Residency Review Committee
Requirements for an International General Surgery Rotation

1. Name and location of international site
   1.1. Muhimbili University of Health and Allied Sciences, Dar es Salaam, Tanzania

2. PGY Level of the resident for whom the rotation is requested
   2.1. PGY 4

3. Dates of the rotation
   3.1. One month rotation spaced several times during the year.

4. Verification that the rotation is an elective
   4.1. It is an elective, letter to be included as needed

5. Program’s accreditation status and cycle length.
   5.1. 5 years accreditation at the last cycle, verification as needed

6. A statement that ABMS certified faculty will supervise the resident
   6.1. The residents will be supervised by James Peck MD, OHSU adjunct faculty and/or
       faculty from cooperating institutions.

7. A statement of the competency based goals and objectives of the assignment
   7.1. Please see attached document

8. Educational Rationale
   8.1. Please see attached document

9. Verification that that there will be an evaluation of the resident’s performance based on the
   stated goals and objectives
   9.1. This will be done in conjunction with the attending surgeons and the members of the
       local team in the 360 degree format.

10. Details of the experience
    10.1. Type of center: Tertiary care national hospital
    10.2. Scope of practice: general surgery, surgical oncology, trauma
    10.3. A statement of the center’s operative volume and type: Diverse general surgery cases,
        residents can expect up to 6 cases daily.
    10.4. A statement about the adequacy of the supportive anesthetic, radiologic, laboratory,
        and critical care infrastructure: The infrastructure is sufficient for the types of cases
        planned; including a full radiology suite, laboratory capable of basic blood studies, urine
        analysis, HIV testing and some advanced oncologic marker testing. Anesthesia and
        internal medicine providers work closely with the surgical teams in the hospital.
10.5. Verification that the experience will include an out-patient experience: There is an on-site clinic in MUHAS and clinic is once a week.

10.6. Verification that the resident will enter operative experiences for credit: Operative experiences will be entered into standard ACGME case logs with supervising attending and location as “Centrale Medical Emanuel Hospital”

11. Verification that salary, travel expenses, health insurance and evacuation insurance is covered by the sponsoring institution.

12. A description of the educational resources including access to a library with reasonably current resources and/or reliable access to web-based educational materials.
   12.1. Educational resources include the university library as well as reliable wireless internet in the living accommodations.

13. A statement addressing physical environmental issues including housing, transportation, communication safety and language.
   13.1. Transport is via air to Dar es Salaam. Housing is at the Kalenga house, a guest house associated with MUHAS. The Kalenga house is in a walled compound with a 24 hour guard. The primary language of medicine is English and translators are available for translation to Swahili. Participants will need a passport as well as anti-malarial medication and the other CDC advised vaccinations.

14. A copy of the program letter of agreement
Educational Rationale

An increasing number of general surgery residents are interested in making international surgery part of their career. The logistical, medical and cultural setting of international surgical care makes it significantly different from surgical care in the United States. This rotation will provide the medical, logistical, public health and cultural background that will help residents to lay the foundation for future international work.

Educational Objectives

GOALS

A. Medical Knowledge
   i. Understand the pathophysiology and clinical presentation of the following emergency/urgent surgical problems and their management in a resource limited environment. Additionally, understand the social and cultural influences that will impact surgical decision making.
      i. Appendicitis (non-ruptured versus ruptured)
      ii. Bowel obstruction (partial versus complete)
      iii. Cholecystitis with or without choledocholithiasis
      iv. Ascending cholangitis
      v. Colonic diverticulitis (uncomplicated versus ruptured)
      vi. Soft tissue infection (uncomplicated versus necrotizing)
      vii. Gastrointestinal hemorrhage
      viii. Pancreatitis (uncomplicated versus complicated)
      ix. Intra-abdominal abscess
      x. Ischemic bowel disease
      xi. Colonic volvulus
      xii. Other abdominal catastrophe
      xiii. Simple and complex hernias
      xiv. Esophageal perforations
      xv. Goiters and thyroid malignancy
      xvi. Peptic ulcer disease
      xvii. Ovarian malignancy, benign ovarian pathology
      xviii. Uterine benign and malignant pathology
      xix. Lipoma and soft tissue benign and malignant sarcomas
      xx. Benign and malignant breast pathology
      xxi. Abdominal compartment syndrome
      xii. Iatrogenic bowel perforation
      xxiii. Esophageal cancer
      xxiv. Colon cancer
      xxv. Soft tissue sarcoma
      xxvi. Blunt abdominal and thoracic trauma
      xxvii. Penetrating abdominal and thoracic trauma
ii. Understand the appropriate use of antibiotics in the following emergency/urgent surgical problems as well as understand that reliable, broad spectrum antibiotic access may not available and thus medical management may not be an option.
   i. Appendicitis
   ii. Cholecystitis with or without choledocholithiasis
   iii. Ascending cholangitis
   iv. Colonic diverticulitis (uncomplicated versus ruptured)
   v. Soft tissue infection (uncomplicated versus necrotizing)
   vi. Pancreatitis (uncomplicated versus complicated)
   vii. Abdominal catastrophe

iii. Understand the indications for operative intervention in the following pathology with consideration of the limited operative an post-operative resources available. Learn to adjust medical decision making to reflect these realities.
   i. Appendicitis (non-ruptured versus ruptured)
   ii. Bowel obstruction (partial versus complete)
   iii. Cholecystitis with or without choledocholithiasis
   iv. Ascending cholangitis
   v. Colonic diverticulitis (uncomplicated versus ruptured)
   vi. Soft tissue infection (uncomplicated versus necrotizing)
   vii. Gastrointestinal hemorrhage
   viii. Pancreatitis (uncomplicated versus complicated)
   ix. Intra-abdominal abscess
   x. Ischemic bowel disease
   xi. Colonic volvulus
   xii. Other abdominal catastrophe
   xiii. Simple and complex hernias
   xiv. Esophageal perforations
   xv. Goiters and thyroid malignancy
   xvi. Peptic ulcer disease
   xvii. Ovarian malignancy, benign ovarian pathology
   xviii. Uterine benign and malignant pathology
   xix. Lipoma and soft tissue benign and malignant sarcomas
   xx. Benign and malignant breast pathology
   xxi. Abdominal compartment syndrome
   xxii. Iatrogenic bowel perforation
   xxiii. Esophageal cancer
   xxiv. Colon cancer
   xxv. Soft tissue sarcoma
   xxvi. Blunt abdominal and thoracic trauma
   xxvii. Penetrating abdominal and thoracic trauma

iv. Understand the general and advanced principles of wound care in a resource limited environment and how the lack of consistent nutrition, clean environments and long term follow-up may impact these plans.
Surgical Resident Experience in Tanzania

v. Understand the principles of pre and postoperative feeding/nutrition and how that is limited by patient and facility resources. Adjust decision making to reflect these realities.

B. Patient Care

i. Lean to synthesize all available information in order to make appropriate clinical decisions in a resource limited setting.
   
i. Understand the limited medical resources available (e.g. no ICU care, no advanced imaging, limited laboratory access) and how that impacts decision making
   
ii. Understand that patient’s limited resources impact their post-operative course (e.g. no high quality ostomy supplies) and thus will impact operative decision making.

ii. Adapt clinical approach to a resource limited environment where advanced imaging and laboratory investigations might not be immediately accessible.
   
i. Perfect history and physical exam as a key part of the evaluation of a patient.
   
ii. Understand that radiology access is limited and diagnosis cannot be dependent upon advanced imaging modalities
   
iii. Learn to make risk/benefit decisions with the entire operative and post-operative capabilities of the patient and hospital in mind

iii. Understand the importance of generating accurate, thorough medical records that are durable.

iv. Understand appropriate non-operative management of or alternative therapies for the following pathologies. Understand that a non-operative approach to these issues may be limited to the financial, logistical and cultural realities of Tanzania.
   
i. Partial small bowel obstruction
   
ii. Uncomplicated diverticulitis
   
iii. Soft tissue cellulitis
   
iv. Intra-abdominal abscess
   
v. Gastrointestinal bleeding
   
vi. Goiters and thyroid malignancy
   
vii. Peptic ulcer disease
   
viii. Benign breast pathology
   
ix. Colonic volvulus
   
x. Palliative options for advanced stage esophageal and colon cancer
   
xi. Long bone fractures and the mangled extremity

v. Develop technical skills for common procedures and operations encountered. Appropriate for the resident’s level of training and taking into account resource limitations. Adjust operative approach to the realities of available resources.

vi. Provide optimal medical care within the setting of the host nation, taking into account local social structure, cultural beliefs and the necessarily brief nature of the rotation.

C. Practice based learning

i. Understand the importance of public health in the provision of surgical care and the overall health of our patients.
Surgical Resident Experience in Tanzania

ii. Understand the logistics inherent in international health and the importance of planning for future missions and long term cooperation. Take an active role in planning for the trip and coordinating educational events.

iii. Develop an attitude of responsibility for the patients with the goal of continuous improvement in practice and management style.

iv. Understand the importance of critically reading and discussing medical literature pertinent to patients encountered. Adjust interpretation of this literature to the realities of medical care in Tanzania.

v. Participate in the educational opportunities provided by the local surgical providers and staff, taking into account their expertise in managing surgical issues. Aid in the education of local surgical trainees as appropriate.

vi. Work to build the surgical capacity of the host institution and further the clinical and research capabilities of the local surgical staff.

vii. Apply knowledge and expertise of the local practitioners into the resident’s skill set that can be carried back to the stateside program.

D. Systems based practice

i. Understand the importance of providing basic public health and sanitation education to patients awaiting surgical evaluation. Take an active role in this education.

ii. Understand the importance of supporting medical and ancillary services in the complete and efficient care of the patient.

iii. Develop a cost-effective attitude toward patient management with resource limitations in mind.

iv. Develop and appreciation for the patients’ and families’ interest and convenience in care management plans. Understand that this may vary from community to community depending on local societal beliefs and structure.

E. Interpersonal and communication skills

i. Perfect the ability to respectfully and clearly communicate with other healthcare professionals.

ii. Perfect the ability to present patients to surgical staff in an organized and precise manner.

iii. Perfect the ability to function not only as a member of a team but also as a team leader.

iv. Perfect the ability to communicate effectively with patients and their families.

v. Develop an understanding of local traditions and how those may guide medical decisions.

F. Professionalism

i. Learn to live and work with our international partners in a foreign culture.

ii. Demonstrate respect and compassion for patients and staff.

iii. Develop open-mindedness regarding alternative treatments and local healers.

iv. Develop an attitude of responsibility for patient care requests by other residents and attending providers.

v. Develop skill in multitasking and problem solving.

vi. Develop respect for and understanding of the local culture.
vii. Develop an understanding that local resource limitations will limit our ability to successfully treat patients with otherwise curable disease.

viii. Make decisions regarding provision of care when “curable” disease may result in morbidity or mortality due to lack or resources.

OBJECTIVES

A. Medical Knowledge

i. Describe symptoms and physical exam findings consistent with acute appendicitis.
   i. Name laboratory tests useful in the evaluation of acute appendicitis and describe expected results in patients who have the disease.
   ii. Name radiographic studies useful in the evaluation of acute appendicitis and describe expected findings in patients who have the disease. Describe indications for radiographic testing in the setting of resource limitations.
   iii. List the differential diagnosis of acute appendicitis

ii. List the etiologies of small and large bowel obstruction
   i. Describe the symptoms and physical exam findings consistent with large bowel obstruction; explain the differing presentations as related to specific etiologies.
   ii. Name the radiographic studies used to evaluate small bowel obstructions and the expected findings.
   iii. Name the radiographic studies used to evaluate large bowel obstruction and describe the expected findings in patients who have this problem; explain the differing findings as related to the specific etiologies.
   iv. Name laboratory tests useful in the evaluation and management of the fluid shifts associated with bowel obstruction; explain the expected results in patients presenting with early/partial versus complete obstruction

iii. Define biliary colic, acute cholecystitis, chronic cholecystitis and ascending cholangitis.
   i. Describe the pathogenesis of cholelithiasis as it relates to biliary disease
   ii. Describe the symptoms and physical exam findings typical of biliary colic, acute cholecystitis, chronic cholecystitis and ascending cholangitis.
   iii. Name the radiographic studies useful in the evaluation of gallbladder and biliary tract disease and describe the expected findings in uncomplicated cholelithiasis versus cholecystitis.
   iv. Name the laboratory tests useful in the evaluation of gallbladder and biliary tract disease. Explain the expected results in patients with cholecystitis and ascending cholangitis.

iv. Describe the etiology and usual anatomic distribution of typical colonic diverticulitis.
   i. Define uncomplicated and complicated diverticulitis
   ii. Define the symptoms and physical exam findings in a patient who presents with uncomplicated versus complicated diverticulitis.
iii. Name the radiographic studies useful in the evaluation of diverticulitis and describe the expected findings in patients who have uncomplicated versus complicated disease.

iv. Name the laboratory tests useful in the evaluation of diverticulitis and explain the expected results in a patient who presents with this problem.

v. Define cellulitis and list the most common pathogens in uncomplicated and complicated cases
   i. Describe the symptoms and physical exam findings in a patient who presents with an uncomplicated case of cellulitis versus the findings that indicate the likelihood of complicated (necrotizing) infections.
   ii. Define abscess and list the most common pathogens in cases involving the torso, head, neck, extremities and peri-rectal area.
   iii. Describe the symptoms and physical exam findings in a patient who presents with a perirectal abscess.
   iv. Describe the possible complications of a complicated or untreated perirectal abscess.
   v. Name radiographic studies that may help differentiate between equivocal cases of abscess versus cellulitis and described expected findings of each.
   vi. Name the laboratory tests useful in the workup of cellulitis and abscess.
   vii. Describe the indications for aggressive, life saving exploration and debridement of spreading necrotizing soft tissue infections and the criteria for adequate debridement.

vi. List the most common etiologies of upper gastrointestinal hemorrhage versus lower gastrointestinal hemorrhage
   i. Describe the history and physical exam findings consistent with upper gastrointestinal hemorrhage versus lower gastrointestinal hemorrhage.
   ii. Name the radiographic and endoscopic tests useful in the workup of upper gastrointestinal hemorrhage versus lower gastrointestinal hemorrhage.
   iii. Name the laboratory and radiologic tests useful in the evaluation of gastrointestinal hemorrhage.
   iv. Describe the specific indications for and appropriate peptic ulcer prophylaxis in routine postop patients.
   v. Describe the surgical and nonsurgical management of acute variceal hemorrhage.
   vi. Describe the specific indications for operative intervention of upper and lower gastrointestinal hemorrhage.

vii. List the most common etiologies of pancreatitis.
   i. Explain the difference between acute, chronic, and necrotizing pancreatitis.
   ii. Define and list Ranson’s criteria.
   iii. List the potential acute, severe and long-term, chronic sequelae of pancreatitis.
   iv. Describe the history and physical exam findings consistent with acute versus chronic pancreatitis versus necrotizing pancreatitis.
v. Name the radiographic studies helpful in the diagnosis and characterization of pancreatitis, and describe the expected findings in acute versus chronic versus necrotic disease.

vi. Name the laboratory tests helpful in the diagnosis and management of pancreatitis

vii. Describe the specific indications for surgical debridement of necrotizing pancreatitis.

viii. Describe appropriate perioperative antibiotic coverage for acute/uncomplicated versus perforated/ruptured appendicitis.
   i. Describe appropriate antibiotic prophylaxis for patients undergoing operation for bowel obstruction.
   ii. Describe appropriate perioperative antibiotic coverage for acute cholecystitis.
   iii. Describe appropriate antibiotic coverage for uncomplicated acute diverticulitis.
   iv. Describe appropriate antibiotic coverage for patients with “uncomplicated” cellulitis; describe appropriate alternatives for patients who have penicillin allergies or MRSA.
   v. Describe appropriate perioperative antibiotic coverage for abscess of the torso, head/neck, or extremities.
   vi. Describe appropriate perioperative antibiotic coverage for perirectal abscess.

ix. With respect to wound closures, define and explain the indications for:
   i. primary closure
   ii. delayed primary closure
   iii. healing by secondary intention
   iv. List (and explain the rationale for) the indications for nonclosure of surgical incisions (“leaving the wound open”).
   v. Describe 3 forms of open wound dressing changes, including the Wound Vac system, and explain the rationale for effectiveness of each.
   vi. Describe the signs and physical exam findings of postoperative wound infection.

x. List the indications for placement of enteric feeding tubes (gastrostomy, jejunostomy, nasoduodenal).
   i. Name at least 3 serious or life-threatening complications related to enteric feeding tubes.
   ii. Describe principles of postoperative feeding/nutrition in patients status post:
      iii. appendectomy
      iv. relief of bowel obstruction
      v. cholecystectomy
      vi. small bowel or colon resection
      vii. abdominal catastrophe

xi. Describe the indications for the use of the “open abdomen technique” in the management of the abdominal catastrophe, including peritonitis, necrotizing pancreatitis, and abdominal compartment syndrome.
Describe the presentation, pathophysiology and initial management of common obstetrical complications
   i. Describe the management of obstructed labor and indications for caesarian section
   ii. Describe the management options for postpartum hemorrhage and placental abruption
   iii. Describe the management of puerperal fever and mastitis

Describe the treatment algorithm for management of a complex extremity wound.
   i. Describe splinting options for upper and lower extremity fractures.
   ii. Describe the indications and approach to operative debridement and external fixation.
   iii. Discuss the indications for amputation and approach to pre-operative decision making.

Describe the presentation, pathophysiology and management of benign and malignant thyroid masses. Describe the initial management in a resource limited setting.
   i. Describe the operative approaches to thyroid lobectomy and total thyroidectomy.
   ii. Describe the management options following total thyroidectomy in a resource limited setting.

Describe the presentation, pathophysiology and initial management of breast malignancy as well as benign conditions. Describe indications for intervention and how lack of ancillary oncologic services may impact approach.

Describe the presentation, pathophysiology and initial management of esophageal malignancy as well as benign esophageal conditions. Describe indications for intervention and how lack of ancillary oncologic services may impact approach.

Describe the presentation, pathophysiology and initial management of colon cancer. Describe indications for intervention and how lack of ancillary oncologic services may impact approach.

Describe the presentation, pathophysiology and initial management of peptic ulcer disease and the potential acute complications. Describe the treatment algorithm in the resource limited setting where proton pump inhibitors and Helicobacter pylori eradication may not be an option.
   i. Describe the operative approach to peptic ulcer disease and the potential complications of the different approaches.

Describe the acute resuscitation and management of a traumatically injured patient keeping in mind that ICU care and blood banking is likely not available in a resource limited setting.

B. Patient Care
   i. Demonstrate the ability to evaluate an emergency department consultation of a complicated patient that requires an advanced analysis of the history and physical exam as well as available laboratory and diagnostic data, and to present the findings and a thoughtful plan to the attending surgeon.
Surgical Resident Experience in Tanzania

ii. Describe the indications for and components of nonsurgical management of partial small bowel obstruction.

iii. Describe the indications for nonsurgical management of uncomplicated diverticulitis.

iv. Describe appropriate management of uncomplicated cellulitis.

v. Master technical skills for:
   i. Open and laparoscopic appendectomy, including ruptured appendectomy
   ii. Open and laparoscopic cholecystectomy and CBD exploration
   iii. Lysis of adhesions
   iv. Coloectomy
   v. Exploratory laparotomy for abdominal catastrophe
   vi. Debridement of necrotic pancreas
   vii. Debridement of necrotic soft tissue
   viii. Open abdominal techniques/temporary abdominal closure
   ix. Open Nissen fundoplication
   x. Open Heller myotomy
   xi. Subtotal and total thyroidectomy
   xii. Surgical options of peptic ulcer disease — antrectomy, truncal and selective vagotomy
   xiii. Mastectomy and breast biopsy
   xiv. Lymph node dissection of the axilla
   xv. Below the knee amputation
   xvi. Above the knee amputation
   xvii. Transmetatarsal amputation

C. Practice-Based Learning
   i. Critically discuss performance with respect to care of patients and progress made during rotation with supervising attending at mid-rotation meeting.
   ii. In conjunction with local health care providers, add to the educational curriculum of the MUHAS – AGCT collaboration.

D. Systems-based practice
   i. Facilitate the public health and sanitation education of the community. Describe indications for medical consultation in the pre- and post-operative periods.
   ii. As pertinent for each individual patient, facilitate daily communication with ancillary services, as available.
   iii. Take a leadership role to fill in if the above listed ancillary services are not available.

E. Interpersonal and Communication Skills
   i. Consistently answer nursing and junior resident questions clearly and effectively.
   ii. Consistently communicate patient assessments and plans to other residents or attending surgeon.
   iii. Present clinic patients to the attending surgeon efficiently to facilitate clinic flow.
   iv. Consistently respond to consultation requests. Perfect skill of explaining results of evaluations and recommendations for treatment to patients and their families (patient education).
   v. Demonstrate effective teaching of students, interns, PA students, NP’s and junior residents
vi. Demonstrate the ability to educate the community with regards to basic sanitation and public health concepts, taking advantage of the “down time” while patients are awaiting surgical consultation.

F. Professionalism

i. Be aware of and sensitive to the fact that we are guests at this hospital and that the resource limitations inherent in a developing country may limit provision of medical care.

ii. Use appropriate speech and tone of voice when speaking to patients, families, and all other healthcare professionals. Utilize interpreters appropriately, where necessary.

iii. Allow others the chance to speak, and listen attentively when being spoken to.

iv. Demonstrate a conscientious approach to patient care by minimizing delay of care and minimizing passage of incomplete tasks to fellow residents.

v. Manage time and personnel effectively

vi. Know when and where to go for help with problems