



Forum

## The Second African Federation of Neurological Surgeons Course in the East, Central, and Southern Africa Region Held in Dar es Salaam, Tanzania, January 2011

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The second International African Federation of Neurological Surgeons course was organized on January 24 to 28, 2011, at the Seacliff Hotel and Muhimbili Orthopaedic Institute in Dar es Salaam, Tanzania. President Jakaya Mrisho Kikwete graced the official opening with high ranking government officials in attendance. The targeted participants were young neurosurgeons in the East, Central, and South African region. More than 80 surgeons, residents, and neurosurgical nurses came from Tanzania, Kenya, Uganda, Rwanda, Ethiopia, Zambia, and Zimbabwe. The objectives of the course were to teach and train young local surgeons in the essential—relevant for the region—and current techniques and management principles of brain and spinal diseases, acquire new skills through hands-on practical sessions, and share experiences. The course consisted of didactic sessions, practical aspects on spine internal fixation, cadaver dissections, and live microscopic and endoscopic surgery. Experienced faculty from different states of the United States, Spain, Turkey, India, Egypt, and Ethiopia facilitated the course. The objectives of the course were met with a favorable evaluation report. The collaboration and experience gained will be reinvested in organizing similar courses in the region.

### Introduction

Neurosurgical diseases have a dramatic impact on society and on economic conditions in developing countries, but are neglected by governmental and private health organizations. There is an insufficient amount of health care providers and physicians in Africa. In East Africa, there is currently one neurosurgeon per 9 million people, whereas in the United States the ratio is 1:62,500. Currently there are only three practicing neurosurgeons in Tanzania trying to serve a population of 44 million people (1). Most African neurosurgeons practice in large urban areas, which leave remote regions without any neurosurgical coverage. There are very few training programs in sub-Saharan Africa and those that exist are limited in resources and are poorly communicated with fellow neurosurgical programs within and outside of Africa.

The African Federation of Neurosurgical Societies (AFNS) (**Figure 1**) was launched in 2007 in Nairobi, Kenya, with the goal of representing African neurosurgeons through a dedicated neurosurgical society. The Society currently includes 12 countries with 714 members. The First Congress of AFNS was held in Sharm El Sheikh, Egypt, in March 2009.

The key objective of the AFNS is to enhance knowledge and assist in the teaching of young African neurosurgeons across the African continent. Such courses have been held at the World Federation of Neurosurgical Societies supported center in Rabat, Morocco, at which the fourth course was held in March 2011. AFNS held its first course in East Africa in June 2009 in Nairobi, Kenya. The success of this course led to a decision to hold similar, annual courses in other countries within the East, Central and Southern African (ECSA) region, with the second course in the ECSA region being held in Dar es Salaam, Tanzania. In keeping with this format, the third course will also be held in the ECSA region. Uganda and Ethiopia are both prospective hosts to the next course in 2012.

The course was 1 week. It used various modes of teaching (i.e., lectures, cadaveric studies, workshops, and case presentation) to fulfill the purpose of:

- Teaching African surgeons to better treat and manage diseases of the central and peripheral nervous system relevant to East Africa.
- Training African surgeons to acquire new skills in the practice of neurological surgery through hands-on practical sessions
- Providing an opportunity to share experiences among neurosurgeons

The organizing committee consisted of local and international members. The course directors were Drs. Joseph F. Kahamba, Anthony B. Assey, Roger Härtl, and Mahmood (Moody) Qureshi.

The faculty is comprised of internationally renowned neurosurgeons (**Table 1, Figure 2**). These individuals contributed time and resources to help facilitate this course.

The President of the Republic of Tanzania, His Excellency, Honorable Jakaya Mrisho Kikwete, thanked the facilitators and emphasized the importance of the course. He reiterated his commitment toward assisting the development of neurosurgery in Tanzania and the

establishment of an Institute dedicated to excellence, service, and training in the region (**Figure 3**). The Minister for Health and Social Welfare and other high-ranking officials from the government also attended. The government donated a Zeiss Pantera operating microscope to the Neurosurgery Department of Muhumbili Hospital for use in this course. This special occasion, as well as the course, was covered in several local national newspapers.

During the first 3 days of the course, lectures were given by experienced faculty members from the United States, Spain, Turkey, India, Egypt, Ethiopia, Kenya, and Tanzania. These lectures focused on the management of brain trauma, infection, and spinal trauma.

Dr. Joyce S. Nicholas from Madaktari, Africa, introduced a database that is currently being implemented in several institutions across East Africa to document the neurosurgical activities of local and visiting neurosurgeons. The database facilitates good clinical care and provides a tool for tracking the impact of new training, procedures, and locally developed technologies. Initially set up for neurosurgery, the database is rapidly adding new clinical areas and providing the capacity for one integrated database within and across all specialties.

Karen March, R.N., M.N., C.C.R.N., C.N.R.N., from Seattle, United States, provided valuable training sessions to the nursing staff (**Figure 4**). Several critical care and surgical nurses from the region attended the neurosurgical course along with the neurosurgeons.

The intensive 3-day didactic course was followed by 2 days of laboratory work. The participants had the opportunity to practice the techniques learned during the course. A saw bone spine workstation demonstrated cervical and lumbar instrumentation techniques (**Figure 5**). Dr. Paul Young from St. Louis, United States, instructed the young surgeons in brain anatomy during brain dissection sessions (**Figure 6**). Many of the participating faculty also assisted with cases at the Muhimbili National hospital in Dar es Salaam. A total of 10 cases were performed in three operating rooms during 2 days in close collaboration with African and international neurosurgeons and orthopedic surgeons. These surgeries included brain tumor resections, spinal fusion surgery for trauma and degenerative disorders, and endoscopic ventriculostomies (**Figure 7**). No perioperative complications were encountered.

Dr. Jose Piquer from Valencia, Spain, and Dr. Moody Qureshi from Kenya brought a mobile endoscopy unit, as well as a new innovation, the Vitom telescope. Participant young neurosurgeons had hands-on teaching in endoscopy and telescopic surgical techniques, and performed third ventriculostomies in the laboratory. They also took part in hands-on, live surgery, endoscopic and telescopic, performed on patients in Dar es Salaam by Drs. Piquer and Qureshi. The project also had a satellite Mission team that traveled to Zanzibar to conduct a neurosurgical Mission on that island (2).

The course was financed by various institutions and organizations (**Table 2**). We acknowledge the direct financial support and the sponsorship by the organizations whose contributions and assistance made this unique course possible.

The course was very well attended, having surpassed the projected numbers. At the initial stages, 50 attendees (participants and faculty) were envisaged. However, an average of 80 people attended and facilitated the course. The course was highly recommended and well received by all trainee participants as well as the visiting faculty (**Table 3**). There was a unanimous agreement, by the attendees, for an annual course.

Preparations for next year's courses are currently underway. In March 2011, the AFNS recommended that future courses be held in various countries across the continent. Courses held in Rabat, Morocco, has become an annual course for African neurosurgeons from French-speaking countries. It is now held in English to promote participation from English-speaking countries. The fifth annual course in Rabat, Morocco, will take place in March 2012. The next course is will be held in the ECSA.

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## Section snippets

### Acknowledgment

We thank Dr. Marjan Alimi and Innocent Njoku for their help in preparing the manuscript...

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...Smaller pieces of equipment have been donated over the years. The introduction of new types of equipment was always accompanied by intensive user training through lectures, hands-on workshops, and conjoint operation of the equipment, which is paramount for ensuring its sustainable use.<sup>15</sup> More than US\$200,000 were donated by individual donors and by the Frieda Locher-Hofmann Foundation...

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...In addition, we have been organizing an annual educational course on Brain and Spine Trauma for surgeons, nurses, and emergency physicians for South, East, and Central Africa for several years. This course includes lectures, workstations, and hands-on surgical training.<sup>36</sup> This has been coupled with providing scholarships for surgeon candidates from Tanzania to visit and train at our hospital by observing different surgical techniques and having access to the cadaveric laboratory...

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