

Twinning Programs – Metrics of Success

Partners and Progress in Neurosurgical Education

Achieving sustainable neurosurgical expertise and independence in the developing world is the major goal of FIENS. Success is often hard to measure in such efforts and does not come easily. However, we are certainly making progress. Herein we highlight three amazing programs that are helping advance neurosurgical healthcare around the world. We believe such “Twinning Programs” are a sustainable model for international collaboration and education in neurosurgery.

Duke University and New Melago Hospital, Uganda: 7 Years of Progress 2007-2014

by Michael Haglund, MD

Over the last seven years, the Duke University Neurosurgery Program led by Michael Haglund, Distinguished Professor of Neurosurgery, Neurobiology, and Global Health and the Program Training Director for Duke Neurosurgery has led teams of 20-55 medical professionals once or twice per year to Mulago Hospital to perform neurosurgery and build capacity at the national referral hospital for the country of Uganda.

Michael Haglund, MD (center)
and doctors at New Melago
Hospital, Uganda



“This group of trainees will double the number of neurosurgeons in Uganda”

– Michael Haglund, MD

Duke has donated over 42 tons of medical equipment worth over \$6,000,000 to Mulago Hospital through the Duke Global Health PLUS (Placement of Life-giving Useable Surplus). The number of operations done before the collaboration was approximately 65 neurosurgery cases per year, which had increased to around 250 cases per year in 2012. Dr. Haglund then helped build a new neurosurgery operating theater that allowed the Ugandan Neurosurgery Faculty to do over 500 cases last year. Dr. Michael Muhumuza and Dr. Haglund serve as the Co-Directors of the Uganda Neurosurgery Training Program which now has five neurosurgery residents in the pipeline. This group of trainees will double the number of neurosurgeons in Uganda, as there are only five currently.

Learn more: www.ugandateamhaglund.com/history.html

Neurosurgery, Education and Development Foundation (NED): A Joint Spanish & American Effort in Eastern & Central Africa

by Jose Piquer, MD and Paul Young, MD

The aim of the NED Foundation is to promote scientific, technical, cultural and training activities of the medical personnel in Eastern and Central Africa to help improve the delivery of neuroscience-related Healthcare. The Foundation allows volunteers to help develop and stimulate local practitioners in learning the latest neurosurgical techniques and concepts. A summary of recent NED activity is provided below.

A total of 376 infants with hydrocephalus received surgery by Mobile Neuroendoscopic NED Program. The initial hydrocephalus project spawned an additional and highly innovative program to develop neurosurgery as a specialty in Kenya and Zanzibar. This project involved 49 volunteer neurosurgeons and lasted from 2009 to 2013. As a result, 60 medical expeditions were dispatched to the Coast General Hospital in Mombasa (Kenya) and to the Mnazi Moja Hospital in Zanzibar, and hundreds of neurosurgical operations were performed. In addition, an agreement was signed to create the Mnazi Mmoja Neuro NED Institute, partially financed by NED.



Conclusion: Mobile endoscopic treatment of hydrocephalus in East Africa is a very promising technique that is affordable and well suited to this impoverished context, and gives reasonable success rates. It has also led to major developments in medicine, particularly in neurosurgery.

Learn more about NED: www.nedfoundation.wordpress.com

Barrow Neurological Institute and Lenin Fonseca Hospital, Nicaragua: Toward Self-sustaining Neurosurgical Independence

by Peter Nakaji, MD

The current FIENS effort in Managua, Nicaragua, is at the Lenin Fonseca Hospital, home to the country's only neurosurgical training program. The initiative seeks to provide neurosurgical education and materials in this low-resource medical environment in partnership with the local neurosurgeons and trainees with the goal of sustainable improvement in neurosurgical care in the host program. Lenin Fonseca Hospital is an active site supporting a busy neurosurgery teaching program with 21 residents. The members of the department and the residents are enthusiastic about learning and engaging volunteers. The site is capable of supporting most basic and some advanced neurosurgery.



Our aim is to improve Nicaraguans' health by creating self-sustaining neurosurgical independence among Nicaraguan neurosurgeons. Though Nicaragua is the poorest country in Central America, the training program is young and vibrant and already delivers a substantial amount of neurosurgery care yet offers a lot of opportunities for program development.

The program is a functioning neurosurgery department with an impressive clinical load.

Particular areas include:

1. Head injury including a substantial amount of operative trauma (SDH, EDH, contusions, open and closed depressed skull fracture, penetrating machete injuries to the head and spine)
2. Brain tumors of all types
3. Sellar and parasellar tumors (est. 75 per year)
4. Aneurysms (est. 75 per year)
5. Hydrocephalus
6. Infection

Learn more: <http://barrowbeyondborders.weebly.com>

