

General Surgery

Length:	2-3 months of PGY-1 year 2-3 months of PGY-2 year 4 months of PGY-3 year 4 months of PGY-4 year (<i>Subject to Change</i>)
Location:	Straub Clinic & Hospital
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The training of surgeons for the practice of general surgery encompasses education in basic sciences, training in cognitive and technical skills, development of clinical knowledge and maturity, and acquisition of surgical judgment.

Goals

Perform a thorough, accurate and appropriately directed history and physical examination on the surgical patient. Order in a cost-effective manner and accurately interpret lab and x-ray studies. Recognize what problems require surgical intervention, the procedure(s) required, timing, indications, and contraindications.

Residents will be able to appropriately prepare a patient preoperatively, provide appropriate intraoperative and postoperative care, and recognize and treat associated complications. At successful completion of the Surgical Residency, the Resident will be able to function safely and independently as a general surgeon.

Overall Objectives

1. Accurately diagnose, properly manage (including resuscitation and stabilization), and appropriately consult or refer those patients with surgical disease and emergencies such as:
 - a. Trauma
 - b. Acute appendicitis
 - c. Shock
 - d. Intestinal obstruction
 - e. Burns - all degrees
 - f. Pneumothorax
 - g. Acute and chronic abdominal pain
 - h. Peripheral vascular disease
 - i. Biliary tract disease
 - j. Inguinal, umbilical and femoral hernia
 - k. Pancreatic disease.

2. Understand and master the principles of preoperative evaluation and care.
3. Understand and master the principles of postoperative evaluation and care, including:
 - a. Wound healing
 - b. Management of fluid, electrolytes, and nutrition
 - c. Recognition and management of common complications.
4. Understand the various surgical treatment options and their potential risks in order to give proper education, advice, and emotional support to patients and their families.
5. Understand the role of the surgeon as consultant.
6. Understand the psychosocial issues confronting patients who have surgical disease.
7. Master as many of the bedside psychomotor skills listed below as possible:
 - a. Basic surgical principles and skills
 - b. Asepsis and proper handling of tissue in order to become a competent surgeon
 - c. Peripheral IV line
 - d. Peritoneal lavage
 - e. Aspiration of breast mass/cyst
 - f. Venous cutdown
 - g. Insertion of arterial line
 - h. Insertion of chest tube
 - i. Central Venous Catheter (subclavian, jugular, femoral) insertion
 - j. Pulmonary Artery Catheter placement and interpretation
 - k. Insertion and use of NG feeding tubes
 - l. Needle thoracentesis
 - m. Incision and Drainage of abscesses
 - n. Endoscopy
 - o. Laceration repair and suturing.

PGY-1 Level

1. **Medical Knowledge**

- a. Demonstrate basic knowledge of anatomy and pathophysiology as it pertains to both general surgical and surgical subspecialty disease processes encountered during this year.
- b. Able to recognize and understand treatment of typical post-operative complications.
- c. Demonstrate an understanding of the post-operative fluid and electrolyte management of surgical patients.

Performance Measures

- a. Weekly attending rounds and conferences
- b. Daily work rounds and Resident evaluations
- c. American Board of Surgery In-Training Examination
- d. Preparation of at least one lecture during the academic year
- e. End of rotation global evaluations

2. **Patient Care**

- a. Demonstrate mastery of focused physical examination and history taking skills of patients presenting with surgical illnesses.
- b. Recognize a patient experiencing an acute clinical deterioration.
- c. Assist in the performance of complex surgical procedures and understand the importance of the surgical assistant.

Performance Measures

- a. Faculty Attending and Senior/Chief Resident global evaluations and focused review

3. **Professionalism**

- a. Demonstrate professional conduct on a daily basis with regard to punctuality, appropriate record keeping, and appropriate data gathering on daily rounds.
- b. Maintain impeccable ethical standards in regards to veracity and willingness to admit to mistakes
- c. Professionally and respectfully interact with ancillary staff, Physicians, and consultants
- d. Seek additional responsibility for patient care when appropriate
- e. Mentor Medical Students
- f. To take primary responsibility for and demonstrate dedication to the care of the inpatients on the ward

Performance Measures

- a. Faculty Attending and Senior/Chief Resident global evaluations
- b. Attendance record at conferences
- c. Evaluations from Nursing staff, Medical Students (360 degree evaluations)
- d. Daily work rounds with Senior and Chief Residents and formal rounds and conferences with Faculty Attendings

4. **Systems-Based Practice**

- a. Demonstrate understanding of Hospital based systems
- b. Support members of the Resident Team as needed in delivery of cost-effective health care and discharge planning
- b. Demonstrate understanding of cost-effective care in the management of the routine post-operative patient

Performance Measures

- a. Faculty and Senior/Chief Resident global evaluations at end of rotation

5. **Practice-Based Learning and Improvement**

- a. Demonstrate use of medical literature in developing care plans for patients
- b. Participate in mortality and morbidity conferences

Performance Measures

- a. Contributions in conferences
- b. Faculty Attending and Senior/Chief Resident global evaluations

6. **Interpersonal and Communication Skills**

- a. Demonstrate compassion and empathy for patients
- b. Communicate effectively with other members of the patient care team
- c. Communicate effectively with the Faculty Attendings in conferences, on rounds, in the clinic, and in the operating room
- c. Communicate effectively with consultants
- d. Demonstrate orderly and concise presentation of history and physical examination to Residents and Students

Performance Measures

- a. Faculty and Senior/Chief Resident global evaluations at the end of rotations
- b. Nursing and Medical Student evaluations (360 degree evaluations)

PGY-2 Level

1. **Medical Knowledge**

- a. Focus on enhancing knowledge in the critical care and emergency room setting
- b. Improve knowledge base to recognize and begin treatment of emergency general surgery conditions
- c. Continue to expand knowledge base on general surgical conditions by completion of one general surgical text
- d. Become familiar with resuscitation and critical care of burn patients
- e. Prepare and present at least two academic lectures during the year.

Performance Measures

- a. Weekly conferences and Faculty Attending rounds
- b. Daily rounds and Resident evaluations
- c. Successful completion of a burn rotation
- d. Monthly academic quizzes on textbook reading
- e. Performance on American Board of Surgery In-Training Examination

2. **Patient Care**

- a. To function as the first line surgical evaluator for new surgical consults in the SICU, and on specialty rotations such as cardiovascular surgery and anesthesia
- b. To rapidly evaluate general surgery patient in the inpatient, ICU, and emergency room setting
- c. To focus daily inpatient care on the ICU patient and the complex, multidisciplinary management of these patients
- d. To perform preoperative evaluation and routine postoperative care on routine outpatient general surgical patients in the clinic setting
- e. Provide appropriate informed consent to patients scheduled for surgery.
- f. To obtain mastery of basic surgical technical skills, specifically knot tying,

- instrument handling and suturing in the context of open surgical procedures
- g. To obtain a basic skill set in technical aspects of laparoscopic surgery, specifically port placement, and instrument manipulation
- h. To become comfortable with performing basic laparoscopic procedures (cholecystectomy and appendectomy) under the direct supervision and with the assistance of the Faculty Attending Surgeon

Performance Measures

- a. Global evaluation at end of rotation by Faculty Attendings and Senior/Chief Resident/Surgical Critical Care Fellow
- b. Daily evaluation by Senior/Chief Resident/Surgical Critical Care Fellow
- c. Evaluation by SICU and ward Nursing staff
- d. Daily SICU and general surgery work rounds

3. **Professionalism**

- a. Function in an effective collaborative role with faculty and other residents
- b. Attend all Program sponsored conferences unless excused in a punctual manner
- c. To maintain ethical conduct at all times

Performance Measures

- a. Faculty Attending and Senior/Chief Resident global evaluations
- b. Attendance record at conferences
- c. Evaluations from Nursing staff, Medical Students (360 degree evaluations)
- d. Daily work rounds with Senior and Chief Residents and formal rounds and conferences with Faculty Attendings

4. **Systems-based Practice**

- a. Demonstrate understanding of cost effective diagnostic technology when making pre-operative evaluations
- b. Demonstrate understanding of cost effective therapeutic interventions in the inpatient and outpatient settings

Performance Measures

- a. Faculty and Senior/Chief Resident global evaluations at end of rotation

5. **Practice-based Learning and Improvement**

- a. Understand and recognize personal areas where improvement is needed, both in technical areas and knowledge base, and to demonstrate a dedication to improvement in these areas
- b. Participate in morbidity and mortality conferences
- c. Initiate scholarly endeavor on one research project

Performance Measures

- a. Weekly performance and attendance at conferences
- b. Weekly performance on Attending rounds
- c. Faculty Attending and Senior/Chief Resident global evaluations

6. **Interpersonal and Communication Skills**

- a. Provide effective informed consent for surgical procedures
- b. Mentor Medical Students and PGY-1s
- c. Concisely and clearly present patients seen on call to Attending Faculty and Senior/Chief Residents
- d. Concisely and clearly communicate patient information when interacting with consulting services
- e. Facilitate the seamless delivery of health care as part of a multidisciplinary team
- f. Demonstrate compassion and candor when interacting with family's of critically ill patients

Performance Measures

- a. Faculty and Senior/Chief Resident global evaluations at the end of rotations
- b. Nursing and Medical Student evaluations (360 degree evaluations)

PGY-3 and PGY-4 Level

1. **Medical Knowledge**

- a. Demonstrate on-going acquisition of basic knowledge base established in the first two years, by incorporating text book level knowledge with current journal articles
- b. Routinely seek to expand knowledge base by performing frequent literature searches regarding care of patients encountered
- c. Develop a depth of knowledge of the surgical subspecialties of pediatrics, cardiothoracic surgery, critical care, urologic surgery, neurologic surgery, plastic and reconstructive surgery, colorectal surgery, and head and neck surgery, that is expected of a general surgeon

Performance Measures

- a. Weekly conferences and Faculty Attending rounds
- b. Monthly academic quizzes on textbook reading
- c. End of rotation global evaluations
- d. Performance on American Board of Surgery In-Training Examination

2. **Patient Care**

- a. Incorporate recent evidence in clinical journal articles into patient care plans
- b. Begin to take a primary role in the management of complex surgical patients
- c. Demonstrate maturity in knowing when and who to ask for assistance
- d. Become comfortable in the evaluation, resuscitation and treatment of the trauma patient
- e. Develop a basic understanding of the pre-operative evaluation and post operative care of the transplant patient
- f. With the assistance of a Faculty Attending, and under a Faculty Attending's direct supervision, demonstrate the technical skill required to function as the primary surgeon in the performance of basic and complex open and laparoscopic general surgical procedures

- g. Understand and function proficiently in the role of a general surgical consultant to patients on other services

Performance Measures

- a. Global evaluation at end of rotation by Faculty Attendings and Senior/Chief Resident/Surgical Critical Care Fellow
- b. Daily evaluation by Senior/Chief Resident/Surgical Critical Care Fellow and Faculty in the Clinic and in the Operating Room
- c. Nursing Evaluations at end of rotation

3. **Professionalism**

- a. Display a degree of professional competence such that patients and ancillary staff begin to see the Resident as a leader in the health care team
- b. Continue to display a degree of personal integrity such that the Resident's word is never questioned
- c. Continue to mentor Junior Residents and Medical Students
- d. Treat ancillary staff and Consulting Services with professionalism and respect
- e. Always act in the best interest of the patient
- f. Demonstrate complete preparation through reading and literature searches for conferences and for operative cases
- g. Begin to function as a leader of the Resident health care team, both at night and in the absence of the Chief Resident

Performance Measures

- a. Faculty Attending and Senior/Chief Resident global evaluations at end of rotation
- b. Attendance record at conferences
- c. Evaluations from Nursing staff, Medical Students (360 degree evaluations)
- d. Daily work rounds with Senior and Chief Residents and formal rounds and conferences with Faculty Attendings

4. **Systems-based Practice**

- a. Become familiar with the system practices at various participating Hospitals and function effectively within these systems
- b. Take elements of systems learned at other Institutions which appear effective and suggest improvements for our own system
- c. Implement practices within the health care team which improve efficiency
- d. Maintain Institutional standards regarding documentation of health care, dictations and coding

Performance Measures

- a. Faculty and Senior/Chief Resident global evaluations at end of rotation
- b. Compliance levels with dictation and documentation standards

5. Practice-based Learning and Improvement

- a. Critically evaluate journal articles in the clinical setting and at academic conferences
- b. Continue to participate in Morbidity and Mortality conferences
- c. Continue to pursue research endeavors by seeing at least one project through to completion with manuscript submission

Performance Measures

- a. Weekly performance and attendance at conferences
- b. Weekly performance on Attending rounds
- c. Faculty Attending and Senior/Chief Resident global evaluations

6. Interpersonal and Communication Skills

- a. Continue to demonstrate appropriate skill in teaching Students, other Residents and other health care professionals
- b. Provide effective pre- and post-operative teaching to patients and their families
- c. Collaborate with patients and their families when planning operative procedures and postoperative care
- d. Demonstrate effective documentation of health care through daily notes and written consultations
- e. Prepare at least one lecture per year for the general surgery services and present them

Performance Measures

- a. Faculty and Senior/Chief Resident global evaluations at the end of rotations
- b. Nursing and Medical Student evaluations (360 degree evaluations)

Required Readings:

The following texts will be issued by the Program for loan during a Resident's training:

- Cameron, J.L., 2008: *Current Surgical Therapy, 9th Edition* (Mosby, Inc.).
- O'Leary, J.P., 2008: *The Physiologic Basis of Surgery, 4th Edition* (Williams & Wilkins)
- American College of Surgeons, 2006 ACS Surgery: Principles and Practice (continually updated, online access).