New: Our Neurosurgical Mission Video

Thanks to the generosity of one of our donors, we recently created a five-minute video showing conditions in Tanzania in vivid detail. The video, including footage shot during our 2016 mission trip, shows just how desperate the conditions are in all areas of the hospital, from waiting rooms to operating rooms to recovery rooms. You'll see our patients close up, but most importantly you will see our success stories. You'll drop in on our weekly Skype call between teams in New York and Tanzania, and watch us conducting our annual neurotrauma course, which offers classroom training to hundreds of African health care providers.

We are making a big difference with very limited resources. Please take five minutes to watch the video, and consider making a donation to support and expand our very important work to improve the lives of African patients.

ABOUT THE WEILL CORNELL NEUROSURGERY PROGRAM IN TANZANIA

The Neurosurgical Mission in Tanzania, now in its ninth year, is conducted in collaboration with the Foundation for International Education in Neurological Surgery (FIENS) and consists of several components:

1. Our multidisciplinary teams of surgeons, anesthesiologists, nurses, and biomedical engineers train local health care providers to deliver basic neurosurgical care using locally available equipment and resources. We are doing "hands-on" training of doctors in Tanzania, empowering them with a high level of expertise in the management of neurosurgical disorders and neurosurgical procedures. Providing the highest level of surgical training to these eager, talented surgeons impacts every other level of care—nursing, anesthesia, intensive care treatment, and general ward care. Setting the bar high encourages a positive response and team effort involving all areas.
2. Promising African surgeons are selected for short-term observational fellowships at Weill Cornell Medical College in New York. The purpose of this fellowship is to provide motivated surgeons firsthand experience with high-level surgical care. The close working relationship also greatly facilitates the communication between the Weill Cornell Medicine team in New York and the MOI surgeons once the surgeon has returned to Tanzania.
3. Every year a neurosurgery meeting is organized with international faculty in East Africa that combines lectures, practical workshops, and even live surgeries. Surgeons and nurses from many African countries participate.
4. Weekly conference calls and Skype conferences are held between the Weill Cornell team and their colleagues at MOI to discuss challenging cases, patient management, and ongoing research.
5. An IRB-approved database for traumatic brain and spinal injury has been implemented at MOI to monitor patient care and ensure quality. This and previous projects have led to several publications in peer-reviewed journals.
6. Each year we fund one European or North American neurosurgeon to live and work in Tanzania for 12 months. This year's fellow is Dr. Andreas Leidinger, a fully trained neurosurgeon from Spain.

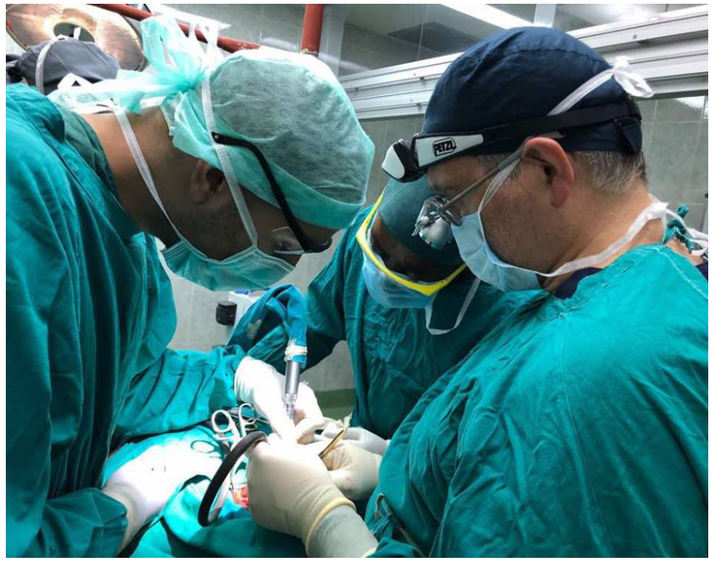
Dr. Härtl hopes that these efforts will over time improve patient outcomes and serve as a model for other hospitals and programs.

For more information please see our Facebook page:
https://www.facebook.com/TanzaniaNeurosurgeryProject/

Mission in Tanzania

2017 Update, *From Dr. Roger Härtl*

The annual neurosurgical mission trip to Tanzania took place this year during the week of October 16. For the fourth year in a row, the weeklong trip started with several days of intensive classroom instruction, the Hands-On Neurosurgery, Neurotrauma, and Critical Care Course in Dar es Salaam. The course is an international collaboration led by Dr. Roger Härtl of Weill Cornell Medicine and the local neurosurgical team led by Dr. Hamisi Shabani from the Muhimbili Orthopedic and Neurosurgical Institute. A faculty of 14 (neurosurgeons, a neuro-intensivist, a physician assistant, and a nurse practitioner) gathered from around the globe: Weill Cornell Medicine and Vanderbilt University in the United States, and neurosurgical departments from Germany, the United Kingdom, Spain, Uganda, and Pakistan. This year the team included Dr. Philip E. Stieg, professor and chairman of Weill Cornell Medicine Neurological Surgery and Neurosurgeon-in-Chief of NewYork-Presbyterian Hospital Weill Cornell.



More than100 attended the course, including local medical students and specialists aspiring to improve neurosurgery and neurocritical care in East Africa. The team was honored to be joined by Dr. Tariq Khan from the World Federation of Neurosurgical Societies (WFNS), who spoke about the importance of building neurosurgical training capacity in the developing world.

Even as didactic sessions were going on, neurosurgeons who were serving as faculty started evaluating patients for surgery. The end of the week was dedicated to surgical procedures that included stabilization for cervical spinal trauma, the removal of a large frontal skull base tumor, and several pediatric conditions (see next page).

In accordance with the mission, operating days focused on training. Dr. Härtl instructed the local faculty in performing minimally invasive spinal surgery with locally available

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Top: Dr. Christoph Wipplinger (left, using drill) and Dr. Härtl train local surgeons to perform a laminectomy and fusion in a patient with cervical spine trauma. Above: Dr. Philip Stieg trains the surgical team to remove a skull base tumor.

Help support our ongoing work. Make a donation today at weillcornellbrainandspine.org/tanzania

A Vision of the Future

A new new era in health care is coming to Tanzania

With every trip, we are encouraged by the progress we see in Tanzania. This year we were pleased to visit the new Muhimbili University of Health and Allied Sciences (MUHAS) Medical Center (right), which will open in January 2018 as the largest hospital in East Africa. The hospital, a joint venture of the Tanzanian and Korean governments, has dedicated neurosurgery operating rooms (one of which is equipped with a microscope for microneurosurgery) and a large and well-equipped ICU. The best news of all is that Dr. Japhet Ngerageza, who spent a year with us as a fellow in New York, has been named the head of neurosurgery at MUHAS.

The biggest challenge remains the ongoing training necessary for local health care providers to make use of this new facility and the advanced equipment. We take seriously our role in modernizing care in Tanzania, and by continuing the training we do both in-country and remotely throughout the year, we will continue to produce skilled providers who can maximize the potential of this new hospital.

INSETS: Left, Dr. Härtl with Dr. Japhet Ngerageza, named head of neurosurgery at MUHAS. Center, Dr. Härtl does a walk-through of the new patient wards at MUHAS. Far right, wards in existing facilities are more typically dark and overcrowded, with outdated equipment.

Our Littlest Patients

They can be our most heartbreaking cases, but they hold the potential for tremendous payoff

The patients who can be some of the most difficult for our team on a personal level are the infants, children, and adolescents. Some of them have serious conditions that would be a challenge anywhere in the world, but many of them suffer from disorders or birth defects that are routinely taken care of in the Western world either at birth or shortly thereafter. They become much more complex after being left untreated for months, or sometimes even years.

For example, a baby in the United States who is born with hydrocephalus (a blockage in the flow of cerebrospinal fluid) or who develops it during infancy can be treated with a shunt to drain the excess fluid from the brain and prevent a buildup that causes swelling. Left untreated, the brain swelling from hydrocephalus puts pressure on the soft plates of the infant's head from the inside, pushing it outward into a distorted shape. Sadly, by the time we see many of these patients, the skull is badly misshapen; sometimes there has even been permanent brain damage.

Similarly, a child born with a myelomeningocele (a form of spina bifida, in which the spine, spinal cord, and spinal canal do not form or close normally) can often have the birth defect repaired surgically. In advanced facilities with fetal surgery capability, they may even be repaired before birth. All too often in developing nations, however, children born with this neural tube defect are neither diagnosed during pregnancy nor treated as newborns. As the child grows, the defect can cause problems with bladder or bowel control in addition to difficulty walking.

As heartbreaking as it is to see these children come in to our hospital in Tanzania, it is also extremely gratifying when we can help them. In fact, we have deliberately chosen to focus our efforts in Tanzania on neurotrauma (the leading cause of death among young people there) and hydrocephalus (a leading cause of disability in children) precisely because they affect young people. When we help the youngest patients, we are effecting change over the greatest number of years. We have no higher priority in our mission than saving the lives and improving the health of young people.

The infant at left, suffering from both hydrocephalus and an infected myelomeningocele, was treated by a surgical team led by Global Health Fellow Dr. Andreas Leidinger (center). One of the worst cases of hydrocephalus we saw last year (right) can be seen in a video we made about our mission. See page 4 for more information, and watch the video online at weillcornellbrainandspine.org/tanzania

2017 Mission Update

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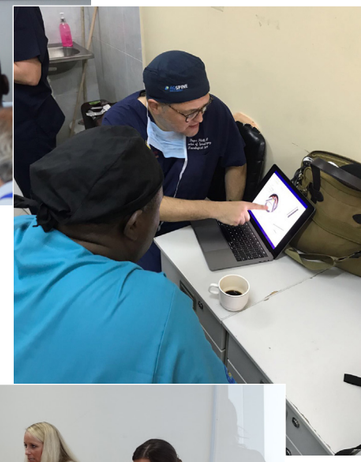
surgical equipment. At the same time, Dr. Stieg instructed the local surgeons how to resect complex skull base tumors safely without a microscope or neuronavigation.

It was especially gratifying to see how local surgeons had improved since the team's last visit. Dr. Japhet Ngerageza, who spent a year at Weill Cornell Medicine as an international fellow, has had the intended multiplier effect by sharing his advanced skill, and is now able to perform complex brain surgeries safely, without advanced microsurgical equipment.

The team oversaw approximately a dozen procedures during this year's trip, with 10 local surgeons getting the critically important hands-on training they so desperately need to improve patient outcomes. The local staff will continue to participate in weekly Skype calls with the international team of trainers, who actively oversee ongoing projects in Tanzania.

As always, the team is grateful to the supporters who continue to make this mission possible.



Above: Dr. Härtl started the week with classroom instruction on neurotrauma. More than 100 health care providers attended the course this year. Right: Prior to going into surgery, Dr. Härtl reviews minimally invasive techniques with local surgeons. The hands-on training the team provides to African surgeons is at the core of the neurosurgical mission in Tanzania.

Above: Quality care requires well-trained providers throughout treatment. One of the highlights from this year's trip was the instruction provided by Weill Cornell Medicine physician assistant Allison Basham (right) and Vanderbilt University nurse practitioner Haley Vance (second from right). In this photo, the two were demonstrating the "log roll" technique for positioning patients with spinal cord injuries. Mishandling a patient with such an injury can cause further damage to the spinal column, so it is imperative that bedside health care providers learn how to perform the procedure correctly.

How can you help:

All gifts are 100% tax deductible. There are two ways to make a monetary contribution:

By check: Make check payable to Weill Cornell Medical College, with Mission in Tanzania in the memo area. Please mail your check to:
Weill Cornell Brain and Spine Center
c/o Christy Haden, Department Administrator
525 East 68th Street, Box 99
New York, NY 10065

By credit card: Make a secure online donation by visiting our website at weillcornellbrainandspine.org/tanzania and clicking on the "Donate Now" button.

Your contribution will be used for:

- Data collection of neurosurgery outcomes at the Muhimbili Orthopedic Institute (MOI). We support a salary for a data collection person and the maintenance of the database.
- Support of fellowships of Tanzanian MDs to Weill Cornell Brain and Spine Center.
- Support of neurosurgery courses at MOI. For example, we may help pay for travel of African MDs to the courses in Tanzania, acquisition of cadavers for practical courses, and costs for meeting venues.
- We DO NOT use your contribution to support travel of any U.S. surgeons to Tanzania.
- We DO NOT use your contribution to purchase any medical supplies or equipment. We may, however, use it to fund a container to ship urgently needed equipment to Tanzania (for example, an operating microscope).

Above: Dr. Stieg, Dr. Japhet Ngerageza (Tanzania), and Dr. Rikin Trivedi (UK) review the MRI scans of a patient with an olfactory groove meningioma—a tumor that develops behind the nose. The patient underwent successful surgery later in the week.