University of Illinois, Metropolitan Group Hospitals Program in General Surgery

Rotation Title: General (Geriatric-focused) and Vascular Surgery, Surgical Endoscopy- Saint Francis Hospital

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

Attending in Charge of Rotation: Dr Matthew Hyser

Faculty: Dr. Kevin Halstuk, Dr. Michael Prendergast, Dr. Charles Gruner, Dr. Thomas Chorba, Dr. Federer, and Dr. Zaret.

Introduction:

The St. Francis Hospital surgical service is a combined rotation that will afford the residents many opportunities to perform a plethora General Surgery, Vascular Surgery, Minimally-Invasive, and Surgical Endoscopy procedures. The hospital is unique in that there is a large percentage of geriatric surgical patients. Each month, there will be a rotating PGY-5 and PGY-3 resident. In addition, several PGY-2 and PGY-1 residents will be there during each rotation. The residents will receive a well-rounded general surgery caseload from Dr. Hyser, Dr. Federer, Dr. Zaret, Dr. Prendergast, and Dr. Gruner. This will range from bread and butter hernia and breast cases to complex abdominal and laparoscopic procedures. Dr. Hyser will provide weekly training in stereotactic and ultrasound guided breast biopsies. Dr. Gruner gives weekly training in The Fundamentals of Laparoscopic Surgery in which each resident will have a session that includes both didactic and practical training as it pertains to the FLS SAGES Curriculum. There will be an ample number of endoscopy cases that will include colonoscopy, EGD's, and PEG's. The Vascular Surgery portion of the rotation will be provided by Dr. Halstuk and Dr. Prendergast. Each month, there will be a variety of cases that will include vascular access, endovascular procedures, carotids, fem-pops, aortic procedures, etc… The residents can expect to perform a good number of cases during this busy service.

We have found that by combining the services into one group, there is more balance, flexibility, and improved communication. Furthermore, comprehensive care for many of the various patient needs can be met easily by one team.

The conferences at Saint Francis include a daily morning report as well as a weekly Morbidity and Mortality Conference and tumor conference. Every other week is a pathology conference that highlights the cases that have been operated by those service team members in the prior two weeks time. This conference is very well received. Surgery residents rotating at Saint Francis will have a unique opportunity to work along side their colleagues in Internal Medicine, Gynecology, Radiology, and Emergency Medicine. We now also have a Transitional resident rotating with the surgical team on a continuing basis as well as Physician Assistant students from Malcolm X College in Chicago. This interaction facilitates patient care and as well fosters mutual respect amongst various healthcare givers in an integrated learning system. Additionally, medical students from the University of Illinois provide continued questioning of the status quo as well as educational stimulus to learn. Finally, an office experience provides continuity of care as well as pre and postoperative evaluation of surgical patients.

With a large and combined service, communication is a priority. Each level year resident will learn to communicate with both other team members as well as attendings on an ongoing basis to develop and make decisions on surgical patients as well as to carry out the action plan. Furthermore, there are a variety of support services for the residents at Saint Francis. The library is an excellent source of information and has the most up-to-date surgical texts and journals available twenty-four hours a day. Parking in an enclosed garage is provided without charge as well as meals and adequate call rooms. There is a computer in the call room that has internet access and the ability to scan documents and x-rays for case presentations. The completion of medical records in a timely fashion is an expected duty of the surgical residents to keep up-to-date on the systems-based practice portion of the six core curricula. The surgical residents work closely with all of the attendings and within the eighty-hour weekly timeframe guidelines. Finally, an exit interview is provided at the conclusion of each resident's rotation with the site director, Dr. Hyser.

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, and nursing staff.
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, Cardiovascular and Respiratory systems section.
4. Patient Survey: performance will be assessed by patient surveys administered through the rotation.

Surgical Skills Advancement:

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

By the end of the rotation, have completed (per necessity) the OSAT/OSCA for the following procedures:

PGY 1: Boot camp, central line insertion with ultrasound guidance
PGY 2: open appendectomy, open inguinal hernia repair, stereotactic breast biopsy
PGY 3: laparascopic appendectomy, laparoscopic cholecystectomy, Femoropopliteal Bypass, FLS junior in simulation lab
PGY 5: Upper and lower endoscopies, PEG placement, IVC filter

COMPETENCY BASED LEARNING OBJECTIVES

Patient Care:

1. Perform a complete and thorough history and physical examination, with emphasis in elements unique to vascular, geriatric, 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 vascular geriatric, and general surgery patients with the guidance of senior residents and faculty.
4. Be proficient in the preoperative preparation of the patients for vascular geriatric, and general surgery and routine postoperative care.
5. Understand basic pathophysiology of vascular geriatric, and general 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 vascular disease, principles of resuscitation, preoperative and postoperative care of vascular, geriatric, and general 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 vascular, geriatric, and general surgery patients such as plain chest, CT scans, non- invasive cardiac function tests, and angiography.
8. Demonstrate the ability to effectively set priorities and coordinate the care of vascular, geriatric, and general patients.
9. Senior to run the service
   a. Patient information and hospital course
   b. Problem solving and management of complications
   c. Teaching
10. Physical Examination
    a. To understand the significance of observational signs, such as skin color and texture, swelling, gangrene, and ulcers.
    b. To detect and evaluate peripheral pulses, bruits, thrills, skin temperature, edema, tissue turgor, and vascular dimensions.
    c. To develop the skills necessary to palpate the abdomen, neck, and extremities in order to localize sites of tenderness and to recognize the presence of masses and abnormal pulsations.
    d. To be capable of performing basic neurological 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 modalities, such as Doppler ultrasound, duplex and color-flow scanning, B-mode imaging, plethysmography (air, mercury, and impedance), magnetic resonance imaging (MRI), magnetic resonance angiography (MRA), and computerized tomography (CTA).

Medical Knowledge:

d. Intern
   a. Applied basic science and anatomy
   b. Patient information and hospital course
   c. Problem identification
   d. Recognize appropriate pathology that is amenable to a conservative vs minimally invasive vs open approach:
      i. Indications and contraindications for Diagnostic Laparoscopy
      ii. Acute vs chronic abdominal pain
      iii. Intra-abdominal abscess
      iv. Hernia:

1. Inguinal
2. Femoral
3. Ventral/Incisional
4. Rare Hernias

v. Appendicitis

vi. Hepatobiliary and Pancreatic:

1. Biliary Disease
    a. Jaundice
    b. Cholangitis
    c. Acute cholecystitis
    d. Chronic cholecystitis
    e. Choledocholithiasis
    f. Biliary pancreatitis
    g. Acalculous cholecystitis
    h. Iatrogenic bile duct injury
    i. Gallstone ileus
    j. Gallbladder polyp
    k. Gallbladder and biliary duct cancer
    l. Sclerosing cholangitis
    m. Cholecystectomy
    n. Common duct exploration
    o. Biopsy and Cyst Excision
2. Hepatic Disease
    a. Liver mass (adenoma, focal nodular hyperplasia, hemangioma, HCC, metastatic tumor, cholangiocarcinoma)
    b. Hepatic abscess
    c. Ascites
    d. Bleeding esophageal varices
3. Pancreatic Disease
    a. Abscess
    b. Pseudocyst
    c. Pancreatitis
    d. Ductal adenocarcinoma and acinar cell carcinoma
    e. Endocrine tumors
    f. Intraductal papillary mucinous neoplasms

vii. Alimentary Disease:

1. Esophagus
    a. GERD, Barrett's, hiatal hernia, dysphagia, perforation, Mallory-Weiss syndrome, stricture, carcinoma, achalasia
2. Stomach

a. UGI bleeding, carcinoma, ulcer with bleeding/perforation/obstruction, polyp, lymphoma, gastritis, bezoars, obesity, gastroparesis

3. Small Intestine
    a. small bowel obstruction, ileus, acute mesenteric ischemia, Meckel's diverticulum, polyps, carcinoma, lympohma, carcinoid, GISTs, intussusception, enterocutaneous fistula, short bowel syndrome, infections
4. Large Bowel
    a. Benign disease (Diverticular, Inflammatory, malrotation, and Intussusception)
    b. Malignant disease (Carcinoma)

viii. Solid Organ:
1. Adrenalectomy
2. Splenectomy
3. Nephrectomy

ix. Bariatric Surgery:
1. Lap Band
2. Roux En Y Gastric bypass (Open Verses Laparoscopic)
3. Duodenal Switch

x. Skin and Soft Tissue:
1. Disease (pilonidal cyst and sinus, nevi, melanoma, SCC, BCC, cysts, hidradenitis, cellulitis, wound infection, necrotizing fasciitis, decubitus ulcer, soft tissue sarcomas)
2. Excisional and incisional biopsy
3. Incision, drainage, debridement
4. Pilonidal cystectomy

e. Understand and Execute Appropriate Preoperative care
    i. Medical Clearance
    ii. Perioperative Antibiotic use

f. Understand and Execute Appropriate Postoperative care
    i. Criteria for discharge to home
    ii. Discharge instructions, activity, diet, and wound care
    iii. Expected recovery
    iv. Presentation of complications

e. Intermediate Level
    g. Understand available equipment; advantages and limitations of common laparoscopic instruments:
        i. Cameras, screens, towers, and patient positioning
        ii. Straight and angled laparoscopes of different sizes
        iii. Trocars:
            1. Cutting verses dilating
            2. Balloon tipped
        iv. Dissecting
        v. Dissectors, retracting devices (including patient positioning), atraumatic graspers
        vi. Energy Ligation Devices
            1. Harmonic Scalpel
            2. Ligasure
            3. Enseal
        vii. Laparoscopic stapling devices

    h. Understand and Execute:
        i. Entry to the Peritoneum and Preperitoneal spaces
            1. Hassan technique
            2. Veres Needle
            3. Optical Trocars
        ii. Creation and manipulation of pneumoperitoneum
        iii. Closure of trocar sites with fascial closure devices

    i. Demonstrate competency in:
        i. Indications to convert to open approach
        ii. Diagnostic Laparoscopy
        iii. Endoscopy
        iv. Stereotactic Breast Biopsy, mammographic and ultrasound breast imaging interpretation
        v. Breast cancer surgery
        vi. Tracheostomy
            1. Open
            2. Percutaneous
        vii. Laparoscopic Appendectomy
        viii. Laparoscopic Cholecystectomy with cholangiogram
            1. Indications for common duct exploration
            2. Indications for ERCP
        ix. Herniorraphy
            1. Inguinal/femoral

2. Ventral

x. Techniques of exploratory laparotomy, lysis of adhesions and bowel resection
   1. Anastomotic techniques
   2. Suture choice

xi. Vascular Access (also see vascular knowledge section)
   1. Central line placement
   2. A-line insertion
   3. Quinton catheter placement

xii. FLS

f. Chief

j. Application of fund of knowledge

k. Understand, diagnose, and manage potential complications of minimally invasive surgery
   i. Anatomic Identification Error
   ii. Inadvertent organ injury
   iii. Diathermic injury
   iv. Hernia
      1. Trocar site
      2. Internal (After Bariatric Surgery)
   v. DVT, PE
   vi. CO_2 Embolus
   vii. Cardiovascular effects of Pneumoperitoneum

l. Demonstrate understanding and familiarity with advanced laparoscopic cases:
   i. Nissen Fundoplication
   ii. Right and Left Colectomy
   iii. Solid organ removal
   iv. Lap Band
   v. Roux En Y Gastric Bypass

m. Understand and Manage special considerations and complications of bariatric surgery
   i. Internal hernias
   ii. Extreme maladaptive weight loss
   iii. Vitamin/Mineral and protein malnutrition

n. Demonstrate competency in:
   i. Stereotactic breast biopsy

ii. Endoscopy
    1. Upper
    2. Lower
    3. Therapeutic
    4. PEG/PEJ
iii. FLS
iv. Open abdominal surgery
    1. Bowel resection
    2. Anastomotic techniques
    3. Intraoperative decision making
    4. Solid organ resection
v. Thyroid and Parathyroid surgery

VASCULAR SURGERY

Aneurysmal Disease

To understand the incidence and prevalence of aneurysmal disease according to age:
1. To understand the natural history of abdominal aortic aneurysms.
2. To understand the genetic distribution of the disease.
3. To understand the roles of ultrasound, angiography, CT and MRI/MRA in screening and in planning surgery.
4. To understand the indications for surgical repair and the factors that contribute to surgical decision making.

Peripheral Vascular Occlusive Disease (Acute and Chronic)

1. To define the normal arterial anatomy of the peripheral vascular system including commonly encountered anatomic variations.
2. To recognize the physiologic and pathophysiologic collateral circulatory routes which commonly develop in response to occlusive disease.
3. To appreciate the multiple etiologies of chronic peripheral vascular ischemia including atherosclerosis, aneurysm, entrapment syndromes, trauma, and a variety of non-atherosclerotic occlusive entities.
4. To understand the signs and symptoms characteristic of acute arterial ischemia and the differential diagnosis, the importance of assessing the degree of acute ischemia and appreciate the significance of the duration of acute ischemia.
5. To recognize the importance of antecedent clinical entities which may predispose to acute peripheral ischemia including atrial fibrillation, prior myocardial infarction, aortic dissection and hypercoagulopathies.
6. To appreciate the significance of initial electrolyte, acid base and other

laboratory parameters useful in assessing the magnitude of ischemia to define the indications for appropriate therapy.
7. To understand the characteristic signs and symptoms of chronic peripheral vascular ischemia relative to the patient's history and physical examination.
8. To appreciate the sequela of reperfusion following acute ischemia in terms of systemic effects as well as local effects warranting fasciotomy including the anatomy and physiology of fasciotomy.
9. To understand indications for primary amputation.

Renal Artery Disease

1. To define normal renal artery anatomy and collateral pathways important in renal artery disease.
2. To understand the etiology, pathology and natural history of these renal artery lesions:
a. Renal artery atherosclerosis
b. Renal artery fibromuscular dysplasia
c. Renal artery aneurysm
d. Embolic occlusion
3. To understand the exocrine and endocrine function of the kidney, and relate these to the structure and function of the nephron unit.
4. To understand the renin-angiotensin axis in the absence and presence of renal artery disease.
5. To describe the mechanisms of renovascular hypertension and renovascular insufficiency (i.e., ischemic nephropathy) and to understand how these differ for unilateral and bilateral renal artery disease.
6. To describe the clinical features of renovascular hypertension and renovascular insufficiency, and to contrast these with essential hypertension and parenchymal renal failure.
7. To define the applications and limitations of available screening/imaging studies for renal artery disease.
8. To describe the strategies, options and anticipated results of medical management for the various renal artery lesions.

Visceral Ischemia

1. To define the normal arterial and venous anatomy of the mesenteric circulation and to be familiar with the more frequently encountered anatomic variations.
2. To recognize the physiologic and pathophysiologic collateral circulation to the gastrointestinal tract that may develop in response to occlusive disease of the main mesenteric vessels.

3. To understand the multiple etiologies of acute mesenteric ischemia including embolism, thrombosis, dissection, venous occlusion, trauma, and gut ischemia following aortic reconstruction
4. To understand the multiple possible etiologies of syndromes of chronic mesenteric ischemia including atherosclerosis, aneurysm, extrinsic compression syndromes, and other nonatherosclerotic arteriopathies.
5. To understand the characteristic initial signs and symptoms suggestive of acute mesenteric ischemia and how symptoms and physical findings may differ from other causes of the acute abdomen.
6. To define preexistent clinical conditions that may predispose to, or support the clinical diagnosis of acute mesenteric ischemia, e.g. atrial fibrillation, previous myocardial infarction (mesenteric embolism), severe cardiopulmonary dysfunction (non-occlusive ischemia), history of postprandial pain and weight loss, known aortic dissection (mesenteric thrombosis), hypercoagulable states (mesenteric venous thrombosis).
7. To define the appropriate diagnostic evaluation for suspected intestinal ischemia following aortic surgery.
8. To understand the usefulness of alternative imaging techniques (CT, MRI) for the diagnosis of acute mesenteric venous thrombosis. To understand the characteristic signs and symptoms of chronic mesenteric ischemia and how other aspects of patients' history (e.g. previous aortic surgery) or physical examination (e.g. aortoiliac occlusive disease) may suggest the presence of associated visceral arterial occlusive disease.
9. To understand the usefulness of portomesenteric duplex ultrasound scanning for elective noninvasive evaluation of the major visceral vessels.
10. To define the indications for arteriography (or alternative vascular imaging studies) in patients with suspected chronic mesenteric ischemia and understand the arteriographic findings that are considered diagnostic of this condition.
11. To recognize the characteristic arteriographic findings in atypical causes of mesenteric arterial compromise.

Cerebrovascular Disease

1. To describe the anatomy of the arch, great vessels, and intracranial arteries.
2. To understand the different etiologies of carotid artery disease.
a. Atherosclerosis
b. Fibromuscular dysplasia
c. Traumatic occlusion
d. Acute Dissection
3. To define hemispheric, non-hemispheric, and non-specific symptoms.
4. To differentiate among transient ischemic attack (TIA), reversible ischemic

neurologic deficit (RIND), stroke in evolution and completed stroke.
5. To describe the arterial and neurologic examination and their importance in caring for patients with carotid artery disease.
6. To describe the relationship between carotid artery atherosclerosis and the clinical syndrome of vertebrobasilar insufficiency.
7. To describe the appropriate evaluation for patients with each of the above clinical presentations including the role of Duplex scans, CT scans, MRA and conventional angiography.
8. To discuss the non-surgical and surgical treatment of acute ischemic syndromes including stroke.
9. To be able to discuss the potential role of endovascular treatment for cerebrovascular disease

Diabetic Foot Problems

1. To define the normal arterial and venous anatomy of the circulation of the foot.
2. To demonstrate an understanding of. Ischemia, neuropathy and infection as part of the pathogenic mechanisms underlying problems of the diabetic foot.
3. To demonstrate an understanding of the presenting signs and symptoms of three pathogenic mechanisms underlying problems of the diabetic foot,
4. To understand the limitations of various non-invasive tests in the diagnosis of ischemia in the presence of diabetes.
5. To understand the role of angiography in the evaluation of ischemia for patients with diabetes.
6. To understand priorities of management in diabetic patients with foot problems to include timing and methods of debridement in drainage for sepsis, metabolic control, evaluation of ulcer, depth, sepsis, involvement of bone, tendon options for conservative management, role of foot gear, weight bearing, when to evaluate for ischemia, options in the management of the non-ischemic, purely neuropathic ulcer.
7. To understand the principles and techniques of wound care, dressing changes, debridement.
8. To maintain appropriate control of diabetes peri-operatively.

Complications of Vascular Therapy

1. To understand the expected incidence and etiologies of wound healing complications including hematoma, infection, and lymphocele.
2. To recognize non-vascular complications associated with arterial therapy including cardiac ischemia, renal failure, and neurologic deficits.
3. To recognize the clinical manifestations of pseudoaneurysm following arteriography, percutaneous transluminal angioplasty, and bypass grafting.

4. To understand characteristic symptoms and signs of secondary aortoenteric fistula/erosion including prior aortic graft implantation, herald gastrointestinal bleeding, fever, and concomitant anastomotic false aneurysm.
5. To understand the characteristic signs and temporal presentation of acute versus late-appearing graft infections including sepsis, GI or perigraft bleeding, fever, malaise, false aneurysm, abdominal, back, or groin pain.
6. To understand the characteristic initial signs and symptoms suggestive of colon ischemia.
7. To define the appropriate diagnostic evaluation for suspected colon ischemia following aortic surgery including the use of rigid and flexible sigmoidoscopy, colonoscopy, and operative exploration.
8. To recognize the symptoms and signs of limb ischemia associated with graft thrombosis.
9. To define the appropriate diagnostic evaluation of graft occlusion based on severity of limb ischemia.
10. To understand the clinical symptoms and signs, and ECG features of cardiac ischemic.
11. To define the parameters of serologic and urine testing that characterize acute renal failure.
12. To understand the role of prophylactic antibiotics in the prevention wound and graft infections.
13. To understand the role of pre-operative testing, intra-operative monitoring, and post- operative measures to prevent cardiac ischemia.

Vascular Trauma

1. To understand the mechanism of vascular injury to the upper extremity, thoracic aorta, abdominal aorta and its branches, and lower extremities.
2. To understand the characteristic signs and symptoms of acute vascular compromise.
3. To understand the usefulness and define the characteristic diagnostic finding of alternative imaging techniques (ie two plane x-ray, Doppler/duplex color flow ultrasonography, venography, angiography, MRI and CT scans) in the management of vascular trauma.
4. To understand the characteristic signs and symptoms of acute arterial injury.
5. To define the clinical features of major arterial injury.
6. To understand the indications for noninvasive (Doppler or duplex color flow ultrasonography CT, MRI) and invasive (arteriography, venography) diagnostic studies.
7. To define the preoperative assessment and management of the patient with a major arterial injury.
8. To understand the characteristic signs and symptoms of acute venous injury.

9. To define the clinical features of major venous injury.
10. To understand the indications for noninvasive (Doppler or duplex color flow ultrasonography CT, MRI) and invasive (venography) diagnostic studies.
11. To define the preoperative assessment and management of the patient with a major venous injury.
12. To understand the characteristic signs and symptoms of AVFs.
13. To define the mechanism of the iatrogenic injury.
14. To understand the management and potential complications associated with an iatrogenic injury.

Venous Thromboembolic Disease

1. To understand the classic triad of stasis, hypercoagulable state and vein wall damage leading to venous thrombosis
2. To understand other risk factors such as malignancy, older age, obesity, long bone fractures, joint replacement, pelvic operations and a previous history of DVT/PE.
3. To be familiar with the known hypercoagulable states including anticardiolipin/antiphospholipid antibodies, lupus anticoagulant, protein C and protein S deficiency, antithrombin III deficiency, hyperfibrinogenemia, plasminogen deficiency, factor V Leiden mutation (activated protein C resistance), heparin induced thrombocytopenia, Coumadin (warfarin) induced skin necrosis.
4. To be familiar with the signs, symptoms and non-invasive and invasive tests currently used in the diagnosis of DVT and PE.
5. To describe the management of DVT and PE including heparin treatment and the role of chronic anticoagulation.
6. To recognize the importance of monitoring platelet counts during heparin therapy, and the diagnosis and treatment of heparin induced thrombosis.
7. To know reasons why warfarin should be avoided during pregnancy.
8. To understand the typical signs/symptoms and the usual chest x-ray, blood gas and EKG findings in patients with large pulmonary emboli.
9. To understand role of IVC filter placement

Chronic Venous Insufficiency

1. To review normal venous anatomy: superficial, deep and perforatoring veins, greater saphenous vein (GSV), lesser saphenous vein (LSV), femoral, popliteal & tibial vessels.
2. To review the epidemiology of chronic venous insufficiency.
3. To understand that chronic venous disease is defined as an abnormally functioning venous system caused by venous valvular incompetence with or

without venous outflow obstruction which may affect the superficial venous system, the deep venous system or both.
4. To understand and differentiate the three etiologic categories of venous dysfunction: congenital, primary (acquired, undetermined cause) and secondary (acquired, e.g. post-thrombotic or post traumatic).
5. To differentiate the clinical features of superficial venous insufficiency from deep vein (or combined) insufficiency.
6. To review the noninvasive and invasive evaluation of the venous system including ascending & descending venography, photoplethysmography, air plethysmography, and duplex scanning.
7. To describe the characteristics of venous stasis ulcers and differentiate from other types of ulcers including arterial, neuropathic, malignant, infectious and inflammatory (vasculitis).
8. To differentiate stasis dermatitis from other causes of dermatitis in the lower leg.
9. To describe the types of available therapy for superficial venous insufficiency (varicose veins) including elastic stockings, elevation, sclerotherapy, laser treatment, stab avulsion, stripping.
10. To define the principles of non-operative management of lower extremity chronic venous insufficiency: ambulation, elevation, and elastic support.
11. To describe the non-operative management of venous stasis ulcers including UNNA Boot, etc.

Lymphedema

1. To know the classification of causes of lymphedema, including: primary lymphedema to include congenital (onset before one year of age) Non-familial, Familial (Milroy's Disease), primary lymphedema, praecox (onset 1 to 35 years of age) Non-familial, familial (Meige Disease), primary lymphedema tarda (onset after 35 years of age) and secondary lymphedema, including filariasis, lymph node excision and radiation, tumor invasion, infection, and trauma.
2. To understand classic clinical classifications of lymphedema based on etiology (primary vs. secondary), genetics (familial vs sporadic), and time of onset.
3. To understand the techniques of non-operative management of primary and secondary lymphedema.

Extremity Amputation

1. To understand the various pathophysiologic conditions which leads to the need for an extremity amputation.
2. To define when amputation offers improved quality of life.

3. To understand the importance of proper amputation level selection.
4. To define the methods of determining amputation level by clinical criteria

Vascular Access

1. To know that arterial and venous anatomy involved in the commonly placed grafts and sited for hemodialysis in the upper and lower extremities; know the options for unusual grafts sites when extremities are not available.
2. To know the local and systemic, anatomic effects of creating an arteriovenous fistula for the purpose of hemodialysis.
3. To know the anatomic and physiologic etiologies for arterial steal, decreased extremity flow and venous hypertension in AV fistulas created for hemodialysis.
4. To know the physical exam and diagnostic tests used in selecting a site for a vascular access including Allen's test and use of duplex screening of veins.

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 vascular, geriatric 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 in information in the vascular 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. Be reliable.
4. Demonstrate respect, compassion, integrity, and cultural sensitivity in the care of patients on a daily basis.
5. Demonstrate mature and educated approach to Ethical issues commonly encountered in a cardiac 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.
10. Learns from errors and accepts criticism.

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 and good communication with other health care providers and hospital staff.

Systems Based Practice:

1. Understand how the health care organization affects surgical practice.
2. Demonstrate cost effective health care (lab/test ordering) and recognize socioeconomic barriers to patient medical care and compliance.
3. Be able to coordinate multi-specialty practice including discharge planning, social service, rehabilitation, and long-term care.
4. Follow established practices, procedures, and policies of the Department of Surgery and integrated and affiliated hospitals.
5. Maintain medical records including: daily progress notes, operative notes, staff sheets, 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.