Mary Culver
Department of Surgery

Formal instruction in surgery begins during the third year, with the required 8-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, including pediatric surgery, transplant surgery, vascular surgery, cardiovascular and thoracic surgery, urologic surgery, and plastic and reconstructive surgery.

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

Faculty

Bethany Sacks, MD, MEd
Clerkship Director
Visit our website for more information about our faculty (http://www.surgery.wustl.edu/Faculty/) and their appointments.

A

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

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Assistant Dean for Student Affairs and Medical Education
BA New York University 1976
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Robert Killian Royce, M.D. Distinguished Professor of Urologic Surgery (primary appointment)
BS Pennsylvania State University 1976
MD Jefferson Medical College 1978

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BS Pennsylvania State University 2008
MD University of Rochester 2013

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MBBS Bombay University 1970

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B

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MD Saint Louis University 1996

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MD Tulane University 1965

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MD Washington Univ in St. Louis 1996

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BA Youngstown St University 1962

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BA Miami University 2003

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Harry Edson Professor of Surgery (primary appointment)
MD Pennsylvania State University 1993
M PH University of Pittsburgh 1989

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MD Univ Texas Health Science Ctr 1983
BS Texas A&M University 1979

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BS University of Edinburgh 1979
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Taylor Clarke Brown, MHS, MD
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BS Rhodes College 2007
MHS Yale University 2018
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C

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UNKNOWN Duke University 1978
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BS University of Mississippi 1964

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BS1 University of Notre Dame 1974
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BA Dartmouth College 1976
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AB Washington Univ in St. Louis 2018
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MD Georgetown University 2002
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BS Stetson University 2006
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**F**

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MS1 Northwestern University 2003
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PHD Texas Tech University 2006
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PHD Medical College of Wisconsin 2007
BS Nankai University 1997

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BS University of Michigan 1994
MD University of Illinois 1998

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MD Howard University 1985

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BS University of Michigan 1983

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BS University of Michigan 1981
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BA St Olaf College 1990
MD Washington Univ in St. Louis 1994
Terence M. Myckatyn, MD
Professor of Surgery (Plastic and Reconstructive Surgery) (primary appointment)
MD Univ of Northern British Colu 1997
BS Univ of Northern British Colu 2003

N

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BS University of CA Berkeley 1995
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MD Univ of Armed Forces: Military 2000

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MD New York Medical College 2014
BS University of Maryland 2010

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Assistant Professor of Surgery (Plastic and Reconstructive Surgery) (primary appointment)
BS University of CA Irvine 2005
MD University of CA San Francisco 2011
MS University of CA Berkeley 2009

Thomas E Niesen, MD
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BS Tulane University 1975
MD Tulane University 1979

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DDENT University of Iowa 1983
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BS Iowa State University 1979

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MD Virginia Comm University 2012
BS Wake Forest University 2006

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O

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Assistant Professor of Radiology
BS University of Texas Austin 2008
MD Univ Texas Health Science Ctr 2012
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BS University of Michigan 2008
MD University of Michigan 2012
George A Oliver, MD
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BA Washington Univ in St. Louis 1948
MD Washington Univ in St. Louis 1952
Tiffany Medlin Osborn, M PH, MD
Professor of Surgery (General Surgery) (primary appointment)
Professor of Emergency Medicine
M PH London Hygiene & Tropical Med 2009
BS University of Houston 1992
MD Univ Texas Health Sci San Anto 1997
Twinkle Kumar Samudra Pandian, M PH, MD
Assistant Professor of Surgery (General Surg) (primary appointment)
M PH Johns Hopkins University 2010
MD Mayo Clinic 2011
BS University of Minnesota 2006
Sharad P Parikh, UNKNOWN
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UNKNOWN University of Pune 1967
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BS EWHWA Womans University 1994
PHD Harvard University 2005
MS1 EWHWA Womans University 1996
Charles L Parks, MD
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MD Washington Univ in St. Louis 1969
BS University of South Dakota 1967
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Instructor in Clinical Surgery (Urologic Surgery) (primary appointment)
BA Washington Univ in St. Louis 1983
MD University of Missouri 1987
Michael K Pasque, MD
Professor of Surgery (Cardiothoracic Surgery) (primary appointment)
Professor of Biomedical Engineering
Professor of Radiology
MD University of Oklahoma 1978
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Associate Professor of Surgery (Plastic and Reconstructive Surgery) (primary appointment)
MD University of Arizona 2005
BS University of MO Kansas City 2000
G Alexander Patterson, MD
Joseph C Bancroft Professor of Surgery (Cardiothoracic Surgery) (primary appointment)
MD Queen's University 1974
Enrique Pedro Perinetti, MD, PHD
Instructor in Clinical Surgery (Urologic Surgery) (primary appointment)
MD School Not Listed 1969
PHD School Not Listed 1975
Mitchell A Pet, MD
Assistant Professor of Surgery (Plastic and Reconstructive Surgery) (primary appointment)
MD Washington Univ in St. Louis 2011
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Professor of Surgery (Public Health Sciences) (primary appointment)
PHD George Washington University 2006
BS Barnard College 2001
M PHIL George Washington University 2004
Varun Puri, MD, MS
Professor of Surgery (Cardiothoracic Surgery) (primary appointment)
MD Washington Univ in St. Louis 2009
BS All-India Inst of Medical Sci 1998
MS Creighton University 2007
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BS Southern Illinois U Carbondale 2009
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BS1 St Johns University 2004
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BA Colgate University 1979
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BS Univ of IL -Urbana-Champaign 2012
PHD Univ of IL -Urbana-Champaign 2017
M PH Johns Hopkins University 2018

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MD Harvard University 1987
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MBA Lincoln Memorial University 2014
DOST Lincoln Memorial University 2014

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PHD Institute of Medical Science 1989

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BS Stanford University 2007

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MD School Not Listed 2000

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MD Marshall University 2008
BS Kettering University 2004

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MD Wayne State University 1976
BS Univ of Wisconsin Madison 1972

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MD University of Toronto 1963

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BS Univ of Wisconsin Madison 1998

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MS University of Memphis 1991

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MD University of MO Kansas City 1982

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M PH Johns Hopkns University Medic 2007
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DPM Ohio College of Podiatric Medi 1981
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BS Emory University 1998

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Y

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MD Northwestern University 1985

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MS Ohio State University 1975
MD Ohio State University 1978
BA University of Michigan 1973
JD Saint Louis University 1997

Z

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

Christian W Zemlin, PHD
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PHD Humboldt University 2012

Research Electives

Surgery Research Electives

During the fourth year, opportunities exist for many varieties of advanced clinical or research experiences.

For the most up-to-date medical student research opportunities, please visit the Research page of the Department of Surgery website (https://surgery.wustl.edu/research/).

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 laparoscopic 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 to 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 Employment, or through external employment. Student work may be obtained through 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 Employment, or through external employment.

Courses

M95 Surgery 790 Integrated Surgical Disciplines Clerkship
During the 8-week surgery clerkship, each student is assigned to 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 8-week rotation, there are weekly small-group tutorial sessions with faculty members and a biweekly lecture series. Credit 308 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. Through completion of this subinternship, the student will gain an ability to evaluate, resuscitate and manage trauma and emergency general surgery patients. Subinterns will actively interact with patients in the outpatient office, hospital ward and operating room. Practical experience will involve preoperative patient evaluation, resuscitation of acutely ill patients, operative patient management, in-hospital patient care and postoperative outpatient follow-up. The student will also participate in affiliated 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 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 as first responders to patients with acute abdominal pain, chest pain, hypotension, mental status changes, and other ER/on-call type 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 subinternship 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, repair of congenital heart defects, ventricular assist devices, cardiac transplantation, coronary artery bypass surgery (on and off pump), valve repair and replacement, complex aortic surgery, the MACE procedures and others. On the adult cardiac surgery service, students will function as sub-interns under the direct supervision of a faculty member. On the thoracic surgical rotation, students will have the opportunity to perform bronchoscopy, esophagoscopy, gastroscopy, and participate in surgical resections of lung cancer and esophageal cancer, as well as surgery for emphysema and for benign esophageal conditions. Students will also participate in lung transplantation surgery. Medical students are also invited to participate in ongoing research projects under the mentorship of surgery faculty. Please contact course director if you are interested in this option.

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, the student may participate on those services of special interest, such as hand or pediatric plastic surgery. The student will play 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. Student will perform a ten-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 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 H&Ps.

**M95 Surgery 850 Urology Subinternship**
The four-week clinical subinternship will offer the interested student experience with a spectrum of problems in clinical urology - both adult and pediatric. 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. Medical students are also invited to participate in ongoing research projects under the mentorship of urology faculty. Please contact course director prior to the start of the elective if you are interested in this option.

**M95 Surgery 850A Urology Subinternship with Research**
The four-week elective will offer exposure to the full spectrum of problems in clinical urology (adult and pediatric). 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 one to 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 will 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 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, he/she must make special arrangements with the Colorectal Surgery Office prior to beginning this elective.

**M95 Surgery 863 Surgical Oncology & Endocrine Surgery Subinternship**
This subinternship is designed to give students in-depth experience in the clinical management of patients on the Endocrine and Surgical Oncology Service (Unit I 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 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 opportunity 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 exploration of the ethical challenges discussed during didactic conferences and in clinical settings within the Department of Surgery at Washington University in St. Louis School of Medicine. 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 elective 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 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 opportunity 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, he/she 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 opportunity 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, he/she 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, nurse practitioner, and attending staff, and 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, ED/trauma, and GI conferences. Students have the opportunity to understand the widely differing anatomy and physiology of patients ranging from newborn infants to teenagers and young adults. The student functions as a team member and assumes level-appropriate responsibilities as determined by senior team members in this highly specialized care field.

**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 procurement of allografts from cadaveric or living donors, organ preservation, and transplantation. Emphasis is also placed on postoperative care, multimodality immunosuppression and management of allograft rejection. Basic hepatic and renal physiology, fluid and electrolyte balance, and transplantation immunology are stressed. Rotation provides an elaborate exposure to different facets of 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.