Editor’s Choice

Neurosurgical Development in the East, Central and Southern African (ECSA) Region

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The ECSA region has a population of over 350 million, representing over a third of the Continent’s population. Its neurosurgical development has not kept pace with progress seen in countries of North Africa, as seen in Egypt, Morocco, Algeria, Tunisia in particular and the progress seen in South Africa. This may be attributed to several reasons, not least the low income status of the countries in the region. However a key factor has, until recently, been a perception that the region could not afford such tertiary care medical specialties as cardiac and neurological surgery, which were considered fringe specialties, too expensive to be sustained through the public health care systems. Some previous health care administrators went as far as actively discouraging such development, considering it a luxury that the region could ill afford.

Thankfully, a more enlightened administrative leadership in recent years, coupled with a group of dedicated neurosurgical colleagues began to pursue a development agenda. In neurosurgery, conventional ideas of training and development were modified using innovative ways to promote, both neurosurgical training, as well as neurosurgical development, in the region. This has, as this article highlights, led to significant steps in this endeavor.

1. Training in the region
Until around 2006, there were no established programs of formal neurosurgical training within the countries of the ECSA region. Neurosurgeons were being trained outside the region after completing a general surgical training and then going abroad for variable periods of training in those countries. This included periods of one to two years, usually as observers or informal attachments, in England, Australia, India, Germany, Israel and France.

The situation began to improve as several candidates returned following completion of a complete, formal training at centres abroad. Upon their return some, including the author, pursued the task of developing training programs in their home countries. Training is now taking place in several countries, and is being overseen by the local Universities in Zimbabwe, Sudan, Ethiopia, Tanzania and Kenya.

The positive side of this is that candidates are retained in their countries, unlike what happened in the past, and are less likely to be lost to a brain drain. The weakness of these programs presently, is that training is hampered by lack of facilities and well trained teaching faculty.
The number of residents in these programs are:

- Sudan……… Approximately 20 residents training in Khartoum
- Zimbabwe…… Approximately 16 residents in training
- Ethiopia…….. Approx 8 residents
- Tanzania……… Approx 6 residents
- Kenya………… Approx 20 residents

The figure is an approximate as exact numbers vary with some trainees opting out of the training due to the weak nature of the programs. The countries of Rwanda, Zambia, Mozambique, Somalia, Seycelles, at present do not have a local training program.

In order to address the needs of the ECSA region and take into account the fact that training facilities and teaching Faculty is variable and weak in some countries, a regional curriculum was developed in 2005 under the auspices of the Regional COLLEGE OF SURGEONS OF EAST CENTRAL AND SOUTHERN AFRICA (COSECSA). The program was designed to incorporate the strength of each training unit and enhance the residents training through rotation at accredited centres in the region. A key factor was the inclusion of training rotations at centres in the private sector where facilities and standards of teaching and clinical care are generally higher.

This Private-Public partnership has turned out to be a bonus. The higher volumes and mix of cases at public facilities, along with the high quality of facilities, and internationally benchmarked protocols of care in the Private hospitals, provides an excellent mix of training opportunity.

This Consortium of Collaborative Sites of Training in the ECSA region, or C-CNS-ECSAR, as it is known, has been able to train candidates from regional countries, with appropriate rotations at centres within the region as well as abroad. As a major boost to its repute, The C-CNS-ECSAR program was evaluated by the World Federation of Neurosurgical Societies (WFNS) in 2011 and approved as a Reference Centre Site for training of candidates from English speaking countries. It took its inspiration from the First African WFNS Reference Site in Rabat, Morocco, which has helped many to train in neurosurgery (from mainly French and a few also English speaking countries.) In its relatively brief period of existence this Regional C-CNS-ECSAR Reference site (approved by the WFNS) has trained the following holders of the FCS-ECS (Neuro) qualification:

- Dr David Kitya………..Ugandan, now the sole neurosurgeon at Mbarara University in Uganda, serving a region of 5 million people
- Dr John Boore……….. Kenyan working in Nairobi Kenya
- Dr Peter Gichuru Mwangi……… Kenyan
- Dr Peter Kamau Wanyoike……… Kenyan
- Dr Alexander Muhindo………… Ugandan

Further 5 candidates enrolled in the program are:

- Dr Blessing Taremwa (from Uganda) is in the 3rd year of training,
- Dr Benjamin Okanga (Kenya) in the 4th year of training
- Dr Gerald Mayaya (from Tanzania) is in the second year of training
- Dr Daniel Mugendi (Kenyan) is completing his first year of training
- Dr Andrew Nyaoncha (Kenyan) has joined the program and start in 2015

The program can now be considered for candidates from within the region applying through the Africa 100 program

The C-CNS-ECSAR has received support of the WFNS Foundation through scholarship to three of its candidates enrolled in the program. Such recognition has been an important motivator for applicants into the Program. In recognition of the need of the new WFNS Reference Site Program, Prof Basant Misra, WFNS First Vice President, has offered training for a period of 6 months to three candidates enrolled in the program. Similar training opportunity for senior residents have been offered by Prof Eka in Indonesia, Prof Mehmet Zileli in Turkey, Dr Jose Piquer in Valencia, Spain and Prof Paul Young in St Louis. Missouri.

2. Residents from the region enrolled in the AFRICA 100 program

Of 12 residents who have been offered training opportunities, 8 in Morocco and 4 in Algeria, 6 were from the ECSA region.

The Africa 100 is a very noble program that must be given every chance to succeed. The lives of millions of patients depend on its success, not forgetting the unique opportunity that the trainees from Africa are being offered by the Africa 100 program through its Founder, Prof Majid Samii, WFNS Ambassador for Africa.

3. Educational activities in 2014 (courses, workshops, hospital visits, congresses, …etc.).
The ECSA region has been a very active area, receiving the support of several organisations, individuals, foundations.

To name a few:

- Visits by Prof Yoko Kato, the Chair of the WFNS Education Committee who has organized a very successful WFNS Course in Dar-es-salaam in June 2013, where for the first time Live surgery was carried out. This included the first microsurgical clipping of an aneurysm in Tanzania.

- The Foundation for International Education for Neurosurgery (FIENS) through its past Chairman Dr Merwyn Bagan and current chairman, Prof Robert Dempsey have been very active. Over 60 neurosurgeons have visited the region as volunteers, through the efforts of others and especially the FIENS program Volunteer Coordinator, Dr Gail Russeau. In this she is assisted by the local FIENS Board Member, Dr Mahmood Qureshi, in the selection and placement of Volunteers in the region.

- The Neurosurgical Education Foundation (NED), based in Valencia Spain, through the efforts of its founder and President, Dr Jose Piquer has been assisting in the development of neuroendoscopy. This program, with efforts of the local team led by Dr Mahmood Qureshi has developed a Training and Volunteer clinical service model of Mobile outreach neuroendoscopy for Hydrocephalus in the ECSA region. Over 480 children in 24 hospitals in 7 ECSA countries have received ETV. Over 70 doctors and 140 nurses have been trained during these unique Mobile neuroendoscopy training and clinical Missions.

- Dr Roger Hartl, a neurosurgeon from New York has developed regular teaching courses in Bugando, Tanzania, and has regularly put together a team of teaching faculty (neurosurgeons and nurses) to hold courses in the region. In collaboration with AFNS, and local neurosurgeons from the region including Dr Joseph Kahamba and Dr Mahmood Qureshi, Dr Roger organized the AFNS Neurosurgical training course in 2012. Support from AO Spine, FIENS and local Societies has been put together to hold a Neurotrauma course in March 2014, at which several eminent Faculty have been invited.

- Dr Paul Young, a volunteer neurosurgeon and dedicated teacher of neuroanatomy has been serving the region since 1999. Several Brain dissection courses have been held with him and he has been instrumental in sourcing funds for the NED Foundation Institute now under construction in Zanzibar. His efforts in working with FIENS alongside Dr Mahmood Qureshi and the local team led to the development of the training curriculum which was adopted by the Regional College and is now the curriculum for the C-CNS-ECSAR Reference training Site of the WFNS.

- In December 2014, a highly successful Teaching neuro-endoscopy course under the auspices of the IFNE and WFNS was held in Nairobi, Kenya. Leading Faculty from Europe, South America, Egypt, South Africa, Pakistan and Kenya lectured at the Course.

**Prospects for harmonized neurosurgical training in Africa.**

A sound foundation has been laid by the Pioneers of neurosurgery on the African Continent. Young programs that are developing across Africa should now come together in collaborating with established programs in North and South Africa, to share training modules, training methodologies, exchange continental Faculty, organize on-line
courses, and harmonize training standards. A Congress specifically to discuss academic and research issues related to African neurosurgery would be very valuable in charting the way forward. This should be under the auspices of the newly formed African neurosurgical organization CAANS. We should endeavor to develop a harmonized curriculum, modified along local needs, leading to a common Certification of an AFRICAN BOARD OF NEURSURGERY (AfBNS). This would truly bring together African Neurosurgery on to a platform that would match the very best in the world.