MUHAS Report from Jahanara Graf
(PCSA Scholarship Applicant)

People die everyday of preventable illness. I first heard this fact when I was eight years old traveling in Myanmar with my mother during a work trip of hers. Hearing that statement is what drove me to medical school and now, almost two and a half decades later I am learning the true meaning of that fact.

I have just spent a month with Dr. Schecter at Muhimbili University of Health and Allied Sciences (MUHAS) in Dar es Salaam, Tanzania. He comes here twice a year for a month at a time to teach operative surgery with the goal to improve surgical care in Tanzania.

We first met at the Pacific Coast Surgical Conference a month and a half ago. I had read his article in JAMA Surgery published this summer: "Global Academic Surgery: A Moral Imperative." Our conversation about that article allowed me to learn about the work he does in Tanzania. I expressed an interest in the program and he answered that he only takes one resident per trip. He would be leaving in less than two weeks. Luckily for me there was no resident going with him this time around. A little over a week later I was on a plane to Tanzania.

I boarded that plane with a healthy mix of excitement and anxiety. Part of my childhood was spent growing up in the developing world. I have travelled and worked in many impoverished areas of the globe. Despite this, I felt that I was embarking on unknown territory. At the very least, I knew there would be challenges and that I was not afraid to confront them. But still, none of my previous experiences or mental preparations came close to anticipating the challenges faced on a daily basis by the Tanzanian patients and their healthcare workers.

The first thing I learned was that I had to throw out the standards that I was used to functioning under in the United States. This sounds basic and obvious, but trying to unlearn many of the things we carry out automatically, using resources we take for granted is actually much harder to do than expected. Labs, imaging and medications, for example, were not as accessible as I had grown accustomed to.

The presentation of illness is far more advanced than anything we see in the United States. I had thought that as a surgery resident at Oakland's county hospital, I was familiar with advanced presentation of illness, but this experience showed me that I had no idea: ulcerating breast masses, bowel slowly dying for days, masses obstructing every system imaginable and biliary disease advanced to a point that had seemed unfathomable to me. One thing is certain - the Tanzanians are resilient, to say the least.

The other thing I had heard about surgery in Africa but did not fully understand until this trip was that nothing is disposable. The surgical gowns and drapes are made of cloth. The bovies are reused and covered with a sterile glove and wrapped in a sterile cloth drape. And of course, no skin stapler, no bowel stapler, no stapler of any kind. I developed a newfound love for the skin stapler while closing my first midline incision with a prolene on a blunt tipped needle. But I am not complaining because spending a month learning how to do handsewn anastomoses has been incredible.

One of my favorite things about this experience is that it has been a reciprocal learning experience. The surgeons here have walked me through a number of open cholecystectomies. I have spent hours teaching various critical care topics. They have taught me handsewn anastomoses. I gave their first morbidity and mortality conference in the hope of motivating

them to start one of their own. They have retaught me many of the physical exam skills that, due to the technology we have in the United States – to the lament of the previous generation of physicians – many of us currently rarely use.

One of the most difficult things has been the many deaths. A 17 year-old male, severely ill with typhoid fever, had dead bowel from an intussusception caused by massive mesenteric lymphadenopathy. He had been sick for three weeks. For the five days before presenting to us he had severe abdominal pain with obstructive symptoms and bloody diarrhea. Even though we resected the dead bowel, he died the next day before we could even take him back for his second look operation. He was profoundly septic. His abdominal source was not his only problem. He had also aspirated. At first I had a hard time coming to terms with this death, wishing that we could have done more. However, I soon realized that I could not blame the under-resourced intensive care unit. Even in the United States, under the best ICU care, he would have been hanging on by a thread. He was so sick by the time he got to us, it was actually a surprise he was still alive.

A woman with an incarcerated and strangulated loop of small bowel also died on post-operative day two from severe sepsis. She had also been gravely ill for days before reaching our hands. There are more examples. These deaths seem unjust. But then a lot of the things that happen on a daily basis to the Tanzanians and many people on the African continent are unjust. Our goal is to improve surgical care at Muhimbili hospital with hopes that over time this improvement will propagate slowly through the rest of Tanzania. Of course this is no small feat and will take decades. First and foremost, surgical education and training here need to improve. Dr. Schecter has been contributing, as noted by the Tanzanian surgeons here who have seen significant improvements in operative surgery over the past four years.

The contributions I wished to make over my time here were focused on improving the ICU care through teaching. Another undertaking has been to set up a surgical database. There is currently no formal way of tracking patients and their outcomes. If the database is adopted here in the way we hope, the surgeons at Muhimbili hospital will have an objective way of identifying where the problems lie. Introducing a morbidity and mortality conference to show that discussing complications is an integral part of learning – again, if adopted, will hopefully improve the care here.

So indeed, people die everyday of things that we view as preventable, but I have gone from an idealist desire to save the world from the comforts of my western life, to fully demoralized by what seem like insurmountable difficulties, to accepting the realities that I can now partially understand in a more tangible way - although, admittedly, never fully since I am not a Tanzanian and I have only been here for a month. But hopefully by returning to Muhimbili, as Dr. Schecter does, and developing a partnership, showing a commitment, investing in education and teaching and objectively measuring the potential changes in outcomes this partnership can have over time, a helpful contribution could be made toward lessening the burden of surgical disease in Tanzania. Perhaps over time we could expand this program to bring Tanzanian surgeons to the United States and continue the reciprocal learning that I have so greatly benefited from during my time here.

If you are either an attending or resident interested in working at Muhimbili hospital please contact Emily Mauer at agct@facs.org or visit www.agct.info.

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Table 1: List of operations I partook in at Muhimbili hospital March 2016

Diagnosis	**Operation**
Rectal adenocarcinoma	Abdominoperineal resection
Chronic cholecystitis with perforated gallbladder	Open Cholecystectomy
Left Breast Cancer	Left Modified Radical Mastectomy
Incarcerated hernia with strangulated bowel	Exploratory laparotomy, small bowel resection with primary anastomosis
Anal warts	Excision of anal warts
Small bowel obstruction with necrotic bowel	Exploratory laparotomy, small bowel resection, gastrostomy tube
Ulcerating right breast cancer	Right toilet mastectomy with chest wall reconstruction
Retroperitoneal mass	Exploratory laparotomy, open liver biopsy
Right breast sarcoma	Simple mastectomy
Perforated duodenal ulcer	Exploratory laparotomy with graham patch repair
Achalasia	Re-do Heller Myotomy
Sigmoid adenocarcinoma	Sigmoidectomy with en-bloc resection of small bowel
Biliary colic	Laparoscopic cholecystectomy
Rectal adenocarcinoma	Abdominoperineal resection
Hepatic cyst	Subtotal cystectomy, damage control laparotomy
Hepatic cyst	Re-exploration, pack removal
Esophageal cancer	Cancelled - Esophagectomy
Pancreatic mass	Palliative gastro-jejunostomy and cholecysto-jejunostomy
Chronic cholecystitis	Open Cholecystectomy and kocherization
Chronic cholecystitis	Open Cholecystectomy
Esophageal cancer	Palliative open gastrostomy tube
Esophageal cancer	Esophagectomy
Metastatic cancer	En-bloc gastrectomy and transverse colectomy, small bowel resection, Roux-en-Y antecolic gastro-jejnunostomy
Airway obstruction	Emergency tracheostomy
External hemorrhoid	Hemorrhoidectomy