student's education.

Faculty

Clerkship Director

Michael M. Awad, MD, PHD

Visit our website for more information about our faculty (http://www.surgery.wustl.edu/Faculty) and their appointments.

A

Aaron Michael Abarbanell, MS, MD
Assistant Professor of Surgery (Cardiothoracic Surgery) (primary appointment)
BA Cornell University 1993
MS Indiana University Indianapolis 2010
MD University of Michigan 2005

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Professor of Surgery (General Surgery) (primary appointment)
BS Univ of Wisconsin Madison 1978
PHD Univ of Wisconsin Madison 1983
MD Washington Univ in St. Louis 1992

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Assistant Dean for Student Affairs and Medical Education
BA New York University 1976
MD New York University 1980

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MD Jefferson Medical College 1978

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MD Washington Univ in St. Louis 2003

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MD Washington Univ in St. Louis 1968

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B

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MD University of Oklahoma 2013
BS Oklahoma City University 2008

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MHS Yale University 2018  
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F

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MPA George Mason University 2007
BA University of Washington 2005
MSCRM Washington Univ in St. Louis 2014
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MD Stanford University 1997

I

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MD University of Rome 1999

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MD Tohoku University Sendai Miyag 1998
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PHD University of Houston 1999
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BA Goucher College 1995
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MS University of Western Ontario 2016
PHD University of Waterloo 2018
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BS University of Southern Calif 1996
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K

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BS University of Pennsylvania 1985

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MS University of Illinois 1999
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MD Duke University 1992
BA Wellesley College 1988

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MD University of Rochester 1997
BS University of Rochester 1993

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Professor of Pathology and Immunology
PHD University of Pennsylvania 2002
MD Mount Sinai School of Medicine 1995

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MD Cornell University 1999
BS Rice University 1994

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MD Mayo Clinic 2011
PHD Mayo Clinic 2011
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MS Sun Yat-Sen University 2004

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PHD Washington Univ in St. Louis 2005
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MD Washington Univ in St. Louis 2005

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BS1 Washington Univ in St. Louis 2000
PHD University of Michigan 2014
MS1 Northwestern University 2003

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MD Southeast U Medical School 1995
PHD Texas Tech University 2006

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BA Washington Univ in St. Louis 1957
MD Washington Univ in St. Louis 1961

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MD Washington Univ in St. Louis 1949

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BS Nankai University 1997
MS National Univ of Singapapore 2002
PHD Medical College of Wisconsin 2007

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Instructor in Clinical Surgery (General Surgery) (primary appointment)
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Associate Professor of Medicine
MS Renmin University of China 2001
PHD Duke University 2006
BS Renmin University of China 1998
MS1 Duke University 2003

M

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MD University of Chicago 1986
BA Yale University 1982

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BA University of Texas Austin 1962
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BS University of Michigan 1981

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MD Washington Univ in St. Louis 1952

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UNKNOWN University of Pune 1967

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PHD School Not Listed 1975
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Associate Professor of Surgery (General Surgery) (primary appointment)
BS Yale University 1997
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BS Yale University 1997

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MD Washington Univ in St. Louis 2009
BS All-India Inst of Medical Sci 1998
MS Creighton University 2007

R

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BS1 St Johns University 2004
MD Ross Univ School of Medicine 2009

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MD University of Missouri 1987
BA University of CA San Diego 1983

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MD Baylor College of Medicine 2004
BS University of Notre Dame 2000

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MD Howard University 1947
BA Talladega College 1944

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MD Washington Univ in St. Louis 1948

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Professor of Radiology
BA Colgate University 1979
MD University of Vermont 1984

S

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MD Columbia University 1993
BS Harvard Radcliff 1989

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BA Washington Univ in St. Louis 1956
MD Washington Univ in St. Louis 1960

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Associate Professor of Biomedical Engineering
MS University of Missouri 1974
PHD Clemson University 1977
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BS1 University of North Dakota 1977
BS University of North Dakota 1973
MD Washington Univ in St. Louis 1979

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Instructor in Clinical Surgery (General Surgery) (primary appointment)
MD University of Miami 1986

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MD L.P.S. Institute of Cardiology 2004

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MD Vanderbilt University 1982
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Professor of Surgery (General Surgery) (primary appointment)
PHD Institute of Medical Science 1989
BS Kasturba Medical College 1980
MD Kasturba Medical College 1984

Michelle Ilana Silver, MS, PHD
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BS Stanford University 2007
MS Johns Hopkins University 2009
PHD Johns Hopkins University 2015

Matthew Leon Silviera, MD, MS1

Assistant Professor of Surgery (General Surgery) (primary appointment)
MD Temple University 2005
MS1 Temple University 2010
BS Pennsylvania State University 2001

David Siroospour, MD
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MD School Not Listed 2000

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Instructor in Surgery (Urologic Surgery) (primary appointment)
MD Madras Medical College 2005

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MD University of MO Kansas City 2010

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Assistant Professor of Surgery (General Surgery) (primary appointment)
MD Marshall University 2008
BS Kettering University 2004

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MD University of MO Kansas City 2010

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BS School Not Listed 1995
PHD Technische U Braunschweig 1999

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Adjunct Assistant Professor of Surgery (primary appointment)

Alan Joel Stein, MD
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MD Wayne State University 1976
BS Univ of Wisconsin Madison 1972

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MD University of Pittsburgh 2011

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BS University of Oregon 1998  
MS Washington Univ in St. Louis 2008  
MD Washington Univ in St. Louis 2008

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MS1 School Not Listed 1991  
MD Bangalore University 1988  
MS Bangalore University 1991

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BS Yale University 2003  
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BS Saint Louis University 2012  
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Professor of Pediatrics  
BS University of MO Kansas City 1982
MD University of MO Kansas City 1982

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M PH Johns Hopkins University Medic 2007
PHD Rutgers University 2006
BS Arizona State University 1999
MS PSYC Rutgers University 2003

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DPM Ohio College of Podiatric Medi 1981
BS1 Ohio State University 1977

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MD St George's University 2002
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MD Loyola University Chicago 1993
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MD Washington Univ in St. Louis 1964

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BS Washington Univ in St. Louis 2009
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BS Saint Louis University 2005
MS Washington Univ in St. Louis 2008

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Professor of Surgery (Public Health Sciences) (primary appointment)
Professor of Biostatistics
PHD Johns Hopkins University 1998
MHS Johns Hopkins University 1995

MD Nanjing Medical University 1983

**Muhammad T Yasin, MD**
Assistant Professor of Surgery (General Surgery) (primary appointment)
MD Punjab University 1985

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Instructor in Clinical Surgery (General Surgery) (primary appointment)
BA Northwestern University 1983
MD Northwestern University 1985

**Robert A Young, MD, JD, MS**
Instructor in Clinical Surgery (Plastic and Reconstructive Surgery) (primary appointment)
BA University of Michigan 1973
MD Ohio State University 1978
JD Saint Louis University 1997
MS Ohio State University 1975

**Z**

**Mohamed A Zayed, MD, PHD**
Assistant Professor of Surgery (General Surgery) (primary appointment)
MD University of North Carolina 2009
PHD University of North Carolina 2007
BS University North Carolina 2002

**Courses**


**M95 Surgery 790 Integrated Surgical Disciplines Clerkship**
During the 12-week surgery clerkship, each student is assigned to three separate rotations. Each student is assigned to a required general surgery rotation at Barnes-Jewish Hospital or the John Cochran Veterans Administration Medical Center. In addition, each student selects elective rotations in other general surgical fields, surgical subspecialties and related disciplines of critical care. The student is an active participant in the daily care of patients on each service and attends the service teaching conferences and rounds. For the duration of the 12-week rotation, there are weekly small-group tutorial sessions with faculty members and a biweekly lecture series. Credit 462 units.

**M95 Surgery 814 Trauma Service Subinternship**
The student on this elective will function as a subintern on the Trauma and Acute Care Surgical Service within the Section of Acute and Critical Care Surgery. Student involvement in all aspects of clinical surgery is accomplished by student attendance in the operating room, outpatient office, preoperative patient evaluation, in-hospital patient management, and postoperative outpatient follow-up after discharge. Practical experience will focus on the initial evaluation and resuscitation of trauma patients and other emergency general surgical patients. The student will also participate in regular rounds, conferences, and in-house call.
M95 Surgery 818 Surgical Night Float & ED Subinternship
This subinternship is specifically designed to give senior medical students an intern-level experience in managing acute on-call problems in surgical patients and in evaluating urgent and emergent problems in the emergency department (ED). The rotation will be divided into two two-week segments: one segment in the ED and the second on night float call on the surgical floors. Students will gain experience evaluating and managing the types of acute problems they will encounter as surgical interns and first responders to patients with acute abdominal pain, chest pain, hypotension, mental status changes, and other ED/on-call types of problems. They will be assigned to the on-call surgical resident and will have a structured experience in order to maximize development of their diagnostic, management, and case presentation skills in the acute care setting so that they may more smoothly make the transition to a surgical internship.

M95 Surgery 820 Cardiothoracic Surgery Subinternship
The senior elective in cardiothoracic surgery is a four-week clinical rotation with two-week blocks divided between adult cardiac, pediatric cardiothoracic, and general thoracic surgery according to the student's preference. Students will participate in morning work rounds, attend the operative procedures of their choice, and attend weekly conferences and teaching rounds. Students will be introduced not only to the surgical procedures but also to the postoperative care of the surgical patients. On the pediatric and adult cardiac services, students will be introduced to the principles of cardiopulmonary bypass, ventricular assist devices, cardiac transplantation, coronary artery bypass surgery (on and off pump), valve repair and replacement, complex aortic surgery, the MAZE procedures, and others. On the adult cardiac surgery service, students will function as subinterns under the direct supervision of a faculty member. On the thoracic surgical rotation, students will have the opportunity to perform bronchoscopy, esophagoscopy, and gastroscopy; to participate in surgical resections of lung cancer and esophageal cancer; and to participate in surgery for emphysema and for benign esophageal conditions. Students will also participate in lung transplantation surgery.

M95 Surgery 830 Plastic & Reconstructive Surgery Subinternship
The period on Plastic Surgery may either be spent as a clinical clerkship or conducting a research project. The purpose of the clinical subinternship is to familiarize the student with the basic principles of plastic surgery. The student will have successive assignments to each of the attending staff and the ward resident services during the four weeks. This will expose the student to the breadth and depth of plastic surgery. Alternatively, if the student has identified a focus of interest, they may participate on those services of special interest, such as hand or pediatric plastic surgery. The student will assume an active role on the plastic surgery service and will participate in the total management of a wide variety of surgical problems, including congenital anomalies, microvascular surgery, surgery of the upper extremity, peripheral nerve surgery, cosmetic surgery, and general reconstructive plastic surgery. Research projects should be student-motivated and must be approved prior to scheduling and confirming the research rotation. Students will also prepare a 10-minute case presentation.

M95 Surgery 832 Plastic Surgery Externship
This course is for visiting medical students only. Students rotate on different plastic surgery services for two weeks each to maximize their exposure to all faculty. The student will assume an active role on the plastic surgery service and will participate in the total management of a wide variety of surgical problems, including congenital anomalies, microvascular surgery, surgery of the upper extremity, peripheral nerve surgery, cosmetic surgery, and general reconstructive plastic surgery. Participation in conferences is expected. Students will turn in two histories and physicals.

M95 Surgery 850 Urology Subinternship
This four-week clinical subinternship will offer the interested student experience with a spectrum of problems in both adult and pediatric clinical urology. The student will learn the basic diagnostic procedures and management of surgical and nonsurgical aspects of patient care under the supervision of the attending staff and house staff. Clinical conferences are held two days per week.

M95 Surgery 862 Colon & Rectal Surgery Subinternship
This subinternship elective is designed to give students in-depth experience in the clinical management of patients on the Colorectal Surgery Service. Students work closely with the attendings within the Section of Colon and Rectal Surgery, and clinical exposure is focused on a wide range of benign and malignant colorectal diseases. There is exposure to radiation oncology and the specialized areas of nursing related to the care of patients with colorectal cancer and inflammatory bowel disease. The course will offer opportunities for students to gain experience in preoperative, intraoperative, and postoperative patient management under house staff, fellows, and faculty guidance as well as ample opportunity to attend and participate in conferences. Notice: If a student desires to work more closely with a specific attending, they must make special arrangements with the Colorectal Surgery Office prior to beginning this elective.

M95 Surgery 863 Surgical Oncology & Endocrine Surgery Subinternship
This subinternship elective is designed to give students in-depth experience in the clinical management of patients on the Endocrine and Surgical Oncology Service (Unit 1 Service). Students will serve as clerks and will be responsible for patient management with house staff under the guidance of the chief resident and attending surgeons. Clinical exposure is focused on thyroid and parathyroid surgery as well as on breast oncology, melanoma, and soft-tissue sarcomas. The course will offer opportunities for students to gain experience in preoperative, intraoperative, and postoperative patient management. There will be opportunities for students to evaluate patients, decide on a diagnostic and management strategy, and provide care under house staff and faculty guidance, as well as ample opportunity to attend and participate in conferences.

M95 Surgery 864 Ethical Challenges in Surgery and Medicine
This elective will involve the exploration of the ethical challenges discussed during didactic conferences and in clinical settings within the Department of Surgery at Washington University School of Medicine in St. Louis. The student will be guided through readings, discussions, and projects by department faculty members with expertise in clinical ethics. The elective will result in a manuscript ready to be revised/finalized for publication.
submission with the student as lead author. This elective provides the opportunity to work closely with faculty mentors and should appeal to any student interested in the ethical and humanitarian challenges facing physicians in particular and society in general.

M95 Surgery 871 Vascular Surgery Subinternship
This subinternship is designed to give students in-depth experience in the clinical management of patients on the Vascular Surgery Service. The elective will offer opportunities for students to gain experience in the preoperative, intraoperative, and postoperative management of patients with surgically treated vascular diseases/conditions. Students will serve as clerks and will be responsible for patient management with house staff under the guidance of the fellow and attending surgeons. There will be opportunities for students to evaluate patients, decide on a diagnostic and management strategy, and provide care under house staff and faculty guidance, as well as ample opportunity to attend and participate in conferences. Notice: If a student desires to work more closely with a specific attending, they must make special arrangements with the faculty member prior to beginning this elective.

M95 Surgery 879 Hepatobiliary-Pancreatic Surgery Subinternship
This subinternship is designed to give students in-depth experience in the clinical management of patients on the Hepatobiliary-Pancreatic (HPB) Service. The HPB Service is a busy upper gastrointestinal service with a focus on hepatobiliary and pancreatic diseases and their treatment. The course offers opportunities for students to gain experience in preoperative, intraoperative, and postoperative patient management. Students will serve as clerks and will be responsible for patient management with house staff under the guidance of the fellow, chief resident, and attending surgeons. There will be opportunities for students to evaluate patients, decide on a diagnostic and management strategy, and provide care under house staff and faculty guidance, as well as ample opportunity to attend and participate in conferences. Note: If a student desires to work more closely with a specific attending, they must make special arrangements with the faculty member prior to beginning this elective.

M95 Surgery 880 Pediatric Surgery Subinternship
This subinternship will expose the student to a wide variety of pediatric surgical cases. This includes the preoperative and postoperative care of patients as well as the care of pediatric trauma patients. Daily walking or sit-down rounds are made with the resident, the nurse practitioner, and the attending staff; participation is expected in the pediatric surgery clinic and the operating room. Weekly conference attendance is mandatory and includes mortality and morbidity, radiology, pathology, solid tumor board, emergency department/trauma, and gastrointestinal conferences. Students have an opportunity to work more closely with a specific attending, they must make special arrangements with the faculty member prior to beginning this elective.

M95 Surgery 891 Organ Transplantation Subinternship
The care of transplant patients requires the integration of multiple diverse medical and surgical disciplines. This subinternship in organ transplantation encompasses the preoperative evaluation and management of adult and pediatric recipients of liver, kidney, and pancreas. Students participate in the procurement of allografts from cadaveric or living donors, organ preservation, and transplantation. Emphasis is also placed on postoperative care, multimodality immunosuppression, and the management of allograft rejection. Basic hepatic and renal physiology, fluid and electrolyte balance, and transplantation immunology are stressed. The rotation provides an elaborate exposure to different facets of the management of end-stage renal and liver disease. Management of the complications of diabetes, hypertension, portal hypertension, and infectious problems are an integral part of pre- and post-transplant care. This course is designed to offer the student an overview of the field of organ transplantation; however, in addition to transplant surgery, students will also get some exposure to vascular access and hepatobiliary surgery. The student functions as a member of the transplant team and assumes appropriate responsibilities under supervision.

M95 Surgery 893 Minimally Invasive Surgery Subinternship
This subinternship elective in minimally invasive surgery is offered by the chief of the Section of Minimally Invasive Surgery in the General Surgery Division. Surgeons in the Minimally Invasive Surgery group regularly perform the following procedures laparoscopically: cholecystectomy, splenectomy, adrenalectomy, hiatal hernia repair, endoscopic myotomy for achalasia, inguinal hernia repair, ventral hernia repair, complex abdominal wall reconstruction, robotic surgery, and bariatric surgery for morbid obesity. The medical student electing this rotation will participate in the outpatient office and direct patient care, assist and observe in a wide range of laparoscopic procedures, and participate in teaching rounds and conferences. During this rotation, the student will also have the opportunity to observe and participate in minimally invasive surgical procedures performed by various surgeons within the Section of Minimally Invasive Surgery and will function as an acting intern.

M95 Surgery 900 Research Opportunities — Surgery
Research opportunities may be available. If interested, please contact the department of Surgery.

Mary Culver Department of Surgery (09/28/19)