



**Neurosurgery  
Neuro-Oncology  
Critical Care in**

**EAST AFRICA**



# **Global Health Collaboration in East Africa:**

**CU Neurosurgery with MOI, Tanzania and  
Mbarara Hospital, Uganda**

*Muhimbili Orthopedic Institute (MOI), Tanzania  
4th Annual Symposium*

*February 17-21, 2025*

*Mbarara Hospital, Uganda*

*February 26-27, 2025*

Special recognition: Drs. Lillehei, Ormond, and Cava (CU Neurosurgery). Drs. Lemeru and Rutabasibwa (MOI). Dr. Blessing (Mbarara) for making this possible.



# Empowering Neuro-Oncology Care in East Africa

## Enhancing Neurosurgical and Critical Care education

General topics included: Meningioma, Lymphoma, Glioma, Sellar Tumors, Early brain and spinal tumor detection, Pediatric neuro-oncology

Fundraising: 11 pediatric shunts were donated by the CU team to MOI hydrocephalus patient ward.

Donations by: University of Colorado Department of Neurosurgery

Attendance: ~ 100 participants attended MOI conference  
~ 50 participants attended Mbarara conference



Above: Dr. Rutabasibwa, Dr. Lillehei, Dr. Ormond, Dr. Lemer, and Tanzania Ministry of Health receiving donations by the CU Department of Neurosurgery



Above: Chief resident, Dr. Freeman, Neurovascular Fellow, Dr. Hoffman, and Spine Fellow, Dr. Wittenberg

Left: Dr. Cava gifting Mbarara Hospital donations by the CU Department of Neurosurgery



# Innovative Techniques & Practical Experiences

- Minimally invasive approach to IPH
- Stereotactic biopsy
- Ultrasound in neurosurgery

Surgical Cases at MOI: endoscopic endonasal transsphenoidal, stereotactic biopsy, ETV, aneurysm coiling

Surgical Cases at Mbarara: endoscopic endonasal transsphenoidal, ultrasound guided glioma resection



*Above: Endoscopic endonasal transsphenoidal surgery with Dr. Blessing and Dr. Lillehei.*



*Top right: Stereotactic frame placement for biopsy*



*Bottom right: Angio suite, stent coiling of aneurysm, featuring CU Neurovascular Fellow, Dr. Hoffman*

# Role of Neurocritical Care in East Africa

Topics included: Traumatic Brain and Spinal Injuries, Hemorrhagic and Ischemic stroke, EVD care and management, Pupillometry

Advanced monitoring and treatment strategies

Enhancing ICU protocols for neurosurgical patients

Training and capacity-building for critical care teams



Above: Neuro ICU team from Colorado: Atsu Saisho, PA-C, Marisa Marsolek, PA-C, and Dr. Cava



Above: Neurointensivists Dr. Cava, Dr. Neumann (phone), and Dr. Shafii discussing pupillometry



Right: Marisa Marsolek, PA-C teaching Mbarara residents and nurses pupillometry



# Rehabilitation & Nursing Focus

## Care beyond surgery



- Physical Medicine/Rehabilitation timing and strategies in ICU/HDU
  - Speech therapy
  - Respiratory therapy



Nursing parallel lectures with bedside teaching.


Topics included: Management of TBI/cerebral edema/increased intracranial pressure, post-op care, seizures, recognizing DI, SIADH, and AI, neurological exam, pressure ulcers



# Building a Sustainable Future in Neurosurgical Care

- Knowledge exchange
  - Weekly zoom lectures with MOI critical care team including quarterly rehab/respiratory/speech focused presentation
  - Monthly journal club with MOI Neurosurgery and residents
  - Bimonthly zoom lectures with Mbarara Neurosurgery and nursing team
- Improved patient outcomes
  - Decreased mortality
  - Improved infection rates
- Continuing collaboration between CU and MOI and Mbarara
  - Opportunities for research, training, and patient care improvement





Have questions or interested in  
contributing? Join us in making a  
difference!

Contact: [Marisa.Marsolek@cuanschutz.edu](mailto:Marisa.Marsolek@cuanschutz.edu) for further details and  
opportunities to get involved.