



University of Illinois, Metropolitan Group Hospitals Program in General Surgery

Rotation Title: Service A – AIMMC

Level of Training: PGY I: One month, PGY II, III, and V: Two months

Attending in Charge of Rotation: Dr. Vijay K. Maker (Chairman Surgery)

Faculty: Dr. Kiran Amin, Dr. Clark Federer, Dr. George Salti, Dr. Rami Lutfi, Dr. Spyridion Theodorakis, Dr. Marc Adajar, Dr. David Shapiro, Dr. Barry Summers, Dr. Iyer Balasubramaniam, Dr. Mark Keldahl, Dr. Joaquin Estrada, and Dr. Ashokkumar Doshi.

Rotation description:

General surgery rotation at Masonic consists of two services each with a component of wide spectrum of general surgery cases, and surgical oncology. Service A is a very busy service with wide spectrum of general surgery, and senior resident will benefit from scrubbing with Dr. Iyer in the advanced thoracic, esophageal and vascular cases. He also takes an active role in the daily morning teaching and runs the morning conferences when the site program director is not available. Apart from the patient care and management, this service spends time in teaching cost effective medicine, professionalism and various quality assurance and patient safety topics.

Responsibilities of Chief Resident

The chief resident's responsibilities are divided into academic, clinical and administrative.

Academic responsibilities

- Preparation of the daily morning conference schedule
- The chief resident will work with the site program director to develop, assign and moderate topics for discussion.
- The chief resident is to report all surgical morbidities and mortalities and, in conjunction with the chairman of the department, prepare and research the pertinent literature for their presentation.
- Teaching of residents, medical students during daily rounds, in the operating room, and at every opportunity

Clinical responsibilities

- Organize the day-to-day coverage of the OR cases, floor and ER coverage
- Assist and supervise the junior residents in daily care of patients. The Chief resident will round with the junior residents and provide them with direction in carrying our managements plan for all patients
- The Chief resident will ensure that adequate chart documentation occurs on all patients, and that residents complete dictations.
- Operating room attendance at the majority of the team's cases is expected. The Chief resident's role will vary according to the case and the learning requirements of the junior members. The chief resident will act as a teaching assistant to junior resident on appropriate cases.
- All chief residents are expected to attend the OR in a timely fashion to help with patient positioning and to become familiar with the patient's chart if the case is being done on an outpatient basis.
- Available to assist junior residents with management of ER patients especially the very sick and or the complex patients.
- The chief resident is responsible to provide an operative experience commensurate with the training level of the resident to maximize the educational benefit for all residents.
- Each afternoon the chief resident is to review the entire inpatient service with the team and to call the attending-on-call with an update. This review will also serve as sign out rounds for the on-call team, as a continuity of care.

Administrative responsibilities

- Responsible for alternating home call with the other senior resident on a weekly basis
- Responsible for making call schedule

- Making sure the residents are in compliance with duty hour regulations
- Acting as liaison between the attending staff and residents.

In the preparation for chief resident to assume the role of attending, he/she is expected to review all the new consults with intermediate resident, attend and sign the consultation notes, document in the progress note any significant event in the patient's condition, call the primary care physician and family with the plan of care.

ASSESSMENT:

Monitoring of the accomplishment of the stated objectives will be performed using the following methods:

1. 360 degree evaluation: End of rotation evaluation of resident performance to assess the Resident's demonstration of Core Competencies with respect to the stated objectives by faculty, other team resident members, students, nursing staff, and patients using multiple tools.
2. Case Logs: Auditing of operative cases pertinent to the specialty in the Surgical Operative Log.
3. Written Examination: Performance on the annual ABSITE examination, Gastrointestinal, Skin and Soft Tissue, thoracic and vascular systems section.

Surgical Skills Advancement:

The resident will exhibit surgical performance skills based on the following guidelines:

1. Utilize the simulation lab for improvement and experience with surgical procedures, offering the opportunity for advancement along the skills lab curriculum outlined in the simulation OSAT.
2. By the end of the rotation, have completed (per necessity) the OSAT/OSCA for the following procedures:
 - a. PGY 2: open appendectomy, open inguinal hernia repair
 - b. PGY 3: laparoscopic appendectomy, laparoscopic inguinal hernia repair
 - c. PGY 5: operative dictation

COMPETENCY BASED LEARNING OBJECTIVES

Patient Care:

1. Perform a complete and thorough history and physical examination, with emphasis in elements unique to laparoscopic, oncologic, thoracic / vascular and general surgery patients.
2. Initiate the laboratory evaluation and any other initial diagnostic studies with an understanding of the tests to be ordered.
3. Make informed decisions about diagnostic and therapeutic interventions on general, laparoscopic, and oncologic surgery patients with the guidance of senior residents and faculty.
4. Be proficient in the preoperative preparation of the patients for general, thoracic / vascular, laparoscopic, and oncologic surgery and routine postoperative care.
5. Understand basic pathophysiology of oncologic disease and begin to master the skills necessary to care for the ICU patient under the guidance of the senior residents and faculty members.
6. Understand basic pathophysiology of oncologic surgical disease, principles of resuscitation, preoperative and postoperative care of oncologic, general and laparoscopic surgery patients under the guidance of the senior residents and attendings.
7. Understand the basic indications for common radiological and interventional studies used in the care of laparoscopic, oncologic and general surgery patients such as plain chest, CT scans, MRCP, ERCP, non- invasive cardiac function tests, and mammography.
8. Demonstrate the ability to effectively set priorities and coordinate the care of these patients.
9. Physical Examination
 - a. To understand the significance of observational signs, such as skin color and texture, swelling, fever, and weight loss.
 - b. To detect and evaluate abdominal masses, breast masses, abnormal mammograms.
 - c. To develop the skills necessary to palpate the abdomen, neck, and extremities in order to localize sites of tenderness, enlarged lymph nodes, and to recognize the presence of masses and abnormal pulsations.
 - d. To be capable of performing basic surgical evaluations.
 - e. To interpret physical findings, understand how they contribute to the diagnosis, recognize their limitations, and be aware of other diseases that might mimic the findings.
 - f. To be familiar with commonly used noninvasive instruments and screening modalities, such as magnetic resonance imaging (MRI), digital mammography, and

computerized tomography (CT).

Curriculum/Goals

1. Intern:

- 1 Maintain working knowledge of diseases processes described below
- 2 Understand preoperative work-up and post-operative management of common surgical conditions. Particular focus should be paid to management of liver and pancreatic patients
- 3 Identify and initiate appropriate treatment for acute appendicitis, acute cholecystitis, and bowel obstruction.
- 4 Understand inguinal anatomy and develop skills to assess inguinal hernias
- 5 Surgical skills (Procedures to be competent in)
 - o Pass all portions of the Skills lab curriculum
 - o Bedside incision and drainage
 - o Appendectomy
 - o Umbilical and inguinal hernias

2. Intermediate

- 1 Have thorough knowledge of all outlined disease processes
- 2 Have ability to perform pre-operative work-up and post-operative care for all patients.
- 3 Surgical Skills
 - o Completion of all Skills lab curriculum
 - o Increasing independence in performing routine procedures such as appendectomy and hernia repairs
 - o Development of laparoscopic skills
 - o Ability to adequately perform laparoscopic cholecystectomy with assistance of either senior resident or attending
 - o Have ability to perform exploratory laparotomy, bowel resection... and have the ability to close the abdomen in an appropriate fashion.

3. Senior:

- 1 Have complete knowledge of all designated knowledge
- 2 Appropriately direct care of all patients as a junior attending
- 3 Have adequate knowledge and ability to perform routine cases (hernias, cholecystectomy, and routine laparotomies) independently and with assistance of junior resident.

Knowledge and ability to perform liver and pancreatic surgery with the assistance of attending.

Medical Knowledge:

1. Describe the anatomy of the breast.
2. Explain the hormonal regulation of the breast.
3. Summarize the incidence, epidemiology, and risk factors associated with breast cancer.
4. Distinguish between the common entities in the differential diagnosis of breast masses.
5. Explain the general indications, uses, and limitations of mammography.
6. Describe the following pathological types of breast cancer, including the biology, natural history, and prognosis of each:
 - a. Infiltrating ductal carcinoma
 - b. Ductal carcinoma in situ (DCIS)
 - c. Infiltrating lobular carcinoma
 - d. Lobular carcinoma in situ
7. Understand the pathology, presentation, and management of benign breast diseases.
8. Discuss the role of mammography, needle aspiration, fine-needle biopsy, open biopsy, and mammographic needle localization and biopsy.
9. Explain the mechanics and potential value of the stereotactic needle biopsy.
10. Outline the diagnostic work-up and the differential diagnosis of various forms of nipple discharge.
11. Explain the use of tumor, nodes, and metastases (TNM) staging in the treatment of breast cancer.
12. Summarize the rationale for using a team approach to facilitate the complex discussions and explanation of options for the newly-diagnosed breast cancer patient prior to definitive treatment.
13. Explain the role of reduction and augmentation mammoplasty.
14. Summarize the role of adjuvant chemotherapy and radiation therapy for the treatment of primary breast carcinoma.
15. Outline the importance of estrogen and progesterone receptors in the prognosis and treatment of breast cancer.
16. Formulate plans for basic patient care, including pre-, intra-, and post-operative care.
17. Describe the embryological development of the peritoneal cavity and the positioning of the abdominal viscera.
18. Understand the anatomy of the abdomen including its viscera and anatomic spaces.
19. Describe changes in the organ systems that result from the aging process.
20. Explain absorption and secretory functions of the peritoneal surfaces and the diaphragm.
21. Describe the anatomy of the omentum and its role in responding to

inflammatory processes.

22. Assess signs associated with the acute abdomen and describe the pathophysiology:
23. Specify characteristics of the history, physical examination findings, and mechanism of visceral and somatic pain for various pathologies.
24. List possible distinctions in the presentation and examination of the elderly patient with the following causes of acute abdomen:
 - a. Gastric/duodenal ulcer
 - b. Cholecystitis
 - c. Perforated viscus (ulcer, diverticulitis, appendicitis)
25. Explain the mechanism of referred pain in:
 - a. Ruptured spleen
 - b. Biliary colic
 - c. Basilar pneumonia
 - d. Renal colic
 - e. Pancreatitis
 - f. Inguinal hernia
26. Discuss the following causes of paralytic ileus:
 - a. Postoperative electrolyte imbalance
 - b. Retroperitoneal pathology
 - c. Trauma
 - d. Extraperitoneal disease (central nervous system, lung)
27. Differentiate between the conditions favoring percutaneous drainage versus operative drainage
28. Differentiate between the following intestinal fistulas and the organs to which they most often communicate:
 - a. Esophageal
 - b. Gastric
 - c. Enteric (including duodenal)
 - d. Colonic
 - e. Malignancy
29. Explain the role of a fistulogram in the diagnosis of intra-abdominal fistulas and abscesses
30. List the factors that prevent healing of a fistula.
31. Describe the anatomy, clinical presentation, and complications of non-operative management for hernias.
32. Name the hernia types that are most common in the elderly and explain how they may become problematic
33. Define a Richter's hernia and describe its clinical presentation
34. Define a sliding hernia and describe its repair
35. Differentiate between incarceration and strangulation.
36. Evaluate and diagnose the acute abdomen.
37. Assist with hernia repairs in the groin or umbilical regions, demonstrating a basic understanding of the anatomy and surgical repair.
38. Interpret the following in coordination with attending radiologists and staff:
 - a. Acute abdominal series (identify free air, small bowel obstruction, ileus, colonic pseudo-obstruction, volvulus; the presence of ascites, atelectasis)

- vs. pneumonia)
 - b. Upper GI series
 - c. Barium enema (identify neoplasms, signs of ischemia)
 - d. Abdominal ultrasound and CT scans
39. Evaluate and institute management of abdominal wound problems, including:
 - a. Infection
 - b. Evisceration
 - c. Fasciitis
 - d. Dehiscence
 40. Specify the pathophysiology of multisystem problems of the alimentary tract and digestive system, including neurohumoral and hormonal interactions.
 41. Explain the physiologic rationale for the following gastrointestinal operations:
 - a. Vagotomy
 - b. Pyloroplasty
 - c. Gastric resection for ulcer disease
 - d. Small bowel resection with anastomosis
 - e. Stoma formation
 - f. Resection of GI tract segments with nodes for tumors
 - g. Bypass of GI tract segments for resectable tumors
 - h. Drainage of pancreatic cysts (internal vs. external)
 - i. Drainage of abdominal and retroperitoneal abscesses (percutaneous vs. operative)
 42. Explain the indications and contraindications for diagnostic and therapeutic endoscopy of the alimentary tract.
 43. Assess alternatives to surgical intervention in the management of complex diseases of the alimentary tract and digestive system such as:
 - a. Short gut syndrome
 - b. Achalasia, Hiatal hernia and reflux esophagitis
 - c. Barrett's esophagus and carcinoma
 - d. Intestinal polyposis
 - e. Inflammatory bowel disease
 - f. Seropositive status for H. pylori
 - g. Multifocal atrophic gastritis in the elderly
 44. Differentiate between conventional open and scope-assisted surgery, including:
 - a. Anesthetic considerations
 - b. Effects of pneumoperitoneum
 - c. Cardiovascular stability
 - d. Need for team participation
 - e. Differences in patient outcome
 45. Discuss the physical limitations imposed on the user participating in minimal access surgery, including:

- a. Surgeon fatigue and diminished proficiency over time
 - b. Two-dimensional perspective
 - c. Visual limitations of scope and monitoring equipment
 - d. Crucial importance of patient position and cannula position for optimum exposure
46. Understand strategies to offset the difficulties suggested in #2 above, including:
- a. Proper alignment of eye-camera-instrument axes
 - b. Efficient biomechanics
 - c. Effective use of assistants
 - d. Appropriate use of other advanced technologies such as endoscopic ultrasound
47. Explain the concept of the learning curve, and discuss the need for quality control in the education and evaluation of surgical housestaff in developing proficiency in minimal access surgery.
48. Explain the mechanics and principles for safe and effective use of the following equipment/procedures:
- a. Cautery (monopolar and bipolar)
 - b. Laser
 - c. Telescopic direction
 - d. Insulation technique and hazards
 - e. Maintaining visualization of operative field
49. Discuss appropriate anesthetic management for minimal access (MA) techniques for surgery involving the abdomen, thorax, and joints and soft tissue spaces.
50. Discuss the potential economic impact of increased utilization of operating room time, advanced equipment, and disposable instruments on health care costs.
51. Explain the pathophysiology involved in acute cholangitis, and discuss the histologic factors that contribute to its urgency.
52. Discuss the treatment algorithms involved in choledocolithiasis and cholangitis, and be able to identify the anatomy and pathology of biliary duct disease on MRCP.
53. Discuss the epidemiology and etiology of pancreatitis.
54. Be familiar with the pathophysiology of pancreatitis, and discuss how this affects the treatment of pancreatitis and the rationale for treatment of associated gallbladder disease when it is involved with pancreatitis.

CARDIOVASCULAR THORACIC EXPERIENCE

Intern

VASCULAR

Assess patients' vascular systems using appropriate skills in history-taking and clinical examination

Review arterial and venous anatomy

Describe basic arterial and venous hemodynamics

Be familiar with the basic clinical manifestations of:

Obstructive arterial disease

Aneurysm arterial disease

Thromboembolic disease

Chronic venous insufficiency

Demonstrate skill in basic surgical techniques including:

Knot tying

Exposure and retraction

Knowledge of instrumentation

Incisions

Closure of incisions

Handling of graft materials

Demonstrate proficiency in venous access procedures

Participate in surgery for varicose vein disease and in the creation of arteriovenous fistula for hemodialysis

THORACIC

Review anatomy of the lung and esophagus

Be familiar with the appropriate diagnostic and therapeutic modalities for the following conditions:

Spontaneous pneumothorax

Empyema

Malignant pleural effusion

Esophageal cancer

Lung cancer

Evaluate the operative risk for a patient undergoing thoracic surgery

Perform tube thoracostomy

Attend tumor conferences relating to new lung or esophageal tumors

Intermediate and senior resident

VASCULAR

Outline indications for operations for lower extremity occlusive arterial disease, aortic aneurysm, aortic dissection, carotid stenosis, amputation

Outline the procedures for managing vascular surgical emergencies such as acute tissue ischemia or ruptured aortic aneurysm

Illustrate the operative exposure of major vessels including:

- | | |
|------------------------------|-------------------------------|
| a. Aortic arch | b. Carotid artery |
| c. Descending thoracic aorta | d. Proximal subclavian artery |
| e. Suprarenal aorta | f. Femoral artery |
| g. Infrarenal aorta | h. Popliteal artery |

Perform selected operative procedures or selected parts of the following procedures:

Aortic aneurysm repair including endovascular stenting

Carotid endarterectomy

Aorto-iliac occlusive disease

Femoral popliteal occlusive disease

Arteriovenous fistula

Ligation and stripping of varicose vein disease

THORACIC

Describe the evaluation of a solitary pulmonary nodule versus a centrally located lung mass

Discuss the indications for mediastinoscopy

Discuss the value of PET scanning in lung cancer

Describe the work up of an esophageal cancer

Be familiar with the surgical options for esophageal cancers at the gastroesophageal junction

Be able to clinically stage lung and esophageal cancers

Perform selected operative procedures or selected parts of the following procedures:

Pacemaker insertion

Video assisted thoracic surgery (VATS) for empyema and spontaneous pneumothorax, lobectomy for lung cancer, mediastinoscopy, and gastroesophagectomy for esophageal cancer

Attend tumor board conferences relating to new lung or esophageal tumors

Practice Based and Life Long Learning:

1. Develop a personal program of self-study and professional growth with guidance from the teaching staff and senior residents. An understanding of the etiology, pathogenesis, pathophysiology, diagnosis and management of oncologic and general surgery disorders will allow for sound surgical judgment, which relies on knowledge, rational thinking and the surgical literature.
2. Utilize current literature resources to obtain up-to-date information in the oncologic and general surgery patients and practice evidence-based medicine.
3. Participate in teaching and organization of the educational weekly conferences.
4. Participate in activities of the Department of Surgery (including all teaching conferences) and assume responsibility for teaching and supervision of subordinate surgical house staff, and medical students.
5. Participate in the Department Morbidity & Mortality conference and utilize information to further improve patient care.
6. Participate in daily teaching rounds and be able to present patients in an organized and complete fashion
7. Topic of the day in the computerized life long learning portfolio

Professionalism:

1. Practice compassionate patient care maintaining the highest moral and ethical values with a professional attitude.
2. Demonstrate understanding of the needs and feelings of others, including the patient's family members, allied health care personnel (nurses, clerical staff, etc.), fellow residents, and medical students.
3. Communicate and collaborate effectively in a team of health care providers
4. Demonstrate respect, compassion and integrity in the care of oncologic and general surgery patients on a daily basis
5. Demonstrate mature and educated approach to Ethical issues commonly encountered in an oncologic and general surgery setting.
6. Show sensitivity to patients' culture, age, gender and disabilities
7. Recognize and appropriately handle sensitive cases of abuse
8. Be self-aware and have knowledge of professional limits by practicing on-going medical education and self-improvement.
9. Be accountable to profession in their actions and decisions

Interpersonal Relationships And Communication:

1. Create and sustain a therapeutic and ethically sound relationship with patients

and patient families

2. Work effectively with other members of the medical team including allied health care personnel (nurses, clerical staff, etc.), fellow residents, and medical students.
3. Maintain professional interactions with other health care providers and hospital staff
4. Be able to communicate patient presentations and findings in an effective manner with colleagues.

Systems Based Practice:

1. Understand how the health care organization affects surgical practice of oncologic and laparoscopic general surgery
2. Demonstrate cost effective health care
3. Be able to coordinate multi-specialty and multidisciplinary trauma care practice including discharge planning, social service, rehabilitation, and long-term care
4. Be able to discuss the influence of local and national political health care systems and their effects on the practice and feasibility of general surgery.
5. Follow established practices, procedures, and policies of the Department of Surgery and integrated and affiliated hospitals.
6. Maintain complete of medical records operative notes staff sheets and notes, patient database cards and other patient care related documentation in a timely, accurate and succinct manner.

READING MATERIALS:

Educational materials which will function as guides for resident education during this course include but are not limited to:

1. The SCORE General Surgery Resident Curriculum Portal accessed at <https://portal.surgicalcore.org/home>
2. Schwartz's Principles of Surgery
3. Zollinger's Atlas of Surgical Operations
4. The Surgical Core Curriculum accessed via Access Surgery through the University of Illinois-Chicago website

OUTCOMES:

Outcomes for the various goals and procedures in this curriculum will be assessed along the following standards:

1. Superior: the resident exhibits conceptual understanding beyond that which is described in this bulletin, and practice performance which is at a standard

for a resident at a more advanced PGY year.

2. Above-Average: the resident has shown understanding and performance that is above what is expected for the rotation.
3. Competent: the resident exhibits conceptual understanding and practice based performance standards that are minimal, for the appropriate PGY year, for advancing towards general surgical practice.
4. In Need of Remediation: the resident has failed to grasp the basic concepts and practices necessary to advance past this rotation for the PGY year, and shows need of repeating or training augmentation.