Introduction

Welcome to your clerkship at Botsford Hospital. We appreciate your interest in our program and your contribution to the teams to which you are assigned. This environment is stimulating and conducive to a successful rotation and we strongly encourage you to take every advantage of your experience with us. This may be the only chance you will ever have to see such things as robotic and advanced laparoscopic surgery, cancer surgery, trauma, or even an appendectomy. It can be an unbelievable experience, but we also recognize that it can be quite intimidating. With this guide, we hope to unlock the mystery of surgery and give you some tips on how to excel on this rotation. There are four basic parts to any surgery service: Rounds, the Operating Room, Clinic, and Call. Below you will find information that will help you excel in each of these activities.

Botsford Hospital has a variety of post-graduate training programs including: Cardiology, Critical Care, Emergency Medicine, Family Medicine, Gastroenterology, General Surgery, Infectious Disease, Internal Medicine, Nephrology, Neurology, OB/GYN, OMM, Orthopedic Surgery, Otorhinolaryngology, Peripheral Vascular Surgery, Plastic Surgery, Podiatric Medicine, Pulmonology, and Urologic Surgery. This variety of training opportunities offers students a multi disciplinary learning environment in which to strengthen their medical exposure and knowledge.

In addition to residents and nursing staff there are many attending physicians dedicated to surgical training at Botsford. Several of these key people with whom you may interact at various points throughout your rotation experience include:

John Parmely, DO  Co-Program Director, General Surgery
David Sternberg, MD  Co-Program Director, Thoracic Surgery
Jeff Gerken, DO  Assistant Program Director, General Surgery
Kelly Dinnan, DO  Assistant Program Director, Trauma/Critical Care
Raimundo Pastor, DO  General Surgery
Harris Mainster, DO  General Surgery
Cindy Sandona, DO  Breast/General Surgery
Earl Hecker, DO  Surgical Critical Care
Mike Rebock, DO  General Surgery
Eugene Laveroni, DO  Vascular Surgery
Dave Fertel, DO  Vascular/General Surgery
Amy Derosa, DO  Plastic Surgery
Raymond Hajjar, DO  Plastic Surgery, Program Director Plastics fellowship
Chris Lumley, DO  Plastic Surgery
Lewis Tegtemeyer, DO  General Surgery
JoLynn Mariotti  Program Coordinator
General Clerkship

The clerkship may be with a single team for the duration of your experience or may be split between multiple teams for those that are interested in getting to know the program for possible future training. Your rotation schedule will be given to you by one of the 5th year residents and team changes will be arranged for you if applicable.

Daily Duties and Activities

Your daily responsibilities consist of but are not limited to the following:

- Daily Rounds with residents
- Observe and assist in the operating room directed by attendings and residents
- Attend outpatient clinics with residents and attendings
- Attend educational activities provided by residents
- Perform history and physical exams in pre op area and endoscopy
- Intermittent night call – set these up with the team according to your own schedule
- Informal teaching sessions with attendings and residents as time allows
- Assigned readings
- Be sure to let your residents know where you are going if you need to step away, try not to just disappear.

Attendance

Students are expected to be on time at whatever time the team decides the day before. If for any reason you must be absent, please discuss this with the chief resident on your service. We are very flexible and willing to work with you to accommodate your needs if you give forewarning. Do remember that each day you miss adds additional workload onto the rest of your team and breaks patients continuity of care.

Call Assignments

Students are asked to take overnight call on two weekday nights and one weekend during their rotation. Overnight call begins after your daily activities at 5:00 pm and is done with the night resident. The night resident can be contacted by paging #2000. Over night you will help handle ER consults, Trauma activations, codes on the floors, and will assist in trouble shooting complications involving all surgical patients in the hospital. The following day you will be excused from responsibilities shortly after morning rounds and notes are completed. The purpose of call is not to overly tire you but to enhance your learning and give you an appreciation of the demands placed on a surgeon.
Conferences/Lectures

Resident protected education times are Monday mornings from 6:45am to 9:00am. During these meetings topics will be reviewed and instruction given by assigned residents. In addition we have regular anatomy reviews with Dr. Tracy Bee an anatomist at one of the local schools of medicine. At 8:45am the residents will excuse all students and non-surgical interns while they have a 15 minute meeting. Do not be offended at your being excused; these meetings are to discuss resident issues and correct shortcomings as necessary. Journal club is held once a month and the articles can be given to you by the residents on your team. Morbidity and mortality conference will be held weekly and may be substituted by trauma conference. There are many educational meetings designed to improve resident and student knowledge. You will be reminded regularly about the time and location of these meetings.

Surgical Clerkship Experience Log (EPA) for MS4 students

A list of tasks and procedures/ techniques is provided in this manual and every attempt to complete the skills on the list should be made. Remind the residents on your team regularly that you must complete these tasks and they will help secure you these opportunities as they present. Bring this filled out checklist with you to your exit interview with Dr. Parmely at the end of the rotation.

H&Ps and Notes

A medical students H&P and progress notes cannot stand as the sole documentation for the patients care. These notes must be cosigned by a resident or attending surgeon. You may need to direct the residents attention to your note as things often times become hectic and this may be overlooked.

Evaluations

Third year student evaluations will be performed by the attending surgeon that you spend the majority of your time with. This responsibility may be delegated to the chief resident by the attending if necessary. Fourth year students will have evals performed in a similar fashion but will also have an exit interview with Dr. Parmely. This interview is very important and you should not allow yourself to leave before attending it. Remember to bring your completed EPA sheets.

Learning Resources

There is a health science library and computer learning center as well as a skills lab in the educational building available for your use. Your hospital badge should allow you access to these resources. In addition to this there are many surgery textbooks in the surgery call room if needed.
Rotation Pearls

- Be on time
- Know your patients well (reason for admission, Post op day, labs, antibiotics, urine output, JP drain output, etc.)
- Try to watch interesting cases even if they do not involve your patients
- Be enthusiastic. Whether or not you think a career in surgery is right for you, this makes the rotation more fun and educational.
- Don’t sit back, get in there! This is a teaching environment and if you seem uninterested and fail to initiate opportunities others may take them from you.
- Most of all, be courteous to everyone. This includes nurses, techs, patients, family members. Remember that most people do not want to be in the hospital and are scared. They may act out of character towards you but it is rarely personal!

Have a great rotation!

Statement of Professional Standards

Professional behavior is a critical component in a physician's ability to provide patient care. The ideal relationship between physician and patient should be one of mutual respect and trust; responsibility and commitment to the care of patients is vital. It is expected that all students exhibit high standards of professional and humane behavior toward patients, families and other health professionals. The following outlines acceptable and non-acceptable conduct:

- Professional Behavior: The basis for all patient-physician interactions should be respect and trust, and each patient should be treated as a unique and worthwhile person. Unprofessional, abusive, rude or neglectful behavior toward patients, families or other healthcare professionals is not tolerated.
- Professional Appearance: Students whose appearance is deemed unprofessional are removed from clinical duties until problem is corrected.
- Confidentiality: All patient-physician interactions are confidential by ethical and legal standards. Please remember that in addition to the obvious standards of confidentiality, students are not to have discussions regarding patients in public areas such as elevators, eating areas and hallways.
Professionalism Expectations

Botsford Hospital regards professionalism and humanism in the training of medical students to be an essential goal. Throughout the curriculum, the medical student is exposed to professional behavior issues, moral and ethical decision-making, and community service opportunities. The following definition of professionalism outlines the expectations that apply to all medical students as well as faculty members and residents.

- **Altruism**: Physicians must serve the best interests of patients above their own interests.
- **Accountability**: Physicians are accountable for their patients for fulfilling the implied contract governing the patient/physician relationship. They are also accountable to society for addressing the health needs of the public to their profession to uphold medicines ethical precepts.
- **Excellence**: Physicians must make a conscientious effort to exceed ordinary expectations and maintain life-long learning.
- **Duty**: Physicians must accept a commitment to serve their patients. Accepting inconveniences to meet the needs of ones patients, enduring unavoidable personal risk, advocating for care regardless of ability to pay, volunteering ones skills and expertise for the welfare of the community are all part of the accepted duty.
- **Honor and integrity**: Honor and integrity imply being fair, being truthful, keeping ones word, meeting commitments, and being straightforward.
- **Respect for others**: Demonstrating respect for patients, their families, other physicians and health care professionals is the essence of humanism. Humanism is essential in the practice of medicine.
Program Directors Note to all Botsford Surgery students:

Review the goals and objectives of your school's surgery curriculum.

A skill checklist may be required and consider working in our skills lab to practice **before** attempting any skill in the OR. Botsford has Ethicon tie boards and wound closure manuals in the library. The surgery residents supervise an annual wound closure lab with pigs' feet for the MSU students. Closing wounds in the operating room is the reward for demonstrating these skills in the lab. Foley insertion may be taught during OR prep by the scrub nurse when the patient is asleep. In addition, ET, NGT and IV insertion may be performed with the anesthesiologist.

The surgery curriculum for most schools is broad and ambitious. The depth and scope is not realistic during a 20 working day rotation (one month). The top problems solved by general surgeons, in order: breast, hernias, gallbladder and colorectal. Most trainers make the student present 8 "pocket lectures" and emphasize these topics. These are 30-minute presentations of a topic the student is required to read, then present during down time (read one, teach one):

- Assessment of abdominal pain and examination of the abdomen. History = OPQRST of pain: onset, palliation, quality, radiation severity and timing. Exam = Inspection, auscultation, percussion (the most sensitive sign of peritoneal irritation), then palpation. Then a finger in every orifice. Make a differential diagnosis before “CT and belly labs.” Role of acute abdominal series.

- Breast: nipple discharge, breast pain, palpable masses, abnormal mammogram, ACS guidelines for mammography and risk factors for breast cancer. Treatment by breast conservation vs. mastectomy.


- Small and large bowel obstruction: diagnosis and treatment. When to temporize and when to operate.


There is so much to cover and so little time. In the office setting the trainers emphasize things the non-surgeon needs to know such as skin biopsies, rectal bleeding, diarrhea and constipation, BIRADS classification of abnormal mammograms, abdominal pain and when to refer to a surgeon.

For the reading list consider Lawrence and including Gowned and Gloved is practical. For the recommended reading list Schwartz is fine, but consider using Up to Date from the library. Students will be asked to create “pocket lectures” from there. Also consider including:

- Surgical Recall, Blackbourne, 7 ed. (Provides answers for the most common questions asked on teaching rounds)
- First Aid for the Wards, Tao Le, 5 ed. (bible for students to organize patient care and present for rounds)
- Cope’s Early Diagnosis of the Acute Abdomen, Silen, 22 ed. (a must read for anyone interested in surgery or emergency medicine)

The emphasis of the rotation should be history and physical to create a differential diagnosis, and then appropriate work-up and care plan (sick or not sick, inpatient or outpatient, medicate or operate). The students will be challenged on rounds to think, and then order tests to rule in or out their concerns. At Botsford we spend a lot of time on floor rounds and the office having the students present in grand rounds style and think out loud. What do you think is wrong with the patient? What do you want to do? We will have you answer questions at the end of every presentation: the patient is in the hospital today because______ and the patient is on the surgery service today because______. These truths should be self-evident, but are not taught by most trainers. We have found that today's students, especially those from the newer schools, may not be prepared to handle a real teaching service.

Learning the right operation, on the right patient at the right time takes a surgical resident five years to master. Learning how to examine an abdomen, practicing knot tying and learning how to work up abdominal pain are realistic goals. Your school’s surgery syllabus may be too ambitious to accomplish in 20 working days on surgery rotation. Remember, there may be many overlap topics that will be covered in critical care, GI, IM and subspecialty surgery.

Be prepared, work hard and have fun! J.D. Parmely
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<th>Core EPA</th>
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<th>Explanation (if fail)</th>
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<td>Gather history and perform physical exam</td>
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<td>Prioritize a differential diagnosis</td>
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<td>Recommend and interpret common diagnostic and screening exams</td>
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<td>Enter and discuss orders and prescriptions</td>
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<td>Document a clinical encounter in the patient record</td>
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<td>Provide an oral presentation of a clinical encounter</td>
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<td>Form clinical questions and retrieve evidence to advance patient care</td>
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<td>Give and/or receive a patient handoff to transition care responsibility</td>
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<td>Collaborate as a member of an inter-professional team</td>
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<td>Recognize a patient requiring urgent of emergent care and initiate evaluation and management</td>
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<td>Obtain informed consent for test and/or procedures</td>
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<td>Identify systems failures and contribute to a culture of safety</td>
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Surgery Clerkship Objectives

**Acute Abdomen**

1. Know the signs, symptoms and differential of the acute abdomen
2. Know the appropriate laboratory, radiographic and other evaluations for the acute abdomen
3. Know the management including observation, surgery, antibiotics and resuscitation of the acute abdomen

**Anorectum**

Know the signs, symptoms, complications and treatment of each:
1. Hemorrhoids
2. Anal Fissure
3. Anorectal abscess
4. Anorectal fistulas
5. Rectal prolapse
6. Pruritus ani

**Arterial Vascular Disease**

1. Know the signs, symptoms and diagnostic tests for peripheral arterial insufficiency.
2. Know the signs and symptoms (five P’s) and management of acute arterial occlusion.
3. Know the work-up and management of aortic aneurysms.
4. Know the signs, symptoms, work-up and management of cerebrovascular disease.

**Biliary Tract and Laparoscopy**

1. Know the signs, symptoms, diagnostic work-up and management of biliary colic, acute cholecystitis, cholangitis.
2. Know the work-up and management of common bile duct obstruction.
3. Know the indications, contraindications and principles of laparoscopy especially as it applies to gallstones.

**Bowel Obstruction**

1. Know the signs, symptoms and diagnostic work-up of small bowel and large bowel obstruction.
2. Know the differential and treatment of small bowel and large bowel obstruction.
3. Know the signs, symptoms, diagnostic work-up and treatment options of bowel ischemia.

**Breast**

1. Know how to evaluate and treat a breast mass and mammographic abnormality.
2. Know how to stage and treat primary breast cancer.
3. Know how to evaluate and manage nipple discharge and fibrocystic disease.

**Burns**

1. Know how to classify the depth of a burn and the estimation of surface area burned.
2. Know how to resuscitate a patient with a burn.
3. Know the signs, symptoms and management of respiratory tract injury in burns.

**Colon**

1. Know the types of colon polyps.
2. Understand the terms total colectomy, subtotal colectomy, low anterior resection, left hemicolectomy, right hemicolectomy, extended right hemicolectomy, proctocolectomy, abdominoperineal resection.

**Enteral & Parenteral Nutrition**

1. Know the signs, symptoms and assessment of malnutrition.
2. Know how to access nutritional requirements and how surgery, trauma, sepsis, and burns affect requirements.

**Esophagus & GERD**

1. Know the signs and symptoms of esophageal disease and the evaluation including barium swallow, endoscopy and manometry.
2. Know the indications for surgery in achalasia, Zenkers diverticulum, diffuse esophageal spasm and strictures.
3. Know the indications for medical versus surgical management of gastroesophageal reflux.
4. Know the causes and management of esophageal perforation.
**Gastrointestinal Bleeding**

1. Know the etiology and work-up of hematemesis, hematochezia, melena, hemoccult positive and microcytic anemia.
2. Know the causes, resuscitation and evaluation of shock from GI hemorrhage.

**Gastrointestinal Tumors**

Know the signs, symptoms, work-up and surgical management of each:

1. Esophageal Cancer
2. Gastric Cancer
3. Pancreatic Cancer
4. Colorectal Cancer
5. Anal Cancer

**Hernias**

1. Know the signs, symptoms and management of inguinal hernias.
2. Know the causes and management of umbilical, epigastric and incisional hernias.

**Inflammatory Bowel Disease**

1. Know the signs, symptoms, evaluation and management of Crohn’s disease and ulcerative colitis.
2. Know the indications for operation for strictures, toxic megacolon and cancer in inflammatory bowel disease.

**Liver & Portal Hypertension**

1. Know the work-up and differential of a liver mass.
2. Know the etiology and management of liver abscess.
3. Know the complications of cirrhosis and their management including bleeding esophageal varices, ascites, and hepatic encephalopathy.

**Lung & Mediastinal Tumors**

1. Know the signs, symptoms, differential and work-up of mediastinal masses.
2. Know the signs, symptoms, diagnostic work-up and differential of solitary pulmonary nodules.
3. Know the types of lung cancer and treatment principles.
**Neurosurgery**

1. Explain the procedures for clearing the cervical spine in an awake patient with neck pain after a MVC.
2. Understand brain death criteria.

**Pancreas**

1. Know the signs, symptoms, etiology and treatment of acute pancreatitis.
2. Know the signs of severe pancreatitis.
3. Know the complication of early and late pancreatitis.
4. What are the Ransons Criteria?
5. Know the indications for surgical management of pancreatic pseudocysts, chronic pancreatitis and pancreatic abscess.

**Pediatric Surgery**

1. Know the signs, symptoms, evaluation and management of congenital esophageal anomalies.
2. Know the types of intestinal obstruction and management in the newborn.
3. Know the types and management of abdominal wall defects including inguinal hernias, umbilical hernias, gastroschisis and omphalocele.

**Shock**

1. Know the four stages of hypovolemic shock.
2. Know the types of shock and their etiologies.
3. Know the principles of management of shock, including fluids, pharmacologic and surgery.

**Skin Malignancies & Soft Tissue Tumors**

1. Know the signs, symptoms and treatment of:
   a. Basal cell carcinoma
   b. Squamous cell carcinoma
   c. Melanoma
   d. Sebaceous cyst
   e. Subcutaneous lipoma
   f. Soft tissue sarcoma

**Surgical Infection**

1. Know the risk factors and types of infection after surgical procedures.
2. Know when to use prophylactic antibiotics.
3. Know the signs, symptoms, work-up and management of tissue infections.

**Thyroid & Parathyroid**

1. Know the signs, symptoms, work-up and differential of a thyroid mass.
2. Know the treatment and complications of thyroid cancer and hyperthyroidism.
3. Know the causes and treatment of hypocalcaemia.
4. Understand the MEN syndromes

**Trauma**

1. Know the principles of primary survey including airway, breathing, and circulation (ABC’s) in trauma.
2. Know the signs, symptoms and management of life threatening injuries of the chest including:
   a. Airway obstruction
   b. Flail chest
   c. Open pneumothorax
   d. Massive hemothorax
   e. Tension pneumothorax
   f. Cardiac tamponade
3. Know the management principles of blunt and penetrating abdominal trauma.

**Wound Care & Reconstructive Surgery**

1. Know the principles of wound care and closure.
2. Know the methods of skin grafts and flaps and how they receive nutrients in the early phases of healing.
3. Know the principles of prevention and treatment of pressure sores.

**Venous Thrombosis & Pulmonary Embolism**

1. Know the signs, symptoms, diagnostic work-up and management of venous thrombosis.
2. Know the signs, symptoms, diagnostic work-up and management of pulmonary embolism.

**Knot Tying & Suturing**

At the beginning of the surgery rotation, the medical students will be exposed to a series of hands-on demonstrations that will cover the following areas:
1. Knot tying (two handed, one handed and instrument driven) and suture cutting
2. Proper manipulation of basic surgical instruments.
3. Basic wound closure techniques.

It will then be the responsibility of each student to find time to learn these tasks. There are knot tying boards, pseudo skin models, instruments, and suture in the skills lab available for practice. It is your responsibility to clean up after yourselves when you use the skills laboratory. In addition to the materials available to you in the skills lab, there are plenty of discarded suture materials in the OR. Just ask the scrub techs to save you the suture that is opened and unused in cases. This will allow you to take some materials home with you for continued practice.

We believe that every physician should have a fundamental concept as to how to complete these tasks in a proficient and safe manner. Learn how to safely use the tools in the lab to reduce the risk of self-induced needle sticks and the potentially hazardous consequences of this. Now is your time to learn!