

INTEREST OUTREACH REPORT

International Association of Endocrine Surgeons (IAES)

August 19, 2014

On June 3, 2014, an all-volunteer team led by Dr. Lisa David, pediatric craniofacial plastic surgeon, embarked on its surgery mission to Togo, on the continent of Africa. The Togolese Republic is in West Africa, between Ghana and Benin. The area is a beautiful, tropical region with marshes, lagoons and mangroves. More than 1/3 of the country's population lives below the international poverty line. The Carolyn Wendell Kempton Medical and Ministry Center is north of Lome, the capital. It lays outside of Adete, in the foothills of the Danyi plateau, one third of the way between Kpalime and Atakpame. The next closest medical facility is nearly 100 miles away. The people are primarily of the Ewe, Mina, Kabye, Ouatchi tribal groups.

The single hospital is the center of medical care in the region. The hospital is on a complex run by a family practitioner and a nurse practitioner and has one on-site full time surgeon and one physician's surgical assistant. The site is home to a nursing school, which just graduated its first class of 5 Togolese graduates. The facilities include four rooms-each a designated ward with 4-12 beds (pediatric, male, female, critical). There is one central nursing station that includes labor and delivery. There is one separate side room- designated as "isolation" with a single bed. There are two operating rooms. The hospital cannot do more than a small volume of cases due to varying types of restrictions and some of their cases are fee-paying and privately arranged. There is community outreach of ministry, health and education. A second hospital 250 miles north is underway.

The Wendell Kempton Baptist Teaching Hospital receives assistance from specialty teams, which have been led by Dr. Bob Cropsey, a general surgical volunteer twenty-five year career missionary from the University of Michigan. Other surgical team healthcare professionals have included Dr. Louis Argenta from Wake Forest University. The facility has repeatedly been tested to confirm it is fit for this purpose. During the prior six annual visits by our team leader more 150+ procedures have been performed. There has been no prior endocrine surgical expertise.

The objectives of the current mission in June 2014 were to provide:

1. General surgery for Impoverished Children and Adults in the Region
2. Expert, experienced Surgical Endocrinology
3. Teaching and Direct One-on-One Training

The principal objective is to introduce experience and expertise in endocrine surgery for the community surgeon to better serve the poor in West Africa. The long-term aim is for the local team to progressively take over their own program; the mission has been designed to permit the local Adete team to be a central part of the management of increasingly complex presentations. As the days passed, this routine became more established. The local team of the Wendell hospital surgeon, operating room technicians, anesthetists, nurses and staff was cohesive and eager to work in close collaboration with our surgical team. We prepared the operating rooms (2) and made shift postoperative care unit for the patients. We equipped the

suites. This necessary equipment was transported via 17 fully packed suitcases of donated surgical instrumentation and medical supplies. We carried and checked the baggage onboard our commercial airline flights. Supplies included borrowed and personal instruments (2 army navy retractors, 2 vascular pickups, 1 large self-retaining retractor, 4 right angles, 4 large and 4 small Kocher clamps, 1 Adson pickup), IV catheters, cautery, marcaine/lidocaine, antibiotics, ketamine, pulse oximeters, BP cuffs, needles, sponges, dressings, gloves, propofol, sutures, ET tubes, LMAs, bonnets, shoe covers, hats, gowns, cautery tips, dressings and drains. The first half day of the mission was devoted to setting up the facility to accommodate surgical patients. There were two functional anesthetic machines but each required reworking of all hose connectors, tubes, lines and cylinders. There were no oxygen regulators. It was a challenge to convert the two modestly sanitary operating theatres into a sterile environment. Intravenous fluids were prepared on sight. We supplied surgical quality lighting with high intensity headlights, which were essential. The main clinic sees 100+ patients daily and is run by clinical officers. Preadmission and post discharge care include sleeping on the sidewalk.

Surgical procedures began emergently on Sunday the 8th of June. The first case was an emergency above the knee amputation on a 12 year old boy bitten by a cobra 10 days before. He was hypotensive, septic and had extensive hemolytic necrosis readily apparent by profound, memorable stimulation to our olfactory system. Thirty surgical procedures were performed including eight total thyroidectomies for massive, extra sternal goiter with variations of compressive symptoms. An additional case was aborted for concern of thyroid crisis as there were no pharmacologic resources. Other procedures included multiple emergency abdominal explorations with hernia repair, small bowel resections, colectomy and diverting colostomy for imperforate anus, abscess drainage. Several planned oncologic cases included a colectomy and gastrojejunostomy. The most common surgical presentation was catastrophic. The craniofacial plastic surgery team performed 12 cleft/palate and hand repairs. The obstetric team performed a consistent number of emergent C-sections. Pre and postoperative care was provided in the hallway area near the nursing desk. Postoperative care included close personal inspection by family members and student volunteers. We managed surgical problems from age 1 day to 70+ years and bracketed multiple subspecialties (orthopedics, neurosurgery, oncology, pediatrics, plastics and urology) in their most advanced forms. Anesthetists gave the general anesthesia. We worked along with an intensivist from Toronto, pediatrician from Walter Reed Army Hospital and a surgeon from Virginia. The attentiveness and persistence of our volunteers was critical to the safety of the procedures and operations. Despite only having the basics of a laryngoscope, there were no airway or intubation emergencies. No patients suffered a complication and no blood was needed for transfusion. All operative and clinical reports were hand recorded.

Major operative activities ceased on Friday the 13th of June, 2014 to ensure satisfactory recovery of all patients and facilitate general tidying of the operating room and surgical area. Valuable donated medical supplies; soft disposables and equipment were checked, sorted, and labeled for storage in the mission storage rooms. Items not required for the program were distributed for general hospital use. An improved inventory and labeling was achieved to assist setting up during future mission activity.

Education was strongly emphasized in all areas of program during the mission. The onsite surgeon is a United States general surgery trained physician and will be at the hospital for the next two years. Another mission surgeon who travels biannually participated in all thyroid cases. Formal teaching consisted of textbook review and discussion of operative set up, planning and technique. The three surgical assistants also received considerable informal, on the job training during the course of the mission. With nursing, we established patient positioning protocols, instrument lists, operative set-ups, airway algorithms for planning and course of future operations at this referral care facility and for the upcoming outreach hospital in Mango- expected to open in the upcoming 3-6 months. Trainees for that hospital were

onsite and scrubbed and a robust thyroid “safe surgery” legacy was established. This program included the much necessary training of airway assessments, anesthetic risks and considerations and preventions of airway, bleeding and hypertensive crisis. Discussion of the potential for an international registries /database was discussed during this mission. The relationships will provide useful liaisons and two-way information for future mission work.

The trip took a year to plan and was a multi-specialty mission. There were surprisingly few logistical obstacles encountered largely because of the experience and organizational skills of our team leader. We had no safety issues and no illnesses despite serving one of the poorest countries in the world.

The needs are immense. The reported prevalence rates of endemic goiter ranges from 1% to 90%. Those witnessed were massive and had a clinically recognized anatomical variant of having a large and exclusively extrasternal component. Noteworthy observations included that the native diet is largely based on cassava- a known goitrogen and the neck muscles are strong out of necessity for daily living. Most thyroid patients were female. The ability to diagnose autoimmune thyroid disorders was not an option but approximately 10% of cases had the clinical manifestations of Graves’ disease. There was an older model ultrasound available and thyroid ultrasound was performed at the clinical bedside for preoperative inspection of tissue. Education of clinical characteristics of diagnosis of locally aggressive carcinoma versus benign goiter was performed.

There were innumerable noteworthy elements in that we developed deep relationships with our team members and the other surgeons. We realized that we only touched a few of the poor and that our most noteworthy contribution was to equip our Togolese colleagues to take up where we left off. The model for preparation, perioperative care and teaching of endocrine surgery can be replicated at other variable locations.

The trip was an immense privilege. We worked with a team that has a vision to show compassion and kindness through high-quality, surgical care to those who would not otherwise have access to it. The operations performed, albeit massive based on anatomy and presentation, were performed simply and safely. The Hippocratic oath of “first do no harm” was always apparent. The most difficult aspect of the trip was the group preparatory administrative process. The toughest individual aspect was having to saying “no, I can’t take care of you”. Having to pick and chose whom we thought would benefit was challenging. For example, we had to abort an operation on a large, symptomatic goiter because of the concern for thyroid storm during induction of anesthesia. Prevention, early diagnosis and screening were not possible. A legacy of safe treatment was possible. Our hands facilitated treatment of the few that had the health and resources to reach us during this finite period but our work with establishing a program will help in multitude. We hope that our efforts will help to mobilize others.

The harvest here is indeed great, and the laborers are few and imperfectly fitted, without much grace, for such a work. And yet, grace can make a few feeble instruments the means of accomplishing great things—things greater even than we can conceive.” - William Burns

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Surgical Mission Team Members:

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Respectively Submitted,
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Attachments:
3 photographs





