



Background and Significance

- Trauma is a serious global health problem, accounting for more deaths than HIV, tuberculosis, and malaria combined.
- In developed countries, prompt intervention has been shown to improve outcomes in head trauma. However, due to unsafe roads, lack of emergency transport, and lack of surgical and critical care services, developing countries account for more than 90% of trauma-related deaths worldwide.
- We are working to expand head trauma capacity at Mbarara Regional Referral Hospital in Uganda.

Goals

- 1) To provide technical expertise in basic trauma neurosurgery.
- 2) To establish a baseline of needs and outcomes.
- 3) To foster ongoing academic collaboration, infrastructure, and research skills, providing the foundation for further studies to improve trauma care on a larger scale.

Methods

- 1) Supplied a cranial drill to Mbarara Hospital and trained general surgeons and residents in its use and maintenance.
- 2) Reviewed basic techniques such as exploratory burrholes and frontotemporal craniotomy.
- 3) Reviewed local needs and adapted published guidelines for management of acute head trauma.
- 4) Established a plan for academic collaboration, beginning with an electronic data collection system that will allow tracking of outcomes.

Mbarara Hospital grounds



Results

- Despite limited resources, Mbarara Hospital cares for over 2,000 surgical admissions per year.
- Head trauma is the primary cause of mortality among surgical patients, causing 35% of deaths.
- We are working with the hospital to overcome barriers to providing effective trauma care, including:
 - 1) Electronic data collection
 - 2) Database creation and maintenance
 - 3) Research methodology and statistical analysis

Conclusions

Neurosurgeons can help scale up head trauma care in low-resource countries by identifying specific needs, providing technical assistance, establishing sustainable data collection methods, and fostering academic infrastructure and collaboration with local surgeons.

Ongoing Challenges

- Lack of basic resources and infrastructure: supplies, drugs, electricity
- Difficulty addressing shortages with hospital administrators and government officials
- Lack of ancillary and related services: radiology, pathology, physical/occupational therapy
- Lack of ICU care

Opportunities for Improvement

- More aggressive observation and monitoring on ward
- Imaging, equipment, technical expertise
- Scaling up ICU care
- Improving data collection so outcomes can be tracked over time

OR case log

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Mbarara Hospital OR



Learning Objectives

- 1) To show that neurosurgeons can make an important contribution to global health by identifying and addressing local needs.
- 2) To demonstrate the importance of data collection to quantify the burden of head trauma in developing countries, and gauge the success of interventions.

References

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