



## Articles

# Abstracts of the College of Surgeons of East, Central and Southern Africa (COSECSA) 24th Annual Scientific Conference: 4th to 6th December 2024: Harare, Zimbabwe

The College of Surgeons of East, Central and Southern Africa (COSECSA)

Keywords: Annual Scientific Conference, COSECSA, Harare, Zimbabwe, COSECSA at 25

East and Central African Journal of Surgery

Vol. 29, Issue 4, 2024

## GENERAL SURGERY

### Perceptions of Gender Discrimination Among Surgical Trainees: A Cross-Sectional Survey

Mitei Mercy Chebet

Tenwek Hospital

**Correspondence:** [miteimchebet@gmail.com](mailto:miteimchebet@gmail.com)

**Abstract ID:** 185

**Background:** Gender discrimination during surgical training remains a global concern, with varying degrees of recognition and response across regions. This study aims to explore perceptions and experiences of gender discrimination among surgical residents enrolled in the Pan-African Academy of Christian Surgeons (PAACS) programs.

**Methods:** A cross-sectional survey, developed by the PAACS Women in Surgery Workgroup, was conducted to assess demographic characteristics, personal experiences of gender discrimination, and opinions on gender equity. The survey included both closed- and open-ended questions and was distributed electronically to ensure respondent anonymity. The primary outcomes measured were the prevalence and nature of gender discrimination, focusing on treatment by coworkers, patients, and incidents involving unwanted remarks or sexual harassment.

**Results:** Out of 148 invited surgical residents, 90 responded with 32 female and 58 male participants. A significant proportion of female residents (91%) had experienced being treated negatively by patients due to their gender, compared to 24% of male residents. Only 24% of female residents reported feeling treated differently by PAACS physicians, which was notably lower than their experiences with other physicians (40%,  $p=0.02$ ) and nurses (43%,  $p=0.007$ ). Female residents also reported higher in-

stances of unwanted remarks and sexual harassment compared to their male colleagues.

**Conclusion:** This study highlights substantial gender disparities experienced by surgical trainees, with female residents experiencing higher levels of gender discrimination, especially from patients and non-PAACS healthcare staff. These findings indicate the need for continued efforts to improve gender equity within the training environment.

**Keywords:** gender, surgery

### Assessment Of Emergency Laparotomy Outcomes Among Patients in Lusaka, Zambia: A Prospective, Observational Study (ELOP Study)

Poster Mutambo<sup>1</sup>, Joshua Gazzetta<sup>2</sup>, Emmanuel Makasa<sup>1</sup>

1. Center for Surgical Healthcare Research (CSHR), The University Teaching Hospitals-Adult Hospital
2. Center for Surgical Healthcare Research (CSHR), UMJT LAUNCH Fogarty International Fellowship

**Correspondence:** [postermutambo@gmail.com](mailto:postermutambo@gmail.com)

**Abstract ID:** 174

**Background:** There is a paucity of data describing the epidemiology and perioperative mortality after emergency laparotomies in Zambia and other LMICs. This study aims to help fill this knowledge gap and identify strategies for quality improvement to mitigate poor surgical outcomes.

**Methods:** A prospective observational study is ongoing at the University Teaching Hospitals (UTH)-Adult Hospital. Patients were consecutively recruited on postoperative day 1 and followed for 30 days. Chi-squared tests and logistic regression were used to assess the epidemiology and outcomes of patients undergoing emergency laparotomy.

**Results:** Over 5 months, 131 patients underwent emergency laparotomy at UTH. The 30-day mortality rate was 14% and the relaparotomy rate was 10%. The highest mor-



tality and relaparotomy rates were seen in males. Higher mortality rates were seen in self-employed patients, patients with a monthly income of less than K1000, and those operated on by first-year registrars. Ninety-four percent of mortalities and 100% of relaparotomies were seen in patients who were referred to UTH from lower-level hospitals. The median time from symptom onset to surgery was 67 hours and the median length of stay was 8 days. The most common complications were surgical site infections (15%), deep organ space infections (10%), and fascial dehiscence (10%).

**Conclusion:** This study informs the epidemiology and outcomes of patients undergoing emergency laparotomy at the largest tertiary hospital in Zambia.

**Keywords:** Mortality, re-laparotomy, emergency laparotomy, University Teaching Hospital (UTH)

### Barriers to Emergency Laparotomy at a Tertiary Hospital in Lusaka, Zambia: A Prospective Observational Study

Poster Mutambo<sup>1</sup>, Joshua Gazzetta<sup>2</sup>, Emmanuel Makasa<sup>1</sup>

1. Center for Surgical Healthcare Research (CSHR), The University Teaching Hospitals-Adult Hospital
2. Center for Surgical Healthcare Research (CSHR), UMJT LAUNCH Fogarty International Fellowship

**Correspondence:** [postermutambo@gmail.com](mailto:postermutambo@gmail.com)

**Abstract ID:** 172

**Background:** The barriers to accessing emergency surgical care have not been well-studied in low to middle-income countries (LMICs). This study aimed to evaluate the barriers to care for patients undergoing emergency laparotomy at the University Teaching Hospital (UTH) in Lusaka, Zambia.

**Methods:** A prospective approach was used to collect data on 131 consecutive patients who underwent an emergency laparotomy at UTH over 5 months. Data was collected on demographics, prehospital care (including inter-facility transfers), and in-hospital care. Time intervals were evaluated between steps in the care cascade utilizing a modified Three-Delays Framework of seeking care, reaching care, and receiving care. Chi-squared tests and logistic regression were used to assess variables associated with delay for each step in the care cascade. P values <0.5 identified significance.

**Results:** There was a mean of 103 hours between symptom onset and surgery for patients undergoing emergency laparotomy. The longest delay was seen in the seeking care phase with a mean of 71 hours from symptom onset to presentation. Factors associated with delayed care were older age (p=0.006), seeking a religious leader's advice before presentation (p=0.003), patient concerns about transportation (p=0.007), residing outside of Lusaka (p=0.011), and having no medical insurance (p=0.047).

**Conclusions:** In this study, important factors for surgical delay were identified for patients undergoing emergency laparotomies at a tertiary teaching hospital and will be assessed for quality improvement projects to decrease the time to emergency surgery.

**Keywords:** Barriers, Delays, emergency laparotomy, University Teaching Hospital (UTH)

### Familial Adenopolyposis: Case Series Study at A Tertiary Level Institution in Kenya.

Onle, Muhammadnoor Yussuf, Alma Akute, Daniel Gathenge

Kenyatta University Teaching, Research and Referral Hospital (KUTRRH)

**Correspondence:** [myonle10@gmail.com](mailto:myonle10@gmail.com)

**Abstract ID:** 156

**Background:** Familial Adenomatous polyposis (FAP) is an autosomal dominant syndrome caused by mutation in APC gene. FAP has a penetrance of 100% for colorectal cancer. The birth incidence of FAP is about 1 in 8300, manifesting equally in both sexes. It is estimated that about 70% of patients with FAP have known family history. Local information about FAP is unavailable since Sub-Saharan Africa lacks data on presentation, management and screening for these patients and their families due to limited resources.

**Case Presentation:** We, therefore, present a three-case series of familial adenomatous polyposis, consisting of two siblings; a brother and his sister and a gentleman with no associated family history. The two siblings presented with hematochezia, abdominal pain and weight loss aged 35 and 42 years respectively. They have several paternal family members who died of colorectal cancer in their 3<sup>rd</sup> decade of life. Colonoscopy showed polyposis and they underwent proctocolectomy; the brother's histology showing multifocal malignant adenocarcinoma. The second case is 33 years male who presented with an enlarging perianal mass and a colonoscopy showed polyposis in the entire large bowel. He had no family history of colon cancer. The patient underwent proctocolectomy and histology results pending.

**Conclusion:** FAP presents with diffuse polyposis and usually managed with total colectomy to avert malignant transformation. For holistic care, national governments need to adopt robust screening efforts especially to patients presenting with strong family history of first order relatives at a younger age.

**Keywords:** colorectal, familial, Sub-Saharan Africa, screening

### Clinical Profile and Treatment Outcome of Patients with Ileosigmoid Knotting, an Experience From Ethiopian Setting: A Six Years Review.

Megbar Dessalegn, Manedante Bogale, Dawit Alemayehu  
Debre Markos University

**Correspondence:** [megbardessalegn@yahoo.com](mailto:megbardessalegn@yahoo.com)

**Abstract ID:** 151

**Background:** Ileosigmoid knotting is a rare cause of intestinal obstruction from the wrapping of the ileum around the sigmoid colon or vice-versa. This study aimed to elucidate the clinical profile, and outcomes of patients with ileo-sigmoid knotting in a tertiary Hospital setting from Ethiopia.

**Methods:** This was cross sectional study conducted at Debre Markos Comprehensive Specialized Hospital in Ethiopia. Medical records of all 42 patients who were operated on for Ileosigmoid knotting from March 31, 2018, and April 01, 2024, were included. The data were extracted, cleaned, and entered into Epi-Data 3.1 before being exported to STATA 14.1 for analysis. Statistical significance was determined using Fisher's exact test at p-value  $\leq 0.05$ .

**Results:** Thirty-eight (38, 90.5%) had complete medical records. The mean age was 39.2 (SD  $\pm$  10.2) years, with a male predominance (M: F= 4.3:1). The average hospital stay was 8.2 (IQR:6 -37) days. Preoperative diagnosis was accurately made in only 5.3% of the cases.

Surgical site infections (15.8%), and anastomotic leaks (15.8%) were prevalent with overall mortality of 7.9%. The presence of anastomotic leaks and re-laparotomy were significantly associated with postoperative mortality.\*\*

**Conclusion:\*\*** The accuracy of preoperative diagnosis of ileosigmoid knotting in this study is lower. However, Ileosigmoid knotting had high postoperative morbidity and mortality. This study highlights the need for heightened awareness for preoperative diagnosis and prompt surgical treatment. Prospective multicenter study is recommended for a tailored decision for primary resection and anastomosis among patients with ileosigmoid knotting.

**Keywords:** Ileosigmoid knotting, intestinal obstruction, surgical outcomes

## Post Thyroidectomy Complication Pattern and Rate in Hawassa University Comprehensive Specialized Hospital

Biruk Woisha, Tigabu, Kristin, Sewhareg

Hawassa University

**Correspondence:** [burawoisha@gmail.com](mailto:burawoisha@gmail.com)

**Abstract ID:** 148

**Background:** Thyroid surgeries may be deadly if they get complicated with increased morbidity and mortality. The exact prevalence of the problem, causes and outcomes of post thyroidectomy complications is not studied in our hospital, so the aim of this study is to assess the incidence of complications of thyroid surgeries done in HUCSH

**Methods:** A hospital based retrospective study was conducted on 120 patients for whom thyroidectomy was done from September 2020 to September 2024. Data was collected by Kobo Tool, analyzed using SPSS.

**Results:** A total of 195 patients were included, post thyroidectomy complication pattern was successfully col-

lected from 61.5% of patients, 85% were female. Anterior neck swelling was found on almost all patients and pressure symptoms were found on 44.17% patients followed by toxic symptoms (35.83%), change in voice (11.67%). Simple MNG (36%) was the commonest indication for surgery, followed by CTMNG and malignancy. STT done for 44.17%, followed by TT (23.33%), NTT (20%), and MRLND (6.67%). There was complication in 10.9% patients intraoperatively, from which major vascular injury and parathyroid gland injury was found on 5% of patients each, followed by tracheal, esophageal and RLN injury found on 2.5% of patients each. The amount of complication on early and late post op course was 14% and transient and permanent hypoparathyroidism was the commonest one.

**Conclusion:** The type of surgery and the indication for surgery affected the outcome of thyroidectomy. This study identifies the incidence, outcome and factors associated with post thyroidectomy complication in HUCSH and it will help as a reference for other LMIC hospital-based studies

**Keywords:** Post Thyroidectomy, Complication

## Perioperative Mortality Rate and Its Predictors After Emergency Laparotomy at Debre Markos Comprehensive Specialized Hospital, Northwest Ethiopia: 2023: A Retrospective Follow-Up Study

Megbar Dessalegn, Ayenew Negesse, Tilahun Deresse, Molla Yigzaw Birhanu, Gedefaw Diress, Eskeziyaw Agidew

Debre Markos University

**Correspondence:** [megbardessalegn@yahoo.com](mailto:megbardessalegn@yahoo.com)

**Abstract ID:** 134

**Background:** Emergency laparotomy is associated with a high rate of mortality. However, disease related or time specific studies on its rates and predictors of postoperative mortality are limited. This study aimed to estimate the perioperative mortality rate and its predictors after emergency laparotomy.

**Methods:** This was a hospital-based retrospective follow-up study conducted in Ethiopia among 418 patients selected with simple random sampling who had undergone emergency laparotomy from January 1, 2019, to December 31, 2022. The data were extracted using a data extraction tool, cleaned, and entered into Epi-Data 3.1 before being exported to STATA 14.1 for analysis. Predictor variables with P-value  $< 0.05$  in multivariable Cox regression were reported.

**Results:** Data of 386 participants (92.3% completeness) were analyzed. The median survival time was 18 [IQR: (14, 29)] days. The overall perioperative mortality rate during the 2978 person-days of observations was 25.5 per 1000 person-days. Preoperative need for vasopressor [AHR: 1.8 (95% CI: (1.11, 2.98))], admission to intensive care unit [AHR: 2.0 (95% CI: (1.23, 3.49))], longer symptoms ( $\geq 3$

days) [AHR: 2.2(95% CI:(1.15, 4.02))] and preoperative sepsis [AHR:1.8(95% CI: (1.05, 3.17))] were statistically significant predictors of perioperative mortality.

**Conclusion:** The perioperative mortality rate was high. Preoperative need for vasopressors, admission to intensive care unit, longer ( $\geq 3$  days) duration of symptoms and preoperative sepsis predicted increased perioperative mortality emphasizing a need for preoperative optimization.

**Keywords:** Emergency laparotomy, mortality, post-operative outcome, survival

### Prevalence and Associated Factors of Unplanned Re-Laparotomy After Non-Trauma Emergency Laparotomy in Resource-Limited Settings, 2023: A Retrospective Chart Review

Megbar Dessalegn, Tilahun Deresse, George Eskandar, Molla Yigzaw

Debre Berhan University

**Correspondence:** [megbardessalegn@yahoo.com](mailto:megbardessalegn@yahoo.com)

**Abstract ID:** 133

**Background:** Emergency laparotomy may need subsequent re-laparotomy which has a high rate of mortality. However, reports on rates and associated factors of unplanned re-laparotomy are few. This study aimed to determine the prevalence and associated factors of re-laparotomy after non-trauma emergency laparotomy at Debre Markos Comprehensive Specialized Hospital, Northwest Ethiopia, 2023.

**Methods:** This was a retrospective chart review conducted at Debre Markos Comprehensive Specialized Hospital in Ethiopia among patients who had undergone emergency laparotomy between January 1, 2019, and December 31, 2022. A sample of 384 individuals were selected using simple random sampling techniques. Data was extracted from March 01, 2023, to May 1, 2023, cleaned, entered into Epi-Data version 3.1, and analyzed with STATA version 14.1. Predictor variables with P value  $< 0.05$  in multivariable logistic regression were reported.

**Results:** Data from 384 subjects were analyzed. All re-laparotomies were unplanned and done during the primary Hospital admission period. Patients who were hypotensive preoperatively [AOR: 3.3 (95% CI: (1.88, 9.40))] and with longer operation time (greater than 1 hour) [AOR: 4.5 (95% CI: (1.88, 10.64))] had increased risk for unplanned re-laparotomy.

**Conclusions:** The re-laparotomy rate in this study was significant with increased risk from preoperative hypotension and longer procedure time. The findings emphasize a need for advocacy on preoperative patient resuscitation and monitoring.

**Keywords:** Un-planned surgery, Re-laparotomy, emergency surgery, postoperative complications

### Epidemiology and Risk Factors of Pyogenic Liver Abscess at a Teaching Hospital in Namibia: A Retrospective Study

Pueya Nashidengo<sup>1</sup>, Francis William Quayson<sup>1</sup>, John Tabiri Abebrese<sup>1</sup>, Michael van der Colf<sup>1</sup>, Lavinia Ndaimehafo Halweendo<sup>1</sup>, Kenneth Ndaoya<sup>1</sup>, Onesai Chihaka<sup>2</sup>

1. Windhoek Central Hospital, Namibia

2. Parirenyatwa Teaching Hospital, Zimbabwe

**Correspondence:** [ndeimohalweendo@gmail.com](mailto:ndeimohalweendo@gmail.com)

**Abstract ID:** 128

**Background:** Pyogenic liver abscess (PLA) is a potentially life-threatening condition characterized by a localized collection of pus within the liver, typically resulting from bacterial infection. While relatively rare, the incidence of PLA has been increasing globally, with significant morbidity and mortality. This retrospective study is the first to provide epidemiological data and assess the risk factors associated with pyogenic liver abscesses in Namibia.

**Methods:** A retrospective analysis of patients diagnosed with pyogenic liver abscesses at two academic hospitals in Windhoek, namely Windhoek Central Hospital and Intermediate Hospital Katutura was conducted. The study period was from January 2021 to December 2022. Data was collected on patient demographics, clinical presentations, laboratory and radiological investigations, treatment modalities and clinical outcomes.

**Results:** A total of 101 patients were diagnosed with pyogenic liver abscess (PLA) during the study period from 2021 to 2022. The mean age of patients was 41 years (range: 23 to 87 years), with 84.2% being male and 15.8% being female. The most common presenting symptoms were right upper quadrant pain (100%), fever (80%), and nausea/vomiting (37.1%). The average duration of symptoms prior to diagnosis was 7 days. 86% resided in informal settlements, while 14% were from urban areas. Other risk factors identified were alcohol use (67%), Human immunodeficiency virus (43%), and diabetes mellitus in 16% of patients. In terms of etiology, 95.7% of cases were cryptogenic, while the remaining 4.3% had identifiable causes, including biliary disease (2.9%), and abdominal infections (1.4%).

**Conclusion:** This study shows a high incidence of PLA.

**Keywords:** Pyogenic Liver Abscess, Epidemiology

### The Prevalence of Helicobacter Pylori and Histological Lesions Found in A Subset of Symptomatic Patients Who Underwent Upper Endoscopy in Namibia

Lahja Negumbo

Namibia

**Correspondence:** [lahjanegumbo10@yahoo.com](mailto:lahjanegumbo10@yahoo.com)

**Abstract ID:** 127

**Background:** The majority of Helicobacter pylori cases occur in developing countries, accounting for 70% of the

total. Persistent *H. pylori* infection has been shown to increase the risk of gastric cancer. Diagnosis and eradication of *H. pylori* are key to mitigating the consequences. We aimed to determine the prevalence of *H. pylori* infection and to describe the histopathological findings with emphasis on pre-cancerous transformation.

**Methods:** A retrospective review of the histological specimens obtained from a subset of patients that underwent upper endoscopy between 2016 to 2024 in five regions of Namibia was carried out.

**Results:** The overall *H. pylori* infection prevalence was 1141/1352 (84.3%). The common histological finding was mild chronic gastritis in 700/1352 (51.7%).

**Conclusion:** The study demonstrates a high prevalence of *H. Pylori* infection in this population. The presence of intestinal metaplasia in 12.4% warrant intense surveillance and appropriate management to prevent progression to gastric malignancy.

**Keywords:** *H pylori*. Prevalence Namibia Symptomatic

### Exploring The Sources of Health Information Guiding Surgical Decision Making for Patients with Hernia in Kenya

Jesse Kiprono Too<sup>1</sup>, Helen W. Li<sup>2</sup>, Sarah Nyanchama Nyariki<sup>3</sup>, Teddy Aurah Ashibende<sup>4</sup>, Jeffrey Blatnik<sup>1</sup>, Joanna Hunter-Squires<sup>1</sup>, Ivan Seno Saruni<sup>2</sup>

1. Moi University School of Medicine Eldoret, Kenya
2. Dept. of Surgery, Washington University in St Louis St Louis, MO USA
3. Fogarty LAUNCH Fellowship NIH
4. Indiana University School of Medicine, Indiana University, Indianapolis, IN USA

**Correspondence:** [jesskiprotoo@gmail.com](mailto:jesskiprotoo@gmail.com)

**Abstract ID:** 126

**Background:** Patients must navigate the complex surgical decision making (SDM) process when facing the need for surgery. The health information to guide SDM is crucial but may be highly variable and biased by a patient's setting, cultural beliefs and community influences. This study explores how hernia patients utilize various sources of health information to navigate SDM.

**Methods:** This was a multiple-methods, longitudinal study conducted at a tertiary hospital in Kenya, utilizing quantitative surveys and qualitative patient interviews. Quantitative data was analyzed by descriptive statistics and qualitative data by thematic analyses.

**Results:** 34 patients were enrolled. 56% were male and average age was 49 years (SD 17). 34% first went to a level 1-2 center, while 35% went to a level 6 referral hospital directly. 68% did not have a provider referral. Emerging themes exploring the sources of information patients utilize to guide care showed that providers were viewed as expert information sources but lacked adequate time to provide in-

formation. Less formal sources were more accessible but could vary in reliability and relevance.

**Conclusion:** Patients appreciated accessible, reliable and individualized health information. While providers are essential in ensuring evidence-based information, time constraints limit their accessibility to patients. To fill these gaps, patients turned to less reliable sources which may delay surgical care or promote misinformation. Surgeons must fill these gaps to ensure timely, quality patient care. Adjuncts such as visual aids, pamphlets with recommended websites may be explored to maximize limited time.

**Keywords:** surgical decision making, health information sources, hernia surgical care, health information adjuncts

### Comparing Laparoscopic and Open Appendectomy: Reducing Hospital Stay, Infections, and Costs

Violet Kemunto Otoki, Robert Parker

Tenwek Hospital

**Correspondence:** [violetotoki@gmail.com](mailto:violetotoki@gmail.com)

**Abstract ID:** 120

**Background:** Acute appendicitis is a common surgical emergency in Kenya. While open appendectomy remains widely practiced, laparoscopic techniques offer potential benefits. Concerns regarding cost and resource limitations hinder its broader adoption. This study evaluates the clinical outcomes and cost implications of laparoscopic versus open appendectomy in a rural Kenyan setting.

**Methods:** This retrospective study, conducted at Tenwek Hospital, Kenya over a five-year period, compared laparoscopic and open appendectomy using a detailed micro-costing approach. Costs were adjusted for inflation and standardized using international purchasing power parity (I\$PPP). Key outcomes included operating room time, length of hospital stay, wound infection rates, and financial implications were analysed. Statistical methods included Pearson's chi-squared test, Wilcoxon rank-sum test, and multilevel generalised linear modeling, adjusting for comorbidities and illness severity.

**Results:** 168 patients with appendicitis were treated, 71% were male. Perforated appendicitis was present in 75 cases (45%). Laparoscopic appendectomy was performed in 31 patients (1 conversion to open). The laparoscopic group had longer median operating theatre times (115 vs. 75 minutes,  $p < 0.001$ ) but significantly shorter hospital stays (2 vs. 4 days,  $p = 0.002$ ). Although initial laparoscopic costs were marginally higher (635 vs. 589 I\$PPP,  $p = 0.264$ ), total hospitalization costs were significantly lower (1527 vs. 1816 I\$PPP,  $p = 0.049$ ). Laparoscopic appendectomy resulted in lower wound infection rates (3.2% vs. 16.7%,  $p = 0.026$ ).

**Conclusion:** Laparoscopic appendectomy, despite slightly higher upfront costs and longer operative times, leads to shorter hospital stays, lower

total costs, and reduced wound infections. These findings support the expanded use of laparoscopic techniques in resource-constrained settings like rural Kenya.

**Keywords:** Cost, Laparoscopic Appendectomy

## Theory on a Cause of Esophageal Squamous Cell Carcinoma in Malawi

Beth Stuebing

Nkhoma Mission Hospital

**Correspondence:** [bstuebing@gmail.com](mailto:bstuebing@gmail.com)

**Abstract ID:** 110

**Background:** Malawi has a high rate of esophageal cancer (EC). Studies have not found many variables to be significant for EC. It's likely that EC rates are high due to an undiscovered environmental influence.

**Methods:** A literature review of risk factors for EC in Africa was done, focusing on types of foods consumed. This was inspired by the Malawi primary school reader, where grandparents teach children how to pour pesticides on harvested crops.

**Results:** EC in Malawi is associated with drinking locally distilled alcohol, which is made from the skin of maize kernels. This skin is what comes into contact with pesticides after harvesting. In Tanzania, EC risk factors are grain storage inside farmers' homes, and living in the northern lake or the southern highlands regions. These regions eat more grains which are stored for future use, as opposed to tubers and plantains, more common in the coastal regions. The key here may be the use or misuse of organophosphate pesticides. These are applied to dried crops before storage. Often, instructions on dosage, storage away from living areas, and waiting months before consumption are not adhered to. Farmers store crops in their bedroom to avoid theft, and don't wait months before consumption since they start eating their annual harvest immediately. The safety studies for these chemicals were done in the 1970s, with toxic exposure data limited to acute ingestion, not chronic exposure for carcinogenicity.

**Conclusion:** Development of EC in Africa seems to correlate with pesticide use on grain crops.

**Keywords:** esophageal cancer, risk, pesticides, toxin

## Does Surgical Experience Impact Rating Quality for a Tool for Assessing Psychomotor Proficiency in Laparoscopic Cholecystectomy Using Simulation-Based Training

Ngam Blessing Ngoin

PAACS -Mbingo Baptist Hospital

**Correspondence:** [ngamnoin@yahoo.com](mailto:ngamnoin@yahoo.com)

**Abstract ID:** 74

**Background:** To address the training gap in laparoscopy, we developed a low-cost, simulation-based trainer for teaching laparoscopic cholecystectomy with a novel verification of proficiency tool, CHOLE-VOP based

on a modified Objective Structured Assessment of Technical Skills (m-OSATS) and a task list of surgical steps to evaluate psychomotor skills.

**Methods:** Fifty participants from Cameroon, Ethiopia, and the United States contributed videos of their performance of a laparoscopic cholecystectomy on the trainer. Participants rated their performance and that of three peers using the CHOLE-VOP. A Kruskal-Wallis test and Many-Facet Rasch model were used to assess CHOLE-VOP's ability to differentiate performance levels, evaluate correlations among assessment components, and identify rating differences across groups.

**Results:** 14 novices, 18 intermediate, and 16 experts completed the module. Checklist scores increased from novice (M = 28.16) to intermediate (M = 31.33) and expert (M = 32.66), with significant differences across all experience levels,  $P < 0.001$ . Both individual and summed m-OSATS scores and the final rating effectively discriminated between performance levels,  $P < 0.001$ . African participants scored higher than US participants on the checklist (32.41 vs. 29.35) and global ratings (17.54 vs. 15.14),  $P = 0.008$ ,  $0.002$ . Inter-rater agreement for pairings was sub-optimum (ICC = |.24, .68|) with the lowest observed among novices (Checklist Sum ICC = 0.24), who tended to overestimate their performance and the highest among intermediate users (Checklist Sum ICC = 0.79).

**Conclusion:** This tool successfully discriminated between experience levels across varied learning environments. Self-assessments, particularly by novices, showed limited concordance with peer-assessments.

**Keywords:** laparoscopic-cholecystectomy, simulation, Assessment

## Spontaneous Diaphragmatic Hernia Causing Bowel Strangulation in An Adult Patient: A Case Study

Orerah G.I. Okoth

Machakos County Referral Hospital, Kenya

**Correspondence:** [orerahokoth@gmail.com](mailto:orerahokoth@gmail.com)

**Abstract ID:** 71

**Background:** Spontaneous diaphragmatic hernia is a rare yet potentially life-threatening condition that presents unique challenges in diagnosis and management. This study aimed to highlight such challenges.

**Case Summary:** The case study included a single adult patient who attended Machakos County Referral Hospital. A twenty-three-year-old female with no comorbidities presented with a 5-day history of abdominal pains and worsening distension. She later had nausea, vomiting, and constipation. She also started experiencing left chest pain and difficulty breathing. She denied any prior history of trauma or any surgery. Examination revealed a sickly lady in obvious respiratory distress and a grossly distended and tender abdomen. Abdominal X-ray showed bowel distension with multiple air-fluid levels. CT- scan of the abdomen sug-

gested Sigmoid volvulus with left pleural effusion. During exploratory laparotomy, a loop of the gangrenous transverse colon was found herniated into a defect in the left diaphragm causing proximal gross dilation of the colon and small bowel. Resection of the gangrenous loop was done with primary anastomosis. The rent on the left hemidiaphragm was repaired and a chest tube was placed in pleural space to drain the effusion. The patient had a non-eventful post-operative period and was discharged on her 5<sup>th</sup> post-operative day.

**Conclusion:** This case study highlights a rare case of spontaneous diaphragmatic hernia causing bowel strangulation with challenges in its diagnosis including imaging and management.

**Keywords:** spontaneous, diaphragmatic, hernia

### Prevalence, Morbidity, and Mortality Associated with Emergency Abdominal Surgeries: A Cross-Sectional Study at Arusha Lutheran Medical Centre, Tanzania.

Faraja M Magwesela<sup>1,2</sup>

1. Arusha Lutheran Medical Centre
2. Pan-Africa Academy of Christian Surgeons

**Correspondence:** [fm3magwesela@gmail.com](mailto:fm3magwesela@gmail.com)

**Abstract ID:** 59

**Background:** Emergency surgical conditions are a significant cause of morbidity and mortality worldwide, especially in resource-limited settings. Timely interventions are crucial to patient outcomes. This study aimed to assess the prevalence of emergency abdominal surgical conditions and the factors influencing morbidity and mortality at Arusha Lutheran Medical Centre in Tanzania.

**Methods:** A cross-sectional study was conducted from January 2017 to December 2023. Data were collected retrospectively from medical records. The study included all patients who underwent emergency abdominal surgery, excluding those with incomplete data, obstetrics/gynecology and urology surgeries. Key variables analyzed were demographics, clinical characteristics, surgical details, and outcomes. Univariate and multivariate analyses were used to identify factors associated with morbidity and mortality.

**Results:** 644 patients were analyzed; 58.9% were adults. The most common conditions were intestinal obstruction (35.2%), appendicitis (30.3%), and peritonitis (17.5%). Complications requiring surgical intervention occurred in 8.7% of cases, with the most frequent being bowel leak (4.2%) and fascial dehiscence (3.8%). Morbidity was significantly associated with pediatric patients ( $P=0.013$ ), patient diagnosis ( $P=0.006$ ), and surgery lasting more than one hour ( $P<0.0001$ ). Mortality occurred in 2.6% of patients and was significantly linked to the presence of morbidity ( $P<0.0001$ ), surgery duration ( $P=0.001$ ), and diagnosis ( $P=0.007$ ). On logistic regression, morbidity and

prolonged surgery were independently associated with higher mortality risk.

**Conclusion:** Emergency abdominal conditions are a major contributor to morbidity and mortality, with pediatric patients and surgery duration being key factors. Improving perioperative care and reducing surgery time could enhance outcomes in resource-limited settings. Further research is needed to develop targeted interventions.

**Keywords:** Emergency surgery, acute abdomen, post-operative outcomes

### The Change in Upper Gastrointestinal Disease Pattern in Sudan

Gamal E H A El Shallaly<sup>1</sup>, Babiker A. B. Ibrahim<sup>2</sup>, Hassan E. H. Mohamed Ahmed<sup>2</sup>, Mohamed M. I. Elhajahmed<sup>2</sup>, Modather M. E. Salih<sup>2</sup>

1. College of Medicine and Health Sciences, National University, Oman. Formerly University of Alzaiem Al Azhari, Sudan
2. Faculty of Medicine, Omdurman Islamic University

**Correspondence:** [gamalshallaly@hotmail.com](mailto:gamalshallaly@hotmail.com)

**Abstract ID:** 52

**Background:** Data on gastrointestinal (GI) diseases from developing countries are lacking. In addition, the pattern of GI disease seems to be changing over time. The objectives of this study were to identify the main indications and associated endoscopic findings in patients presenting for elective upper GI endoscopy at a major teaching hospital, thus identifying the current pattern of GI disease and the changes that occurred over the past decades.

**Methods:** This is a descriptive analytic study. We analyzed data collected prospectively over a period of 12 years (2007-2019). These included demographic data of patients, symptoms and endoscopic findings. We compared our findings with past data.

**Results:** The study included 1859 patients. The mean age was 42.3 years. The male to female ratio was 1.3:1. Diagnostic and therapeutic endoscopies were done for 1481 patients (77.8%), and 362 patients (19.4%), respectively. The failure rate was (2.8%). The commonest symptoms were epigastric pain (40%) and hematemesis (27%). These were analyzed according to the endoscopic findings. The commonest endoscopic findings were esophageal varices and gastritis. Compared with past data, there has been a decrease in duodenal ulcers and esophagitis but an increase in esophageal varices and gastritis. There is a trend of increased gastric tumors in young people.

**Conclusion:** This study shows the current pattern of upper GI disease in Sudan and identifies the changes in the pattern of upper GI disease over the past 4 decades. It provides important data to policymakers and highlights the importance of endoscopy the need for further studies.

**Keywords:** Sudan, endoscopy, pattern of gastrointestinal disease, oesophago-gastric cancer.

## Lower Gastrointestinal Disease Pattern in Sudan

Gamal E H A El Shallaly<sup>1</sup>, Babiker A. B. Ibrahim<sup>2</sup>, Mohamed M. I. Elhajahmed<sup>2</sup>, Modather M. E. Salih<sup>2</sup>, Mohammed F. E. Mohammed<sup>2</sup>, Ibrahim A. O. Ali<sup>2</sup>

1. College of Medicine and Health Sciences, National University, Oman. Formerly University of Alzaiem Al Azhari, Sudan
2. Faculty of Medicine, Omdurman Islamic University

**Correspondence:** [gamalshallaly@hotmail.com](mailto:gamalshallaly@hotmail.com)

**Abstract ID:** 51

**Background:** Data on lower gastrointestinal (GI) disease are generally sparse. In addition, the pattern of GI disease is changing over time. The objectives of this study were to identify the main indications and associated endoscopic findings in patients presenting for elective lower GI endoscopy at a major teaching hospital, thus provide a database and identify the current pattern of lower GI disease in our community.

**Methods:** This is a descriptive analytical study. We analyzed data collected prospectively over a period of 12 years (2007-2019). These included demographic data of patients, symptoms and endoscopic findings.

**Results:** The study included 1086 patients. Diagnostic endoscopies (colonoscopy and sigmoidoscopy) were done for 989 patients (95.5%) and therapeutic procedures for 48 patients (4.5%). The most common indications were rectal bleeding (51.3%), followed by change in bowel habits (12.6%) and abdominal pain (7.7%). The most common diseases were haemorrhoids (36.4%), rectal tumours (8.1%) and polyps (7.2%). It was alarming that (34.5%) of colorectal tumour patients were below the age of 50 and (7%) below 30 years.

**Conclusion:** This study shows the current pattern of lower GI disease in the city. There is a trend of "Westernization" of disease. Rectal cancers are observed in younger patients than stated in textbooks. These findings would have a strong socio-economic impact on society and the country. It provides important data to policymakers. It highlights the importance of endoscopy services and focuses on areas needing further study.

**Keywords:** Sudan, pattern of lower gastrointestinal disease, endoscopy, colorectal cancer

## Gastric Volvulus and Splenopancreatic Torsion with Wandering Spleen

Belayneh, Enku Shiferaw

St. Paul's Hospital Millennium Medical college, Addis Ababa

**Correspondence:** [enqushiferaw@gmail.com](mailto:enqushiferaw@gmail.com)

**Abstract ID:** 45

**Background:** Gastric volvulus is an uncommon potentially life-threatening medical condition characterized by rotation of the stomach or part of the stomach around its

longitudinal or transverse axis. Acute gastric volvulus usually presents with the triads of epigastric pain, nonproductive retching, and inability to pass the nasogastric tube. Diagnosis is assisted with abdominal and chest x-ray and contrast studies.

**Case presentation:** A 53-year-old female presented with abdominal pain of two days duration which started at the epigastric region and later on became diffuse all over the abdomen. She had associated frequent episodes of vomiting which were initially bilious followed by non-productive retching and low-grade intermittent fever. Abdominal examination showed a distended, diffusely tender abdomen with an ill-defined epigastric mass. Abdominal X-ray showed central abdominal circular opacity continuous with stomach outline. Intraoperative findings revealed perforated gangrenous mesenteroaxial gastric volvulus and splenopancreatic torsion with wandering spleen. Proximal subtotal gastrectomy with esophagogastric anastomosis and splenopexy was performed. The patient was discharged on the 10th postoperative day and had an uneventful post-operative recovery.

**Conclusion:** Primary gastric volvulus is usually mesenteroaxial with the pylorus commonly rotating anteriorly. Primary gastric volvulus can be associated with congenital asplenia and wandering spleen as both conditions are characterized by absent or loose ligamentous attachments. This case was a mesenteroaxial volvulus with splenopancreatic torsion with a wandering spleen caused by abnormal ligamentous attachments. A high index of suspicion for early diagnosis of gastric volvulus and timely intervention improves treatment outcome.

**Keywords:** Gastric volvulus, Splenopancreatic torsion, Wandering spleen, Subtotal gastrectomy

## Mortality Predictive Accuracy of Pulp Versus Boey in Patients Undergone Laparotomy Due to Perforated Peptic Ulcer At Muhimbili National Hospital.

Novath Ngowi

MUHAS

**Correspondence:** [novathngowi@yahoo.com](mailto:novathngowi@yahoo.com)

**Abstract ID:** 43

**Background:** Perforated peptic ulcer (PPU) is a common surgical emergency with variable morbidity and mortality in Tanzania. There is significant negative post-operative outcomes after a PPU. Identify patients needing additional resources for better outcomes in limited resources. This study aimed to identify a better predictive tool for morbidity and mortality between PULP and Boey among patients who underwent laparotomy repair for perforated peptic ulcers in local settings.

**Methodology:** Combined retrospective and prospective cross-sectional study, recruited adult patients with perforated peptic ulcers from 1<sup>st</sup> January 2021 to 31<sup>st</sup> December 2022. PULP and Boey variables were collected from each



patient through structured checklist. A sample size of 100 patients was considered sufficient to provide a study power of 80%. Main outcome was major complications occurring within the 30 days post-operative. Receiver Operator curves were used to compare the predictive accuracy of the two tools.

**Results:** We recruited 100 patients aged 18 years and older, with a 6:1 male-to-female ratio. 30-days mortality was 13%. Male sex, presence of preoperative shock and comorbidities, high serum creatinine and ASA class were found to significantly predict mortality. PULP had a good predictive ability, with an AUROC of 0.7505, sensitivity of 57.14% and specificity of 88.2%, compared to Boey's score of 0.6629 sensitivity and specificity of 51.02% and 78.4%, respectively with p-value < 0.05.

**Conclusion:** Peptic ulcer perforation is common with poor postoperative prognosis. PULP and BOEY score can predict morbidity and mortality, with PULP being more accurate, aiding in allocating resources for individual patient care.

**Keywords:** Perforated peptic ulcer disease, mortality predictive score, PULP score, Boey Score

### Triple Case Report of Persistent Sciatic Artery in Ethiopia: A Rare Vascular Anomaly

Rahel Ababayehu Assefa<sup>1</sup>, Henok T'Silassie Zeleke<sup>2</sup>, Azmera Gissila Aboye<sup>2</sup>

1. St. Peter's Specialized Hospital, Addis Ababa, Ethiopia
2. Tikur Anbessa Specialized Hospital, Addis Ababa, Ethiopia

**Correspondence:** [hara224@gmail.com](mailto:hara224@gmail.com)

**Abstract ID:** 17

**Background:** Persistent sciatic artery (PSA) is a very rare vascular congenital anomaly due to malformation of the embryologic axial artery of the lower limb.

**Case Presentation:** This case report presents three patients aged 45-60, each with bilateral PSA presenting with symptoms indicative of PSA complications, including aneurysmal degeneration, limb ischemia, thromboembolism, or neuralgia from nerve compression. It highlights the diagnostic process, management strategies, and clinical outcomes observed at a tertiary level referral hospital in Addis Ababa, Ethiopia. Treatment encompassed a collaborative, multidisciplinary approach with vascular surgeons, internists, and radiologists tailoring interventions to individual patient findings and disease progression. This report seeks to provide insights into the diverse presentations and management of PSA in a developing country with limited resources. Additionally, it aims to stimulate further reporting and case series, contributing to the understanding of therapeutic outcomes for PSA in the region.

**Keywords:** Persistent Sciatic Artery, Vascular Anomaly, Ethiopia, Case Report, Rare Anomaly

### Comparing The Digital and The Traditional Methods of Teaching Surgical Procedure-Cognitive Skills

Mpapho Motsumi<sup>1</sup>, Martin Brand<sup>2</sup>, Irene Lubbe<sup>3</sup>

1. University of Botswana
2. University of Pretoria
3. Central European University

**Correspondence:** [motsumim@ub.ac.bw](mailto:motsumim@ub.ac.bw)

**Abstract ID:** 15

**Background:** Mastering a surgical procedure requires acquiring technical and cognitive skills of a surgical procedure. The traditional teaching method emphasises the technical over cognitive skills of a surgical procedure. This study compared the effectiveness of the digital teaching method and the traditional one in teaching surgical procedure-cognitive skills.

**Methods:** A quantitative experimental study was conducted. Participants were novice medical officers and general surgery residents at the Universities of Botswana and Pretoria. Participants consented, and ethical approval was obtained from respective institutions. Purposive sampling was used. A crossover-repeated-measures study design was used to determine the difference in knowledge gain and retention using pre-, post- and retention tests.

**Results:** Twenty-nine (29) participants completed the study. The paired sample t-test showed the mean differenced knowledge-gain score for the digital teaching method (M = 3.59, SD = 1.48) to be significantly greater than that of the traditional teaching method (M = 1.93, SD = 1.28),  $t(28) = -10.950$ ,  $p < 0.001$  (two-tailed). Likewise, the mean differenced knowledge-retention score for the digital teaching method (M = 2.96, SD = 1.480) was significantly higher than that of the traditional teaching method (M = 1.48, SD = 1.087).

**Conclusion:** Students who were taught surgical procedure cognitive skills using the digital teaching method had greater knowledge gain, knowledge retention and satisfaction level, when compared to those taught using the traditional teaching method. The researchers recommend adopting the digital teaching method to augment the traditional method.

**Keywords:** Surgical training, Cognitive skills, Surgical cognitive skills, Surgical skills.

## PAEDIATRIC SURGERY

### Using Emergency-to-Elective Surgery Ratio as a Proxy for Access and Capacity for Pediatric Surgical Care

Xinyi Luo<sup>1</sup>, Bvumi Tembo<sup>2</sup>, Wiseman C. Phiri<sup>2</sup>, James Bidali Betty Arkangelo<sup>2</sup>, Sella Mpata<sup>2</sup>, Amarylis Mapurisa<sup>2</sup>, Anthony Charles<sup>1</sup>, Lindsey Wolf<sup>3</sup>, Bip Nandi<sup>2</sup>

1. University of North Carolina
2. Kamuzu Central Hospital
3. University of Arkansas for Medical Sciences

**Correspondence:** [xluo6@tulane.edu](mailto:xluo6@tulane.edu)

**Abstract ID:** 175

**Background:** The emergency-to-elective ratio (EE ratio)—the number of emergency cases per 100 elective cases—has been used to evaluate access to surgery. We compared the EE ratio for pediatric surgery at a single center to other centers and examined the impact of age.

**Methods:** We performed a retrospective analysis of prospectively collected data on all patients admitted to the pediatric surgery service who underwent an operation in a tertiary referral center in Malawi from April 1<sup>st</sup>, 2023, to June 30<sup>th</sup>, 2024. Cases were classified as emergent versus elective. The EE ratio was calculated, stratified by age, and compared to published data.

**Results:** Over the 15-month study period, 1076 cases across 57 diagnoses were performed. Sixty-eight percent (n=733) were male, with a mean age of 3.40 ± 0.11. Forty-six percent (n=495) were transferred from another facility. Twenty percent (n=215) of cases were emergent, for an overall EE ratio of 24.97, which is lower than historical data from many low- and middle-income countries (LMIC). EE ratio was highest in patients <1 year and lowest in 3-7 years. The EE ratio was higher for transferred patients (44.3 versus 12.2 for self-presenting) and for neonates (<28 days) (95.9).

**Conclusions:** Our overall EE ratio is favorable compared to the published literature. Neonates, expectedly, have the highest emergency burden, and children 3-7 years have the highest elective burden. EE ratio may be useful as a proxy for access to pediatric surgical care by demonstrating the capacity of facilities to perform routine elective operations.

**Keywords:** Pediatric surgery, access to care, EE ratio

### Gastroschisis Care in Limited Resource Settings: A Rwandan Tertiary Hospital Experience

Hussein Taha Hussein Elwasila Eltayeb<sup>1</sup>, Edmond Ntaganda<sup>2</sup>, Axelle-Aimee Nduwimana<sup>2</sup>, Phillip J. Hsu<sup>3</sup>

1. University of Medical Sciences and Technology
2. University Teaching Hospital-Kigali, Rwanda
3. University of Michigan, Ann Arbor, USA

**Correspondence:** [huseintahalt@gmail.com](mailto:huseintahalt@gmail.com)

**Abstract ID:** 168

**Background:** Gastroschisis has survival rates of 0-20% in low-income countries, compared with >95% in high-income countries. In Rwanda, survival increased from under 1% to 22% between 2017-2022, concurrent with the establishment of a pediatric surgery service at Centre Hospitalier Universitaire de Kigali (CHUK). Given recent expansion of the service, we report updated outcomes of gastroschisis care in Rwanda.

**Methods:** We conducted a one-year retrospective study from January-December 2023 at CHUK, a 514-bed tertiary referral hospital that receives all gastroschisis referrals in Rwanda. Data were analyzed using SPSS23.

**Results:** 102 patients were treated; 98 patients with complete data were included. All were admitted within the first day of life. 96% were born outside the treatment facility. Average birth weight was 2.24±0.46kg, and 54.1% were premature. Length of stay (LOS) for surviving patients was 28.1±11.9 days. Overall mortality was 52%. 23% of patients had complex gastroschisis, which was associated with higher mortality (73.91% vs 45.33%, p = 0.016).

**Conclusions:** Prompt referral of patients with gastroschisis to a centralized care center has improved survival in Rwanda. However, mortality remains high. Efforts are needed to improve prenatal diagnosis and encourage delivery at facilities with comprehensive pediatric surgical services.

**Keywords:** Gastroschisis, Low-Income, Outcome

### Prevalence, Risk Factors, and Treatment Outcomes of Empyema Thoracis in Pediatric Patients: Experience from a Developing Setup

Tihitena Negussie Mammo, Samuel Mesfin, Rahwa Amha, Fathia Salah, Samuel Sisay, Rahel Argaw, Yimtubezinash Woldeamanuel, Ayalew Tizazu Tamire

Addis Ababa University

**Correspondence:** [tihitena.negussie@aau.edu.et](mailto:tihitena.negussie@aau.edu.et)

**Abstract ID:** 164

**Background:** Empyema thoracis is a common complication of pneumonia in children, with approximately 0.6% of cases progressing. Primarily affecting the right lung, empyema is predominantly caused by bacterial infections, with *Streptococcus pneumoniae* being the leading pathogen in developed regions and *Staphylococcus aureus* in the developing world. Effective management aims to drain pus from the pleural space and eradicate the infection. This study evaluates the prevalence, risk factors, and management outcomes of empyema thoracis in children, providing valuable insights for developing treatment protocols in resource-limited areas.

**Methodology:** A hospital-based prospective cross-sectional quantitative study was conducted at a tertiary center, involving children under 14 years with severe acute lower respiratory tract infection or empyema thoracis. Data were

collected on socio-demographic characteristics, clinical status, disease progression, radiologic findings, and patient outcomes, analyzed using SPSS Version 27.

**Results:** Of the 273 participants, the prevalence of empyema was 14.3%. Children exposed to individuals with chronic cough had 7.85 times higher odds of developing empyema. Imaging revealed lung collapse in all cases, subcostal thickening present in 15.2% and varying effusion shapes where 71.4% are concave medially. Treatment modalities included antibiotic therapy alone for 51.2% of patients, while 28.2% required chest tube drainage, 12.8% intrapleural lytic agent injections and 5.2% decortication or pneumonectomy. The mortality rate attributed to empyema was 4.88%.

**Conclusion:** The findings highlight significant risk factors and varying treatment outcomes which warrants the need for tailored management strategies to improve outcomes in resource-constrained settings.

**Keywords:** Children; Empyema Thoracis; Severe Pneumonia; Low resource setting; Outcome

### Costs For a Pilot Pediatric Surgical 30-Day Outcomes Registry In Malawi Using Telephone Follow-Up

Madhushree Zope<sup>1</sup>, Wiseman Phiri<sup>1</sup>, Bvumi Tembo<sup>1</sup>, Sella Mpata<sup>1</sup>, Betty Yuggu<sup>1</sup>, Bidali Nzira<sup>1</sup>, Seraiah Mdala<sup>2</sup>, Amarylis Mapurisa<sup>1</sup>, Jed G Nuchtern<sup>2</sup>, Casey L McAtee<sup>1</sup>, Bip Nandi<sup>1</sup>, Lily Gutnik<sup>3</sup>

1. Kamuzu Central Hospital
2. Baylor College of Medicine COE – Lilongwe
3. University of Alabama at Birmingham - Department of Surgery

**Correspondence:** [mszope@uabmc.edu](mailto:mszope@uabmc.edu)

**Abstract ID:** 159

**Background:** Increasing infrastructure for pediatric surgery in Malawi has led to increased operative volume at Kamuzu Central Hospital (KCH). Despite growth in capacity, monitoring of post-operative outcomes remains difficult. We conducted a telephone follow-up protocol to build a 30-day post-operative outcomes registry. This analysis defines the associated costs.

**Methods:** Families of patients undergoing an operation with pediatric general surgery at KCH between December 2023 to April 2024 were approached if they spoke Chichewa/English, had access to a phone, and patient was <18 years old. Families were contacted 30 days post-operatively to administer a telephone questionnaire. If the number did not answer, a second attempt was made 1 week later. The protocol cost was calculated using micro-costing. Implementation of clinical telehealth (personnel, supplies, etc.), research costs (written consents, printing facilities, RedCAP, etc.), inflation and exchange rates were calculated in September 2024 USD.

**Results:** Of 279 operations, 183 (65.6%) were followed-up. The total cost of the protocol was \$557.80 per month. The cost of a 30-day questionnaire was \$7.46 on a successful 1<sup>st</sup> attempt and \$14.42 on a 2<sup>nd</sup> attempt, per questionnaire. The cost of two failed attempts was \$13.93 per questionnaire. A second attempt incurred an additional \$6.96 per questionnaire. Overall, 40% of costs were attributable to research activities.

**Conclusions:** Telephone follow-up provides a feasible method for a 30-day post-operative outcomes registry. A majority of operations are successfully followed-up and 40% of the costs can be mitigated for clinical use alone. Future studies are needed to provide economic evaluation comparison to in-person follow-up.

**Keywords:** telehealth, post-operative outcomes, pediatric surgery

### A Qualitative Study with Midwives and Nurses Regarding Gastroschisis in South-West Uganda

OyinOluwa G. Adaramola<sup>1</sup>, Anthony N. Eze<sup>2</sup>, Daphne Kyasimire<sup>3</sup>, Ivan N. Nuagaba<sup>3</sup>, Olivia Kaper<sup>2</sup>, Shannon Barter<sup>2</sup>, Felix Oyania<sup>3</sup>, Tamara N. Fitzgerald<sup>2</sup>

1. Duke Global Health Institute, Durham, NC, USA
2. Duke University Department of Surgery, Durham, NC, USA
3. Mbarara University of Science and Technology, Mbarara, Uganda

**Correspondence:** [oyinoluwa.adaramola@duke.edu](mailto:oyinoluwa.adaramola@duke.edu)

**Abstract ID:** 158

**Background:** Gastroschisis mortality in Uganda is 58-98%, and while there are studies examining the epidemiology and effects of interventions at the hospital level, there are none exploring the influence of socio-cultural perspectives on the pre-hospital management, health-seeking behavior and other obstacles to care. Midwives are often the first responders to gastroschisis and engaging them could identify potential interventions at the community level to improve survival.

**Methods:** We conducted interviews among midwives and nurses practicing in South-west Uganda with frontline experience of Gastroschisis. Thematic analysis was conducted using NVIVO 14.

**Results:** 26 participants (13 midwives, 13 nurses, 3 men, 23 women, ages 21-56 years) who work in public and private health facilities were interviewed. Perceived causes of gastroschisis by society include Curses and bewitchment (n=9), seeing a taboo while pregnant (n=5), and disrespect of the elderly (n=4). Initial care commonly includes prayers (n=5) or witchdoctor consultation (n= 4) which contribute to delayed presentation. Perceived hindrances to care include societal stigmatization (n= 9), financial constraints (n=9), and hopelessness (n= 3). Stigmatization was primarily directed at mothers leading to abandonment (n= 6), ma-

ternal despondency (n= 3), and child harm/ neglect (n=5). Late presentation, maternal discrimination, and care from witchdoctors increase gastroschisis mortality, perpetuating the societal perception of the condition as not survivable.

**Conclusion:** There is potential for improved Gastroschisis outcomes with community level interventions targeting societal demystification and encouraging early health seeking behavior. Midwives and nurses are frontline health workers who could play crucial roles in implementing these interventions.

**Keywords:** Gastroschisis, Societal perceptions, Uganda

### A Variation in The Technique of Thoroscopic Repair Of An Oesophageal Atresia With Or Without A Tracheo-Oesophageal Fistula

Bothwell Anesu Mbuwayesango, Emmanuel Chitsika, Kudzai Munanzvi, Precious Mutambanegwe, Mugove Moyo, Constantine Muparadzi, Primrose Gonouya, Sandra Mukandiona

Sally Mugabe Central hospital Children's hospital

**Correspondence:** [bambuwa@yoafrica.com](mailto:bambuwa@yoafrica.com)

**Abstract ID:** 138

We aim to introduce a simple variation in the surgical technique of thoroscopic repair of esophageal atresia with or without a tracheo-oesophageal fistula. The thoroscopic repair of esophageal atresia with or without a tracheo-oesophageal fistula is now a well establishes technique. The learning curve for this technique is steep. One of the most difficult steps is end-to-end esophageal anastomosis. This step is particularly difficult if there is some tension. We have discovered that we can add an extra 2 instruments into the thoracic cavity to help bring the ends of the esophagus together for a quicker and more secure anastomosis. We present a detailed description of the technique.

**Keywords:** Thoroscopic repair. Variation of technique.

### Laparoscopic Appendicectomy in Complicated Appendicitis at A Major African Hospital

Bothwell Anesu Mbuwayesango, Emmanuel Chitsika, Kudzai Munanzvi, Precious Mutambanegwe, Mugove Moyo, Constatine Muparadzi, Primrose Gonouya, Sandra Mukandiona

Sally Mugabe Central hospital Children's hospital

**Correspondence:** [bambuwa@yoafrica.com](mailto:bambuwa@yoafrica.com)

**Abstract ID:** 135

**Background:** We aimed to determine the role of a laparoscopic appendicectomy in patients who present late with complicated acute appendicitis to a large African hospital.

**Methods:** We conducted a retrospective case series at a tertiary care hospital in Zimbabwe. All patients who presented to the Children's Hospital at Sally Mugabe Central

hospital with signs and symptoms suggestive of appendicitis were treated by laparoscopic appendicectomy. Laparoscopic appendicectomy was achieved using a standard three port technique. The data including demographic data, clinical data, operative findings and immediate post operative clinical course were recorded. Data was analyzed using simple proportional analysis methods.

**Results:** Late presentation with appendicitis was very common at the children's hospital. Laparoscopic appendicectomy was carried out and completed successfully in most patients. The immediate post-operative complications were minimal with no deaths recorded. It was not possible to perform a laparoscopic appendicectomy in a significant proportion of the patients. This was caused by various technical reasons and patient factors. Patients who had successful laparoscopic appendicectomy appeared to fare better than those who had open appendicectomy with regard to post operative complications.

**Conclusion:** Laparoscopic appendicectomy in complicated appendicitis plays a significant role and the patients are not worse than those treated with open appendicectomy. There is a suggestion that laparoscopic appendicectomy results in better patient outcomes. We recommend that data collection should continue, and the current set of data be submitted to further statistical analysis to compare laparoscopic appendicectomy with open appendicectomy in terms of patient outcomes for complicated appendicitis.

**Keywords:** Laparoscopic appendicectomy. Complicated appendicitis.

### Outcomes In Gastroschisis Patients with A Sutured-on Silo Bag Compared to An Improvised Female Condom Ring Spring Loaded Silo Bag: A Single Centre Experience

Donna Robert, Sthandweyinkosi Mushunje

Mpilo Hospital

**Correspondence:** [robertdonna262@gmail.com](mailto:robertdonna262@gmail.com)

**Abstract ID:** 129

**Background:** A silo bag is an artificial cover for bowel used for gastroschisis patients. In high income countries, preformed, silicone, single use spring loaded silo bags are used. These are expensive and alternative silo bags made with relatively cheap materials have been suggested. One method uses a sterile urine bag with a female condom ring sutured in at the base. This study aims to analyze patient outcome with the use of a female condom ring silo bag compared to a sutured-on silo bag.

**Methods:** A retrospective study using patient notes comparing the outcomes of patients for whom female condom ring silo bags were used as opposed to sutured on silo bags was done. Excluded from the analysis were patients of birth weight less than 1500g and those who had primary closure or sutureless closure. The data collected was analyzed using Fisher's exact test for categorical variables.

**Results:** A total of 64 cases were analyzed from 01/07/2021 to 10/09/24. The results showed better outcomes with the use of a female condom ring silo bag (28%) compared to the sutured-on silo bag (11%) however the difference was not statistically significant with a p-value of 0.198 at 95% confidence interval.

**Conclusion:** The results of this study show the use of a female condom ring silo bag is associated with better outcomes compared to the sutured-on silo bags though not statistically significant due to the small sample size used.

**Keywords:** Gastroschisis, silo bag, female condom ring

## Alveolar Soft Part Sarcoma of The Temporalis Muscle: A Case Report

Noble Tinashe Kufa, Henry David Schaeffer

Department Of Surgery - Hôpital De Bongolo De L'Alliance Chrétienne

**Correspondence:** [ntkufamd@gmail.com](mailto:ntkufamd@gmail.com)

**Abstract ID:** 118

**Background:** Alveolar soft part sarcoma (ASPS) is a rare type of soft tissue sarcoma primarily affecting adolescents and young adults. ASPS most commonly arises in the limbs and trunk, while in children it more frequently involves the head and neck region.

**Case Summary:** A 13-year-old female was referred to our clinic for evaluation of a slow growing left temporal mass. Physical examination revealed a soft non-tender left temporal lesion with normal overlying skin. Initial head CT showed a hyper-vascular mass within the left temporalis muscle. Multiple arterial structures originating from branches of the external carotid artery led to a suspicion for hemangioma. Following excision, histological sections revealed a well-circumscribed mass within the skeletal muscle consisting of sheets and nests of large, uniform cells with vesicular nuclei, prominent nucleoli, and finely granular to vacuolated cytoplasm. These, along with other histologic features, suggested a diagnosis of ASPS.

**Conclusion:** ASPS is a rare and distinct form of soft tissue sarcoma characterized by generally slow progression, early metastasis, and resistance to conventional cytotoxic chemotherapy. Surgical resection remains the primary treatment for both primary and metastatic ASPS tumors. To our knowledge, this is the first reported case of ASPS originating in the temporalis muscle.

**Keywords:** Sarcoma, Alveolar, Pediatric Sarcoma

## Perceived Depression in Pediatric Patients with Ostomies in Southwestern Uganda

Kara Faktor<sup>1</sup>, Felix Oyania<sup>2</sup>, Sarah Ullrich<sup>3</sup>, Tamara Fitzgerald<sup>4</sup>, Godfrey Zari Rukundo<sup>2</sup>, Doruk Ozgediz<sup>1</sup>

1. University of California, San Francisco
2. Mbarara University of Science and Technology
3. Yale University
4. Duke University

**Correspondence:** [karafaktor@gmail.com](mailto:karafaktor@gmail.com)

**Abstract ID:** 113

**Background:** Children in Uganda often present with emergency colorectal conditions necessitating fecal diversion through an ostomy. Many pediatric patients live with ostomies for multiple years due to a large backlog of cases. Complications and hygiene challenges result in stigmatization and difficulty attending school while awaiting ostomy takedown. Despite the significant psychosocial and economic challenges faced in the African context, there are limited studies examining the difficulties in this setting. Our aim was to determine the prevalence of perceived depression among children with an ostomy in Southwestern, Uganda, and assess the effect of ostomy takedown on perceived depression.

**Methods:** We enrolled children who had an ostomy for at least three months, and one of the child's caregivers, from either the outpatient clinic or an existing ostomy database at the public regional referral hospital. Caregivers were interviewed confidentially using a validated patient health questionnaire (PHQ-9).

**Results:** The caregiver of 52 children with an ostomy were interviewed to assess perceived depression. Of the children, 81% were male, 81% live rurally, and 94% have a maternal caregiver. Twenty-one percent of children had mild perceived depression prior to ostomy closure. The mean difference between pre-closure and post-closure PHQ-9 scores was -3.25 points on a paired T-test ( $p < 0.001$ ). In multivariate analysis, increasing age at closure was a significant predictor of higher PHQ-9 scores ( $p=0.003$ ).

**Conclusion:** Our study demonstrates that perceived depression among children with an ostomy improves significantly with ostomy closure – emphasizing the psychosocial importance of timely ostomy takedown, especially among older children.

**Keywords:** pediatric, ostomy, depression

## Thirty Day Outcomes of Early Versus Late Reversal Of Temporary Intestinal Stomas in Pediatric Patients At The University Teaching Hospital, Lusaka, Zambia

Boyd Lawrenceimba

University Teaching Hospital, Lusaka, Zambia

**Correspondence:** [roctazimba1@gmail.com](mailto:roctazimba1@gmail.com)

**Abstract ID:** 100

**Background:** The burden of temporary intestinal stoma care in children is significant on both the patient and family. Early reversal of temporary stoma can minimise the stoma associated morbidity and significantly improve quality of life. This study evaluated the thirty-day outcomes associated with early versus late reversal of temporary stomas and their healthcare related quality of life in children.

**Methods:** This was an institutional prospective cohort study conducted at the University Teaching Hospitals between June 2023 and January 2024. Seventy-four patients

were recruited. There were 37 patients in each of the two cohort groups with a median age of 25 months. Early reversal (ER) was defined as reversal done at 14 days or less while late reversal (LR) was reversal done after 12 weeks. Univariate and Multivariate analysis were done using Stata version 13. A p-value of <0.05 at 95% CI was considered significant.

**Results:** There were a total of six (8.1%) complications observed in the study. Of the complications four (66.6%) were in the early reversal group making up 10.8 percent of that group, and two (33.3%) were in the late reversal group making up 5.4 percent of that group. All observed complications were Clavien Dindo Classification Grade I. The patients reversed early had significantly better overall quality of life compared to those who underwent a late reversal of their intestinal stoma (p=0.029).

**Conclusion:** Early reversal of stoma in children is safe and feasible as it reduced stoma related complications and improved the quality of life.

**Keywords:** Intestinal stoma reversal, early reversal, stoma complications.

### Gastroschisis Management in Southwestern Uganda- A Survey of Skilled Birth Attendants

Anthony N. Eze<sup>1</sup>, OyinOluwa G Adaramola<sup>1</sup>, Daphine Kyasimire<sup>2</sup>, Ivan N. Nuagaba<sup>2</sup>, Gift Atuheire<sup>2</sup>, Olivia Kapera<sup>1</sup>, Shannon Barter<sup>1</sup>, Felix Oyania<sup>2</sup>, Tamara N. Fitzgerald<sup>1</sup>

1. Duke University, Department of Surgery, Durham, NC, USA
2. Mbarara University of Science and Technology, Mbarara, Uganda

**Correspondence:** [anthony.eze@duke.edu](mailto:anthony.eze@duke.edu)

**Abstract ID:** 96

**Background:** Gastroschisis mortality is high in Africa due in part to delayed presentation and few pediatric surgeons. Skilled birth attendants (SBA) are often first to encounter these babies and may be willing to participate in their stabilization. We assessed Ugandan SBA knowledge of gastroschisis and interest in a training course.

**Methods:** Southwestern Ugandan SBA were surveyed regarding practice patterns, common beliefs and training course interest. Data was analyzed with descriptive statistics.

**Results:** We recruited 121 participants (70 midwives, 51 nurses), who had a certificate or diploma (n=117, 97%) and > 3 years experience (n=103, 85%) during which 72% (n=87) had cared for gastroschisis babies. Most reported that communities stigmatized families (n=67, 55%), saw the child as cursed (n=74, 61%), blamed the mother (n=69, 57%) and advised parents to kill (n=30, 24%) or abandon the child (n=55, 45%). Barriers to seeking care included fear of impoverishment (n=84, 69%), lack of knowledge

(n=51, 42%), healthcare mistrust (n=3, 2%), hopelessness (n=37, 31%), and transportation (n=54, 45%). Only 6% (n=8) recognized fetal vascular interruption as the cause. While 57% (n=69) prioritized intestinal coverage, only 7% (n=9) and 5% (n=6) would place a nasogastric tube or fast the baby. Three midwives encouraged breastfeeding. 18% (n=22) and 16% (n=19) recommended antibiotics and fluid resuscitation. Most participants (98%) desired a course on gastroschisis management, but 41% reported time constraints as a barrier.

**Conclusion:** Southwestern Ugandan SBA have baseline experience with gastroschisis and are overwhelmingly interested in additional training. Engaging SBA may improve survival for gastroschisis.

**Keywords:** Gastroschisis, Skilled birth attendants

### Risk factors for catastrophic healthcare expenditure and high economic burden for children with anorectal malformations in Southwestern Uganda

Felix Oyania<sup>1</sup>, Caroline Stephens<sup>2</sup>, Sarah Ullrich<sup>3</sup>, Amy M Shui<sup>2</sup>, Meera Kotagal<sup>3</sup>, Godfrey Zari Rukundo<sup>1</sup>, Sarah Jane Commander<sup>4</sup>, Martin Situma<sup>1</sup>, Joseph Ngonzi<sup>1</sup>, Ava Yap<sup>2</sup>, Francis Bajunirwe<sup>1</sup>, Dan Poenaru<sup>1</sup>, Doruk E. Ozgediz<sup>2</sup>

1. Mbarara University of Science and Technology
2. University of California San Francisco
3. Cincinnati Children's Hospital Medical Center
4. University of Florida

**Correspondence:** [oyafel@icloud.com](mailto:oyafel@icloud.com)

**Abstract ID:** 88

**Background:** Anorectal malformations (ARM) are common in low- and middle-income countries. They are repaired in a staged manner, requiring multiple hospitalizations, therefore placing a substantial financial burden on families.

**Methods:** A combined retrospective and prospective cohort study assessing the out-of-pocket (OOP) and catastrophic healthcare expenditure (CHE) among families of children with ARM who presented for surgical repair to a tertiary hospital (6/ 2021 - 7/2023). Best subset selection multivariable regression was used to determine factors significantly associated with CHE and total cost.

**Results:** 236 study participants were included, with a median age at diagnosis of 6 days, 51% were male, 71% lived in rural areas, and the median distance traveled was 175 km. 64% of patients experienced CHE, with almost all families incurring travel costs (99%). Following best subset analysis, distance travelled (OR 1.06, 95% CI: 1.03 - 1.08), and rurality (OR 1.83, 95% CI: 0.96 - 3.48) were significantly associated with CHE, suggesting that for every additional 10km, a patient traveled for care, there were 6% higher odds of incurring CHE. In examining total cost, patients who had a two-stage repair incurred more than twice the costs compared to those who had a single-stage repair

and education level, and repair type were also significantly associated.

**Conclusion:** ARM patients encounter significant CHE and OPP expenditures, especially those who live far distances from care and in rural areas. Identifying methods for providing financial protection to rural patients is critical for children undergoing ARM repair in Uganda to ensure access to care.

**Keywords:** Anorectal malformations, catastrophic health expenditure, out-of-pocket expenditure, Uganda

### A Case Report of Complete Appendiceal Duplication on The Normal Site of a Single Caecum: A New Variant?

Allan Ngulube, Crispin O.M. Ntoto, Derek Matsika, Wedu Ndebele, Ngqabutho Sanders Dube, Paradzai Gapu Mpilo Central Hospital

**Correspondence:** [drngulube@gmail.com](mailto:drngulube@gmail.com)

**Abstract ID:** 38

**Background:** Duplicated appendix is an uncommon entity, typically discovered as an incidental finding during surgery for appendicitis or other abdominal pathologies. It may be associated with other congenital malformations. We report a case of a male neonate incidentally discovered to have an unrecognized variant of duplicated appendix during a laparotomy plus diversion colostomy for imperforate anus at 4 days of age.

**Case presentation:** A baby delivered at home from an unbooked pregnancy at term, was referred from a primary care clinic to a specialist referral hospital, with a fever and suspected neonatal sepsis on day 1 of life. The patient had not passed meconium and physical examination revealed an imperforate anus. After initiating treatment for sepsis, the patient underwent a laparotomy where a situs inversus totalis and complete appendiceal duplication was found, with both appendices on the normal site of a single caecum. The appendices were left in situ and a diversion colostomy was performed. The patient did well following surgery and was discharged on postoperative day 10 to await definitive surgery.

**Conclusion:** Appendiceal malformations have been reported either in isolation or in association with other congenital anomalies. Duplicated appendix occurs rarely, and pathogenesis is not fully understood. This case adds more evidence that the classification of appendiceal abnormalities should continue evolving as newer types are described. Surgeons operating on patients with congenital anomalies must exercise extreme vigilance to identify and document other rare pathologies that may later pose challenges thus avoiding morbidity, mortality and potential medicolegal pitfalls.

**Keywords:** Duplicated appendix, Congenital anomaly, Situs inversus totalis

### Bowel Function Outcome and Associated Factors in Patients Operated For Hirschsprung's Disease and Anorectal Malformation: A Cross Sectional Study From Sub Saharan Africa

Hana Abebe Gebreselassie

Saint Paul's Hospital Millennium Medical College

**Abstract ID:** 34

**Correspondence:** [hanaabebe23@gmail.com](mailto:hanaabebe23@gmail.com)

**Background:** Hirschsprung's disease (HSD) and Anorectal malformations (ARM) are among the congenital anomalies associated with longstanding complications. The existing literature on long-term bowel function outcome of these pathologies in Sub-Saharan Africa is scarce.

**Methods:** A cross-sectional study which enrolled all children who have undergone definitive surgical repair for HSD and ARM and who were 3 years or older was undertaken. Rintala score was used to assess bowel function. Chi square test was done to examine the association between several variables and bowel function outcome.

**Results:** Among the 81 children who were included in the study, HSD patients accounted for 58 (71.6%) with a mean age of  $4.2 \pm 1.4$  years and a male to female ratio of 2.4:1. The mean age of children with ARM was  $3.9 \pm 1.4$  years and the male to female ratio was 0.9:1. Among children who have undergone pull through, the Rintala bowel function score was good in 37(64%), fair in 16(27.6%) and poor in 5(8.6%) of patients while it was good in 17(74%), fair in 3(13%) and poor in 3(13%) of ARM patients. Late presentation with chronic constipation ( $P=0.045$ ) was found to be significantly associated with poor bowel function in patients with HSD while the type of ARM ( $P=0.00$ ) and late age at presentation (0.047) were the significant variables for ARM patients.

**Conclusion:** A significant number of children have fair to poor bowel function. Late presentation of children with HSD and ARM is found to be a significant contributor for poor bowel outcome.

**Keywords:** Hirschsprung's disease, Anorectal malformations, colorectal surgery, Pediatrics Surgery

### Impact Of Prolonged Duration of Pre-Operative Chemotherapy for Unilateral Wilms Tumor in Blantyre, Malawi: A Five Year Experience

Takondwa Malamba

The College of Surgeons of East, Central and Southern Africa (COSECSA)

**Correspondence:** [takomalamba@gmail.com](mailto:takomalamba@gmail.com)

**Abstract ID:** 29

**Background:** Globally, 90% of Wilms tumors are cured using a combination of chemotherapy, surgery, and radiotherapy despite the use of different treatment guidelines. As such attention is now focused to minimize aggressive postoperative therapy, thus reducing morbidity and late side

effects. Patients treated using the International Society of Paediatric Oncology (SIOP) guidelines are offered preoperative chemotherapy for 4 to 6 weeks to reduce tumor size and risk of rupture during surgery which allows less postoperative chemotherapy and less radiotherapy. Paediatric Oncology in Developing Countries (PODC), part of SIOP proposed to prolong the duration of pre-operative chemotherapy in attempt to neutralize the lack of radiotherapy. Prolonging the duration of preoperative chemotherapy in unilateral tumours can reduce tumour size further yet an effective extended duration of preoperative chemotherapy is unknown. This study aimed to determine an effective duration to administer preoperative chemotherapy in a low resource setting that allows for a high event free survival and overall survival.

**Methods:** Data from 44 paediatric patients with unilateral and localised Wilms tumor treated between 2015-2020 at Queen Elizabeth Central Hospital was analyzed retrospectively to assess relapse-free interval and overall survival rate at 24 months.

**Results and conclusion:** Our findings show that prolonging the duration of preoperative chemotherapy beyond 8 weeks did not have any added advantage to the risk of local and distant relapse as well as the overall survival rate. Limitation to our study was the small sample size, therefore multi-centre and large studies are needed to influence the treatment guidelines in the region.

**Keywords:** Wilms Tumor, Preoperative chemotherapy duration, outcome

### Delays In Care for Children With "Low Anorectal Malformations " In Southwestern Uganda: A Cross-Sectional Survey.

Felix Oyania<sup>1</sup>, Caroline Q. Stephens<sup>2</sup>, Sarah Ullrich<sup>3</sup>, Meera Kotagal<sup>3</sup>, Francis Bajunirwe<sup>1</sup>, Doruk E. Ozgediz<sup>2</sup>, Dan Poenaru<sup>4</sup>

1. Mbarara University of Science and Technology
2. Center for Health Equity in Surgery and Anesthesia, University of California - San Francisco
3. Cincinnati Children's Hospital Medical Center
4. McGill University, Montreal, QC

**Correspondence:** [oyafel@icloud.com](mailto:oyafel@icloud.com)

**Abstract ID:** 25

**Background:** Disparities in anorectal malformation (ARM) outcomes between high- and low-income countries may be partially attributed to delayed diagnosis in the latter setting. The Three Delays model, comprising delays in seeking, accessing, and receiving care, provides a framework for exploring these challenges. We sought to examine the frequency and nature of the preoperative delays in children presenting for surgical correction of low ARMs.

**Methods:** We conducted a cross-sectional study examining the delays in care among children with low ARMs in

Southwestern Uganda between June 2021 and July 2023. Delayed diagnosis was defined as a diagnosis made > 48 hrs. of life. Potential associated factors such as caregiver, community, and healthcare factors were examined.

**Results:** A total of 80 patients were included in the study. The median age at diagnosis was 29.2 days. In 82% of patients, the parents diagnosed abnormality, and 74% experienced delayed diagnosis. Among delays in seeking care, 23% of caregivers reported no knowledge of their child's disease. For delays in reaching care, 37% encountered financial problems, and 28% lacked appropriate referral or formal diagnosis from a health center, contributing to delays in receiving care.

**Conclusion:** Delays in care are frequent problems for children with low ARMs. Finances and caregivers' and healthcare workers' knowledge contribute significantly to these delays. To mitigate these delays, we recommend improving referral processes, prioritizing newborn screening examinations, advocating for a national child health insurance policy, and enhancing the training of primary healthcare providers.

**Keywords:** Anorectal malformations, Delayed presentation, Uganda, Disparities

### Maternal Presence and Neonatal Surgical Outcomes In Rural And Refugee Settings In Haiti & Turkana Kenya

Neema Kaseje<sup>1</sup>, Khalid Hassan<sup>1</sup>, Willy-Fils Jean Louis<sup>2</sup>, Polycarp Omendo<sup>1</sup>, Kefa Ojwando Otieno<sup>3</sup>, Loito Ikamar<sup>1</sup>

1. Lodwar County Referral Hospital
2. Hopital Universitaire de Mirebalais
3. International Rescue Committee

**Correspondence:** [nkaseje@gmail.com](mailto:nkaseje@gmail.com)

**Abstract ID:** 20

**Background:** Neonatal surgical mortality remains high in rural and refugee contexts. Our objective was to examine the effectiveness of maternal presence in improving neonatal surgical outcomes in rural Haiti and Kenya including Kakuma refugee camp.

**Methods:** We conducted a retrospective analysis of neonatal surgical cases performed in both contexts. We reviewed demographic information, diagnoses, postoperative outcomes, and documentation of maternal presence. We calculated odds ratios (OR) and proportions.

**Results:** In Haiti, a total of 13 patients underwent neonatal surgical procedures. The most common diagnosis was anorectal malformation (ARM) (54%). Mean age at surgery was 14 days (range 1-14 days). The overall postoperative mortality rate was 23%. When the mother was absent the postoperative mortality OR was 6.6, p=0.11. In Turkana: 8 neonates underwent surgical procedures. The most common diagnosis was ARM (87.5%). Mean age at surgery was 4.8 days. Maternal presence was documented in all cases. The postoperative mortality rate was 25% (CI 0.17-0.33);



when the pediatric nurse anesthesia provider was present; the overall postoperative mortality rate was 0%.

**Conclusion:** Maternal presence in rural Haiti was associated with a six-fold reduction in postoperative deaths. In Turkana, maternal presence combined with a pediatric anesthesia provider led to a 0% mortality rate.

**Keywords:** Neonatal, rural, refugee, surgery

## An Audit of Door-To-Theatre Time At The University Teaching Hospitals (UTH) In Lusaka, Zambia

Vincent Mulenga, Azad Patel

University Teaching Hospitals, Lusaka, Zambia

**Correspondence:** [vbmulenga@gmail.com](mailto:vbmulenga@gmail.com)

**Abstract ID:** 10

**Background:** Emergency pediatric surgical conditions present substantial challenges in resource-constrained settings, leading to delays in surgical care and adverse outcomes. This audit aimed to evaluate and enhance door-to-theatre times for emergency pediatric surgical cases at the UTHs in Lusaka, Zambia.

**Methods:** A prospective audit was conducted in two phases. The initial audit spanned March to August 2023, establishing baseline door-to-theatre times and identifying contributing factors to delays. Subsequently, targeted interventions were implemented. The second audit phase, from late April to mid-June 2024, assessed the impact of these interventions on time metrics and patient outcomes.

**Results:** During the first phase, only 37.5% of patients underwent surgery within six hours of presentation. Following interventions, mean time from presentation to diagnosis (TOADx) reduced from 6.7 hours to 5.2 hours, and from diagnosis to surgery (TDxOT) from 7.8 hours to 10.4 hours. The overall door-to-theatre time (TTATOT) decreased from a mean of 14.4 hours to 9.8 hours. Despite improvements, challenges such as delays in obtaining blood products persisted. Mortality rates showed marginal improvement in the second cycle, with neonatal cases remaining particularly vulnerable.

**Conclusion:** Targeted interventions improved diagnostic and preoperative phases but achieving surgery within the critical six-hour window remains problematic. Further optimization of protocols, resource allocation, and healthcare provider training is essential to enhance outcomes in emergency pediatric surgery.

**Keywords:** Door-to-theatre-time

## GLOBAL SURGERY

### Cleft Surgery Training through a Non-Government Organization: Building Local Cleft Surgeon Capacity in Sub-Saharan Africa

Meklit Berhane Kidane<sup>1</sup>, Getaw Alamnie Gebeyehu<sup>2</sup>, Tingadini Nyoni<sup>3</sup>, Abebe Firdissa Saketa<sup>4</sup> Amanuel Tebikew

Kebede<sup>5</sup>, Hellina Legesse Mamo<sup>1</sup>, Mehanit Demeke Feissa<sup>6</sup>, Metasebia Worku Abebe<sup>7</sup>, Tewodros Melese Gebremedhin<sup>2</sup>, Jean Marie Vianney Tshimbila Kabangu<sup>8</sup>, Melini Baruth<sup>9</sup>, Daniel Bradley<sup>9</sup>

1. ALERT Comprehensive Specialized Hospital, Addis Ababa, Ethiopia
2. Yekatit-12 Hospital Medical College, Addis Ababa, Ethiopia
3. Parirenyatwa Group of Hospitals, Harare, Zimbabwe
4. Adama Hospital Medical College, Adama, Ethiopia
5. St Peter's Specialised Hospital, Addis Ababa, Ethiopia
6. Tenwek Mission Hospital, Bomet County, Kenya
7. St. Paul's Hospital Millennium Medical College, Addis Ababa, Ethiopia
8. Hopital Provincial de Goma, Goma, The DRC
9. Operation Smile Inc., Virginia Beach, USA

**Correspondence:** [justmeky@gmail.com](mailto:justmeky@gmail.com)

**Abstracts ID:** 184

**Background:** Lack of cleft surgery training opportunities is one of the multiple barriers to cleft care in sub-Saharan Africa (SSA). Operation Smile (OS) provides cleft surgery training to surgeons in low- and middle-income countries (LMICs) globally to build local cleft workforce capacity. We aimed to provide cleft training to 10 surgeons from SSA on at least 3-4 training programs, through a partnership between OS and the College of Surgeons of East, Central and Southern Africa (COSECSA).

**Methods:** Hands-on training was delivered by Educator cleft surgeons on OS programs from May 2023 to September 2024. Outputs measured included trainee case exposure and cleft surgery confidence levels. Cleft surgery skills were evaluated by Educators.

**Results:** Thirty-four training programs were attended in five countries. Overall training exposure was 832 cleft cases. Seven of ten attended three or more training programs. Seven of ten had training exposure to >50 cleft surgeries. Further training for three surgeons is planned by November 2024. Overall, upward trends in confidence levels and cleft surgery skills were seen. Didactics: Six cleft surgery-focused webinars and ten virtual case-based discussion sessions took place.

**Conclusions:** Operation Smile's cleft surgery training pathway combines hands-on training with virtual didactics, with a goal of building local cleft surgeon capacity in LMICs. Surgeons can remain in their full-time workplace without the need to leave their clinical responsibilities for extended cleft training periods. OS has recently introduced training pathways for other cleft care specialties, building cleft teams to support sustainable cleft care.

**Keywords:** cleft surgery, education, LMIC, capacity-building

## Readiness For Future District Hospital Surgical Practice: Perceptions of Recent Graduates Versus District Hospital Surgical Providers- a Pilot Comparative Cross-sectional Study

Barnabas Tobi. Alayande, Pierrette Ngutete Mukundwa, Robert Riviello, Abebe Bekele

Center for Equity in Global Surgery, University of Global Health Equity, Kigali, Rwanda

**Correspondence:** [balayande@ughe.org](mailto:balayande@ughe.org)

**Abstract ID:** 183

**Background:** Graduates from sub-Saharan Africa's medical schools are often thrust early into surgical care as a result of high surgical burden and low surgical provider density. We aimed to find out the recent graduate's perception of how prepared they were for district hospital practice and compare this to the perception of their trainers on the recent graduate's preparedness.

**Methods:** Using cross-sectional, observational methodology, a paper-based survey was administered during a consensus conference of surgery trainers, and recent medical graduates. Participants responded to a contextualized modification of the standardized residency readiness survey. Results were described as aggregate scores over a 5-point Likert scale and compared using Mann Whitney U with  $p < 0.05$  significant.

**Results:** Perfect median concordance on a scale of 1-5 occurred between experienced surgical providers and recent medical graduates with perceptions on ability to take an adequate medical history (scored 3.5/5), knowing the limits of competence (scored 3/5), and differential diagnoses. Statistically divergent perceptions with significantly lower scores given by experienced district hospital trainers compared to recent graduates in ability of graduates to verbally present findings ( $W=37.5$ ;  $p=0.046$ ), critically evaluate surgical information ( $W=37$ ;  $p=0.057$ ), formulating problem lists ( $W=28$ ;  $p=0.010$ ), and understanding anatomy ( $W=42.5$ ,  $p=0.059$ ).

**Conclusion:** These results show where attention must be placed in training district hospital practice-ready medical graduates for rural Rwanda in order to propel the future of surgical healthcare in rural contexts. Verbal presentation, critical evaluation of surgical information, formulation of appropriate problem lists, and a clear understanding of anatomy are gaps in medical graduates' preparedness for future rural district hospital practice.

**Keywords:** Rural education, Global Surgery

## Alleviating Burden of Ethical Dilemma in Surgical Care

Salome Mduma

LUGALO GMH

**Correspondence:** [salomejohn68@gmail.com](mailto:salomejohn68@gmail.com)

**Abstract ID:** 181

**Background:** Surgeons are faced with ethical challenges in their daily practice and most persistent ethical dilemmas are often less described or discussed

**Case Scenario:** A referral case, 26yrs old female involved in MTC and sustained injury of left upper limb and bruises on left scapula. Reported at institute 8hrs post MTC with diagnosis of left humerus Open fracture G& A Grade III, Crushed injury with MESS Score of 7 with intact Neurovascular status, requesting for preservation of injured limb despite the outcome

**Factors to consider:**

- (1) Ethical principles
- (2) Approaches to solve ethical dilemma
- (3) Patients request and Rights
- (4) Surgeon's ethics and professionalism
- (5) Medico-legal issues

**What is a gap:** In provision of surgical care, unfortunately there's lack of awareness of ethical guidance and /or there's no alignment of guiding principles and realities of working environment, value and motivation.

**What is our call**

- (1) Ethical decision-making is a skill hence there's role of incorporating surgical ethics as formal education in standardized curriculum
- (2) Involve stakeholders at administrative level and Multidisciplinary team in decision making on realm of ethical dilemmas
- (3) Referral of cases for alternative opinion or further management

**Conclusion:** In honoring the past and propelling the future of surgical training, it our call to incorporate in trainings, the surgical ethics decision-making as formal curriculum, guidelines, and built-in support that reflect ethical principles agreed in medical society.

**Keywords:** Ethical dilemma, Surgical care, Ethical decision making, Formal Curriculum

## Propelling The Future of Surgical Care In Africa Through Innovative Delivery of A District Hospital-Based Junior Surgical Clerkship For Undergraduate Medical Students in Rwanda: A Mixed-Methods Review of A Novel Approach

Callum Forbes, Anteneh Gadisa Belachew, Barnabas Tobi Alayande, Pierrette Ngutete Mukundwa, Robert Riviello, Abebe Bekele

Center for Equity in Global Surgery, University of Global Health Equity, Kigali, Rwanda

**Correspondence:** [callumforbes@hotmail.co.uk](mailto:callumforbes@hotmail.co.uk)

**Abstract ID:** 179

**Background:** Contextualized clinical education and training are essential to expanding access to surgical care. The inaugural University of Global Health Equity junior surgical clerkship was delivered over six months as two eleven-week cohorts of fifteen students each. Leveraging external partnerships and hybrid technology, thirty-two fac-

ulty delivered seventy-four in-class and simulation sessions with formative/summative assessments. We describe a quality improvement review of the delivery of a contextualized junior surgery clerkship based entirely at a district hospital in rural Rwanda.

**Methods:** The clerkship was reviewed using a mixed-methods quality improvement approach. This encompassed core faculty reflection, qualitative and quantitative paper-based surveying of students and clinical hospital staff, and student focus group discussions.

**Results:** Overall, the program was rated as 'excellent' or 'very good' by 67% (20/30) of students and 68.4% of hospital staff (13/19). Less than 50% of students felt the clerkship should continue solely at a single district hospital site with operative volume identified as 'excellent' or 'good' by just 26.7% (8/30). In contrast 94.7% (18/19) of hospital staff agreed that patient volume and mix was sufficient. In qualitative assessments, enhancers of the clerkship included strong relationships between university faculty and hospital staff, and the motivation of staff to engage with teaching. Barriers included workforce shortages, low volume and variety of cases, and infrastructural challenges including surgical supply chain issues.

**Conclusion:** We describe the review of a contextualized junior surgical clerkship delivered exclusively at a rural district hospital in Rwanda which was very well received by most students and clinical faculty. Future programs should intentionally factor in multi-facility training.

**Keywords:** surgery clerkship, rural, Rwanda

### Safe Surgery Organizational Readiness: Optimizing Primary Health Centers in Nigeria for Surgical Care with an Eye on the Future

Barnabas Tobi Alayande<sup>1</sup>, Paul Tunde Kingpriest<sup>2</sup>, Abebe Bekele<sup>1</sup>, Robert Riviello<sup>1</sup>

1. Center for Equity in Global Surgery, University of Global Health Equity, Kigali, Rwanda
2. Surgical Equity and Research Center, Jos, Nigeria

**Correspondence:** [balayande@ughe.org](mailto:balayande@ughe.org)

**Abstract ID:** 178

**Background:** North-central Nigeria needs more surgically capable facilities to provide primary, district, and tertiary level surgical procedures. Upgrading rural primary health centers (PHCs) to surgically capable facilities present an opportunity to address significant deficits in national surgical access and propel the future of surgical care. Efforts at strengthening health systems through planned quality improvements fail because organizational readiness is not optimized before introducing change. This study aimed to identify deficits in organizational readiness prior to introduction of surgical care to PHCs in Nigeria

**Methods:** A facility-based cross-sectional study at all primary health facilities in Plateau State. A 14-domain,

56-item SSORT tool was administered to healthcare workers to assess readiness to introduce primary care surgeries to these facilities. Scores attained in each domain were averaged comparing results from private and public PHCs.

**Results:** We surveyed 5,040 respondents (M:F=1:1.6, modal age range 36-45 years) from 944 primary facilities (75% public, 25% private). On a 5-point scale, domains of facility capacity (2.8), team psychological safety (3.1), communication about change (3.2), and resistance to change (3.7) required most improvement. Highest scoring domains were discrepancy (recognizing the need for surgical care to be performed at primary levels; 4.4), and appropriateness of surgery at their facilities (4.3). Overall, individuals were more prepared for change (4.2) than were teams (3.9) or facilities (3.7); public PHCs had lower capacity for surgery and were more resistant to change than private facilities.

**Conclusion:** The introduction of surgery to PHCs in Plateau State will require significant development of facility capacity, team building and communication, and is more likely to succeed in the few private health facilities.

**Keywords:** Organizational readiness, Primary Surgery

### Mental Health and Appearance-Altering Surgeries Among Surgical Patients in Lilongwe, Malawi: A Mixed-Methods Study

Seowoo Kim<sup>1</sup>, Claudia Kabanyana<sup>2</sup>, David Klemanski<sup>3</sup>, Solomon David Chomba<sup>4</sup>, Chitsanzo Mafuta<sup>4</sup>, Gift Mulima<sup>4</sup>, Bachar Ahmad<sup>5</sup>, Melanie Sion<sup>5</sup>

1. Tulane University School of Medicine
2. Robert H. Lurie Comprehensive Cancer Center, Northwestern University
3. Department of Psychiatry, Yale University
4. Kamuzu Central Hospital
5. Yale School of Medicine

**Correspondence:** [skim24@tulane.edu](mailto:skim24@tulane.edu)

**Abstract ID:** 170

**Background:** Appearance-altering surgeries can negatively impact mental health. Little research exists on their impact in low- and middle-income countries (LMICs). This study assessed mental health outcomes and psychosocial adjustment at various timepoints in patients undergoing these surgeries at Kamuzu Central Hospital (KCH), Malawi.

**Methods:** This is a mixed-methods study. The quantitative component measured depression, anxiety, and stress using the Self-Reporting Questionnaire-20 (SRQ-20) among patients undergoing amputations (n=13), mastectomies (n=16), and colostomies (n=13) at two time points: during hospitalization and six weeks post-discharge. A control group (n=37) involved surgeries without disfigurement. The qualitative component included three focus groups discussions >6 months from surgery and thematic analysis of transcripts.

**Results:** Significant SRQ-20 score differences appeared at Time Point 1 ( $F=4.88$ ,  $p=0.004$ ). The amputation group had higher scores than mastectomy ( $p<0.05$ ) and control groups ( $p<0.05$ ), indicating greater distress and psychiatric symptoms. At the 6-week time point, the amputation group's symptoms significantly worsened ( $T=-2.56$ ,  $p=0.029$ ), with scores rising from 7.27 to 10.55. No significant changes were seen in the mastectomy or colostomy groups. Thematic analysis identified that spirituality and social support were important for well-being; negative social perceptions and financial burdens contributed to distress. Colostomy patients expressed the most financial strain. Amputation patients reported feelings of suicidality or frustration, while the mastectomy group expressed concerns about body image and libido.

**Conclusion:** Findings highlight heightened mental health risks for patients who underwent appearance-altering surgeries, emphasizing the need for targeted, culturally sensitive interventions in LMICs for postoperative adjustment.

**Keywords:** Mental health, Appearance-altering surgery, Mixed-method study, Malawi

### Establishing a Novel Bidirectional Global Surgery Training Partnership Between Monze Mission Hospital and East Tennessee State University

Katherine Kazen<sup>1,2</sup>, Sufyan Ibrahim<sup>2</sup>, Bwalya Kafwembe<sup>2</sup>, Shadrek Ndhlovu<sup>1</sup>, Luther Ward<sup>1</sup>

1. East Tennessee State University
2. Monze Mission Hospital

**Correspondence:** [sufyanibrahim260@gmail.com](mailto:sufyanibrahim260@gmail.com)

**Abstract ID:** 169

**Background:** Global surgery is a central tenant of global health. Historically, global health efforts have been characterized by providers from high-resourced settings traveling to resource-limited environments to participate in education, research, or clinical care with minimal credit to their host institutions. More recently, there has been emphasis on the importance of promoting bidirectional exchange. In 2022, this movement inspired the development of a partnership between surgical training programs at Monze Mission Hospital (MMH) and East Tennessee State University (ETSU).

**Methods:** Our approach to partnership was based upon established relationships between leadership at both institutions. We identified 4 initial project areas: 1) increased surgical workforce 2) shared research efforts directed towards finding local solutions to local problems, 3) exchange of clinical skills, and 4) financial support. To address surgical workforce shortages an additional nurse anesthetist was hired by ETSU to work at MMH. Additionally, a general surgeon was deployed to work for one year through the ETSU SEAL Global Surgery Fellowship.

**Results:** The bidirectional partnership between ETSU and MMH has resulted in 2 conference presentations, one publication, and a training course in endoscopy which has since facilitated completion of 135 endoscopic procedures. The additional anesthetist and surgeon have also improved the facility's ability to provide access to timely, affordable, and quality surgical care.

**Conclusion:** As global surgery becomes more popular, efforts should be made to establish bidirectionality between partnerships. It is our hope that the partnership between ETSU and MMH will span years and result in mutual benefit for both institutions.

**Keywords:** global surgery, global health, international partnership

### Exploring Research Gaps in Surgery, Obstetrics, Trauma, and Anesthesia Care in Uganda: Towards Achieving Global Surgery 2030 Targets.

Kasagga Brian<sup>1</sup>, Abaho Abott<sup>2</sup>, Joshua Wandukwa<sup>2</sup>, Jonathan Babuya<sup>2</sup>, Onesmus Bogere<sup>2</sup>, Barbra Aino-mugiha<sup>2</sup>, Francis Tugume<sup>2</sup>

1. Department of Surgery, Makerere University School of Medicine
2. Incision Uganda

**Correspondence:** [briankasagga@gmail.com](mailto:briankasagga@gmail.com)

**Abstract ID:** 157

**Background:** Surgical conditions contribute significantly to the global disease burden, especially in low- and middle-income countries (LMICs), where 5 billion people lack access to safe surgical care. NSOAP plans were proposed to improve surgical services within WHO's health system building blocks framework. Evidence-based guidance is critical for maximizing the impact of NSOAPs and achieving the Lancet Commission on Global Surgery (LCOGS) 2030 targets. This study assesses research on Surgery, Obstetrics, Trauma, and Anesthesia (SOTA) in Uganda, and identifies critical research gaps to propose recommendations toward LCOGS targets.

**Methods:** We conducted a literature review on PubMed, focusing on articles published from 2000 to 2024 that address SOTA care in Uganda within the surgical system building blocks. We included original articles while excluding case reports, letters to the editor, commentaries, and conference abstracts.

**Results:** We found 341 articles. The most covered domain was Service Delivery (59.2%), comprising Quality and Safety (74 articles) and Burden, Surgical Volume, and Unmet Need (64 articles). The least domain was Essential Medicines and Infrastructure (4.1%). Areas like Surgical Leadership, and South-South collaborations, had no articles. Regulation & Accountability Infrastructure, Innovation, and Workforce, (Burnout & Satisfaction, satisfaction, and Retention,) were poorly represented. Critical gaps in

funding for surgery were found.

**Conclusion:** Research output spiked around 2015, but critical gaps remain, particularly in workforce, training, and leadership/ governance. These likely result from reliance on foreign funding, limited South-South collaboration, and insufficient training in research. Increased investment in local research capacity is essential for improving surgical care planning.

**Keywords:** SOTA, Global Surgery, NSOAP, Global Health

### Prevalence and Factor Associated with Cancellation of Elective Surgeries and Delay in First Case Incision Time At Tertiary Hospital In Southwest Ethiopia

Gersam Abera Mulugeta

Jimma University

**Correspondence:** [gersam.abera@ju.edu.et](mailto:gersam.abera@ju.edu.et)

**Abstract ID:** 155

**Background:** Cancellation of elective procedures leads to increased patient dissatisfaction and higher cost. This study aimed to assess the prevalence of OR cancellation and delay in First Case Incision Time (FCIT) and reasons for OR cancellation/delay in FCIT at a tertiary hospital in LMIC.

**Methods:** A prospective cross-sectional study was conducted at Jimma University Medical Center from September 12, 2022 - April 7, 2023, on patients admitted for elective surgery to Pediatric surgery, General Surgery, Urology, and Gynecology wards. Data on patient demography, pre-anesthetic preparation, specialty of the surgery, pre-op hospital stay, the specific operation theatre scheduled, cancellation, reason for cancellation, wheels in/ out time, Anesthesia induction time, surgery start/end time, and reason for delay in starting first case on time was collected and analyzed using Ms excel.\* \*

**Results:** A total of 1292 surgeries were performed during the study period. The average cancellation rate was 20%. The main reason for cancellation was time insufficiency (78(30%)) followed by patient condition (54 (20.8%)). Out of 467 cases operated as first cases, 268 (57.4%) were delayed beyond the agreed FCIT. The Median FCIT was 8:57AM. The FCIT on time rate ranged from 0% - 53%. The main reasons for the delay in starting surgery on time were the time taken for preparation (142 (53%)) followed by staff issues (41(15.3%)).

**Conclusion:** The prevalence of cancellation of elective surgical procedures at Jimma University Medical center was 20%. Delay in FCIT was noted in more than 50% of elective procedures which highly contributes to cancellation.

**Keywords:** Cancellation, First case, delay, Reason

### Expanding Laparoscopic Training: Validity Testing of a Ugandan Manufactured Box Trainer

Shannon Barter

Duke University School of Medicine

**Correspondence:** [shannon.barter@duke.edu](mailto:shannon.barter@duke.edu)

**Abstract ID:** 153

**Background:** Laparoscopic training is needed in Africa. KeyTrainer (KT) is a low-cost Ugandan manufactured laparoscopic box trainer, with laparoscopic tasks adapted for the African context. We report on the construct validity of the KT by testing with laparoscopic surgical faculty and trainees.

**Methods:** Junior trainees, senior trainees, and laparoscopic surgical faculty were asked to practice and then complete a timed trial of five laparoscopic tasks: ring transfer, rubber band stretch, circle cut, needle navigator, and intracorporeal knot tying. Following which, participants completed a user experience survey.

**Results:** Twelve junior trainees, 9 senior trainees, and 5 faculty (n=26) performed 130 timed trials. Ninety-one percent of juniors and 78% of seniors reported observation of less than 10 laparoscopic cases. All faculty reported previous laparoscopic training and performed between 10 - 50 independent laparoscopic cases. Faculty median time to task completion was faster than the junior or senior trainees in all five tasks. Faculty performed significantly faster than juniors in circle cut and needle navigator (p=0.02) and significantly faster than both trainee levels in intracorporeal knot (p=0.023). Participants reported overall satisfaction with KT, with image quality as the lowest-ranked feature (16% unsatisfactory). Seventy percent reported they would likely use the KT to practice laparoscopy in the future.

**Conclusions:** Construct validity of the KeyTrainer was demonstrated with significant differences in task performance times between surgical trainees and faculty, suggesting the ability to detect different skill levels. KeyTrainer may provide a locally available solution for laparoscopic training in sub-Saharan Africa.

**Keywords:** Laparoscopy, Simulation, Box Trainer, Frugal Innovation

### Feasibility of Machine Learning Models for Critical Care Outcomes in Rural Kenya

Violet Kemunto Otoki<sup>1,2</sup>, Jaewook Shin<sup>2</sup>, Addison M. Heffernan<sup>2</sup>, Robert K. Parker<sup>1</sup>, Daithi S. Heffernan<sup>2</sup>

1. Department of Department of Surgery, Tenwek Hospital, Bomet Kenya
2. Department of Surgery, Brown University

**Correspondence:** [violetotoki@gmail.com](mailto:violetotoki@gmail.com)

**Abstract ID:** 140

**Background:** Machine learning models (MLMs) are increasingly used in surgical decision-making but typically rely on large, complex datasets from resource-rich settings.

There is limited research on the feasibility of applying MLMs to smaller, less comprehensive datasets in resource-constrained environments. This study evaluates the feasibility of implementing MLMs using critical care datasets from a rural hospital in Kenya, focusing on regional ICU scoring systems such as the Rwanda-Mortality Predictive Model (RMPM) and Tropical Intensive Care Score (TropICS).

**Methods:** A retrospective cohort of 325 mechanically ventilated ICU patients from a rural teaching hospital in Kenya was analyzed. MLMs, including XGBoost (XGB), Random Forest (RF), K-nearest neighbor (KNN), and Logistic Regression (LR), were used to predict outcomes such as mortality, need for tracheostomy, and ICU length of stay. Predictive inputs included regional and conventional scoring systems (RMPM, TropICS, APACHE-II), as well as patient-specific variables. Model performance was assessed using the area under the receiver operating characteristic curve (AUC) and feature importance analysis.

**Results:** MLMs performed well with small datasets, especially in predicting mortality (AUC XGB=0.85, RF=0.9), even when limited to regional scoring systems (AUC XGB=0.77). Key predictors included regional ICU scoring systems, which performed comparably to APACHE-II.

**Conclusion:** MLMs are feasible for use in resource-limited ICU settings, even with smaller datasets. Regional scoring systems effectively contribute to their predictive power, offering a practical approach to implementing MLMs in rural, resource-constrained environments.

**Keywords:** Machine Learning Models

## Mom's Got a Knife: The Challenges of Motherhood for Female Surgeons

Beth Stuebing

Nkhoma Mission Hospital

**Correspondence:** [bstuebing@gmail.com](mailto:bstuebing@gmail.com)

**Abstract ID:** 139

**Background:** Few surgeons in Africa are female, fewer are married with children. How motherhood affects surgeons, and their children is a new area of research in the west, but very little is known about the African context. Learning the challenges of motherhood among surgeons in the US may help inform policy and attitudes towards this topic in Africa.

**Methods:** A literature review, online searches, and personal experience of being a surgeon mother were analyzed.

**Results:** Concerns about having a family is the number one reason women do not become surgeons in the US. Less women surgeons are married than their male counterparts. Most women delay childbearing until after training, which can have significant consequences. Only 8% of US female residents are warned about the risks of delaying childbirth. US surgeons have >10 times the use of advanced reproductive technology to conceive compared to the general population. US surgeons have much higher rates of miscarriage,

stillbirth, and complications during pregnancy and delivery than age matched controls. Many surgeons do not reach their breastfeeding goals, due to pressure from work. Most partners of female surgeons work outside the home, making childcare difficult. Women surgeons often have better patient outcomes when compared to men.

**Conclusion:** Investing in female surgeons requires knowledge and support around childbearing issues. Much is still lacking in a western context but is even more lacking in Africa.

**Keywords:** female surgeon, pregnancy, childbirth

## A Call to Unify Global Surgery and Infection Prevention for Improved Surgical Outcomes

Chandler Hinson, Claire Kilpatrick, Kemal Rasa, Jianan Ren, Robert Sawyer, Emmanuel Ameh, Peter Nthumba  
World Surgical Infection Society

**Correspondence:** [chinson@worldsis.org](mailto:chinson@worldsis.org)

**Abstract ID:** 130

The incidence of surgical site infections (SSIs) in Sub-Saharan Africa (SSA) is among the highest globally, ranging from 8% to 30%. Key contributing factors include poor hand hygiene and inadequate surgical sterility, with surgeons, anesthesiologists, and critical care physicians being notable offenders. As surgical access in SSA grows, infection prevention and control (IPC) must expand alongside it to ensure safety. While IPC teams exist in many healthcare facilities, they often lack sufficient resources and monitoring capacities, resulting in stagnant IPC efforts despite increasing surgical capacity.

IPC is crucial for reducing preventable post-operative complications and deaths, with the World Health Organization noting that basic IPC practices can significantly decrease mortality from SSIs. Inadequate IPC also drives antimicrobial resistance (AMR), as improper antibiotic use following infections exacerbates the problem. Enhancing IPC measures can minimize infection risks, reducing the need for antibiotics and preserving their effectiveness.

Moreover, IPC prevents post-operative infections, shortening hospital stays and freeing up resources. This allows healthcare facilities to serve more patients, alleviating overcrowding. Trust in healthcare systems also improves when patients experience safer outcomes, encouraging more people to seek care. To sustain progress in SSA's surgical outcomes, IPC must be fully integrated into surgical care, addressing critical areas such as hand hygiene and sterilization. Strengthening IPC capacity will reduce SSIs, combat AMR, and improve both healthcare efficiency and patient trust.

**Keywords:** Infection Prevention and Control, Antimicrobial Infections, Surgical Site Infections, Global Surgery

## Hospital Ownership and Surgical Mortality: An Analysis of Operative Case Encounters in East, Central, and Southern Africa

Yves Yankunze, Robert K Parker

The College of Surgeons of East, Central and Southern Africa (COSECSA)

**Correspondence:** [yvesbugusu@yahoo.fr](mailto:yvesbugusu@yahoo.fr)

**Abstract ID:** 123

**Background:** This study examined surgical mortality in various hospital types (public, private, and faith-based) across East, Central, and Southern Africa.

**Methods:** Conducted between January 2005 and December 2020, it analyzed 106,106 operative cases performed by 214 general surgery trainees at 85 hospitals. The primary outcome was perioperative mortality, defined as in-hospital, all-cause mortality before discharge. Mortality rates were compared across hospital ownership types using multilevel logistic regression models while accounting for factors like age, emergency status, case complexity, and hospital resources.

**Results:** Results showed that faith-based hospitals had significantly lower perioperative mortality rates (1.19%) compared to public (1.94%) and private hospitals (1.85%). The multilevel logistic regression model indicated that faith-based hospitals had 33% lower odds of mortality compared to public hospitals (OR 0.67,  $p=0.002$ ) and 42% lower odds compared to private hospitals (OR 0.58,  $p=0.035$ ).

**Conclusion:** The study concludes that faith-based hospitals in these regions have notably better surgical outcomes. The findings suggest that practices and resource allocation in faith-based hospitals may contribute to their improved outcomes, and further research is needed to explore the underlying factors that could enhance surgical care across all hospital types in the region.

**Keywords:** Surgical mortality, ECSA region, Hospital type

## Reflections on Changing Leadership Roles in a Long-Term Global Surgery Partnership

Helen W. Li<sup>1</sup>, Maureen Mumbua<sup>2</sup>, Wendy Matendechele<sup>2</sup>, Ivy Agade<sup>2</sup>, Joseline Kaptingei<sup>2</sup>, Joanna Hunter-Squires<sup>3</sup>, Sophia Abdulhai<sup>3</sup>, Pius Musau<sup>2</sup>

1. Washington University in St Louis, Department of Surgery
2. Moi University School of Medicine
3. Indiana University School of Medicine, Department of Surgery

**Correspondence:** [helenli@wustl.edu](mailto:helenli@wustl.edu)

**Abstract ID:** 122

**Background:** The global surgical partnership (GSP) between Moi University School of Medicine/Moi Teaching and Referral Hospital and Indiana University School of Medicine has lasted over 30-years, with generations of

leaders involved in the collaboration. We explored US and Kenyan collaborator perceptions on leadership roles as a case study for a long-term, academic GSP.

**Methods:** We performed semi-structured interviews with 6 US and 11 Kenyan surgeon leaders within our GSP to reflect on the perceived leadership roles in the partnership over time. Thematic analysis via Dedoose was used to analyze qualitative data.

**Results:** Surgeon leaders in our GSP can be organized into three categories: initiating, current and future leaders. "Initiating" leaders participated in the GSP for an average of 29 years (SD 2.5), and key roles included establishing strong foundational relationships, providing support in program development and cultural navigation. "Current" leaders participated in the GSP for an average of 18 years (SD 0.5) and leadership roles involved advanced skill transfer and expansion into non-clinical collaborations. "Future" leaders participated in the GSP for an average of 8 years (SD 2.4) and brought attention to developing greater clarity in the purpose and goals of the GSP.

**Conclusions:** Reflection on our 30-year GSP shows the evolution of leadership roles throughout the different stages of the collaboration, particularly regarding the purpose and goals of the GSP overall. Ensuring alignment of expectations and goals for GSP leaders is critical to ensuring a mutually beneficial GSP and should be encouraged in all partnerships.

**Keywords:** Global surgery, partnership, leadership

## Impact of Surgery on Economic Development in Low- and Middle-Income Countries: A Dynamic Panel Data Analysis

Martilord Ifeanyi<sup>1</sup>, Johnson Nchege<sup>2</sup>, Ebikabowei Aduku<sup>3</sup>, Meskerem Kebede<sup>1</sup>, Maeve Sophia Bognini<sup>1</sup>, Rachel Hargest<sup>1</sup>, Rocco Friebel<sup>1</sup>

1. Global Surgery Policy Unit, LSE Health, London School of Economics and Political Science
2. University of Nigeria Nsukka, Nsukka, Nigeria
3. Nnamdi Azikiwe University

**Correspondence:** [m.i.ifeanyi@lse.ac.uk](mailto:m.i.ifeanyi@lse.ac.uk)

**Abstract ID:** 112

**Background:** Previous studies have estimated the health and economic losses associated with unmet need for surgery in low- and middle-income countries (LMICs). This study explored the direct effect of surgery on the economic development of LMICs using panel data spanning years 2000 to 2022.

**Methods:** Economic development was measured using Gross Domestic Product (GDP) per capita. The volume of surgical activities in a country was proxied by the volume of sutures (in kilogrammes) imported into the country per 100,000 population, obtained from the United Nations Comtrade. Countries that produce sutures locally were excluded. The effect of surgery on GDP per capita was as-

sessed using the Generalized Method of Moments system dynamic panel data estimation technique under the framework of the augmented Solow growth theory.

**Results:** A total of 95 LMICs were included in the study. The analysis showed that a one-unit increase in the volume of imported sutures is associated with a 0.001 unit increase in GDP per capita (p-value: 0.001). In a disaggregated analysis, a stronger effect was found in low-income countries, with a one-unit increase in imported sutures being associated with in a 0.043 unit increase in GDP per capita (p-value: 0.000), while the results for high-income countries remained consistent with the overall findings.

**Conclusion:** Surgery is positively associated with the economic prosperity of LMICs, with a stronger effect in low-income countries. The results provide strong economic argument, beyond direct health benefits, for investments in scaling up access to safe, timely and affordable surgeries for all in LMICs

**Keywords:** Global surgery, economic development, UHC, sutures

### Pediatric Sepsis in Resource-Limited Settings: Integrative Literature Review to Inform Implementation of 2020 Surviving Sepsis Campaign Guidelines on a Pediatric Surgery Ward in Uganda

Brian Kasagga<sup>1</sup>, Julia Harrison<sup>2</sup>, Nasser Kakembo<sup>1</sup>, Jennifer Rickard<sup>2</sup>

1. Department of Surgery, Makerere University
2. Department of Surgery, University of Minnesota

**Correspondence:** [briankasagga@gmail.com](mailto:briankasagga@gmail.com)

**Abstract ID:** 94

**Background:** Sepsis is a leading cause of death among pediatric surgical patients in resource-limited settings. The 2020 Surviving Sepsis Campaign laid out a series of recommendations for best practices regarding sepsis identification and management. Many of these require adaptation prior to implementation in these settings.

**Methods:** We conducted a literature review on pediatric sepsis in resource-limited settings using PubMed and African Journals Online. We included articles covering one or more of 8 domains based on the 2020 Surviving Sepsis guidelines. We excluded sepsis due to malaria or dengue and in immunocompromised patients.

**Results:** We screened 3,174 texts, excluding 3,122 based on title or abstract. 52 full texts were reviewed, with 28 included. Sepsis identification was the most common domain covered (15 texts, 53%), followed by resuscitation (11 texts, 39%), and antibiotic selection (10 texts, 35%). Nutrition, blood product administration, and source control were least covered (3, 3, and 4 texts respectively). There was 1 randomized controlled trial. All other studies were observational. No studies were specific to surgical patients.

**Conclusions:** There is a dearth of research regarding pediatric sepsis in resource limited settings, especially re-

lated to surgical pathologies. Of the research that exists, most is observational and pertains to sepsis identification and resuscitation, with gaps in knowledge regarding nutrition, pressor use, and source control. This literature review will inform our implementation of the 2020 Surviving Sepsis Campaign guidelines on the pediatric surgery ward at Mulago Hospital in Uganda.

**Keywords:** Sepsis, Resource Limited, Low Resource

### Global Scaling of a Surgical Infection Prevention Program for Low-Resource Settings: A Prospective Cohort Study in Five Countries

Assefa Tesfaye

St Peter Specialized hospital, Lifebox

**Correspondence:** [teddytesfaye24@gmail.com](mailto:teddytesfaye24@gmail.com)

**Abstract ID:** 87

**Background:** Surgical site infections (SSI) are a leading cause of morbidity and mortality from surgery, with higher rates in low- and middle-income countries (LMICs). Clean Cut is a multimodal, adaptive quality improvement program that aims to reduce surgical site infections by improving compliance with perioperative infection prevention standards. The program has been successfully implemented in 12 hospitals in Ethiopia, with an associated 35% reduction in SSI. This study assessed whether this program can be effectively scaled to various geographical and socioeconomic settings outside of Ethiopia.

**Methods:** Clean Cut was implemented in one hospital each in five countries: Liberia, Madagascar, Malawi, India, and Bolivia. Program introduction and scale-up, which occurred from 2021-2023, relied upon knowledge transfer from clinicians who had successfully implemented Clean Cut in Ethiopia to build local expertise. The primary outcome was a 30-day SSI rate.

**Results:** We prospectively collected data on 1,865 patients, 478 from the baseline period and 1,387 after program implementation. Compliance with infection prevention standards improved significantly, with a mean score of 2.93 (out of 6) in the baseline period compared to 4.25 in the intervention period (p < 0.001). 30-day SSI rates were reduced from 28.4% to 12.1%, a 49% relative risk reduction (RR: 0.51, 95% CI: 0.38-0.67, p<0.001).

**Conclusion:** Clean Cut was successful in reducing SSI in five LMIC hospitals across five countries. This study demonstrates the scalability and efficacy of this program in preventing SSI across a range of settings.

**Keywords:** Clean-cut, SSI

### Navigating Through Emerging Priorities in Global Surgery Partnerships: Defining the Path Forward.

Wendy Matendechele<sup>1</sup>, Helen W. Li<sup>2</sup>, Maureen Mumbua<sup>1</sup>, Ivy Agade<sup>1</sup>, Joseline Kaptingei<sup>1</sup>, JoAnna Hunter-Squires<sup>3</sup>, Sophia Abdulhai<sup>3</sup>, Pius Musau<sup>1</sup>



1. Moi University School of Medicine, Eldoret, Kenya
2. Department of Surgery, Washington University, St. Louis, MO USA
3. Indiana University School of Medicine, Indiana University, Indianapolis, IN USA

**Correspondence:** [matendechelewendy@gmail.com](mailto:matendechelewendy@gmail.com)

**Abstract ID:** 80

**Background:** The collaboration between AMPATH-Indiana University-Moi University-MTRH has been established for over 30 years, centered on optimizing clinical care, education and research. With the dynamic evolution in these fields, the focus of this partnership has since met new demands and opportunities. This study seeks to explore the emerging needs arising within this partnership, shedding light on its ongoing transformation.

**Methods:** We used a qualitative approach, using semi-structured interviews with 17 consultants within the partnership under the department of surgery and anesthesia, identified by purposive sampling. Interviews were audio-recorded, transcribed, coded and analyzed by Dedoose through thematic analysis.

**Results:** New needs emerged from the following key areas: clinical care, surgical education and research. There is a shift from the grassroot needs of primary healthcare to specialized care. Surgical education has advanced to sub-specialist skill requirements, needing to venture into virtual tools to maximize learning. The pivotal role of research has been recognized with the desire to develop capacity in research through establishing a rich research culture.

**Conclusion:** As global health partnerships advance over time, new areas of focus are bound to arise as partners gain greater independence, shifting the focus of the collaboration. The desire for specialized clinical care, virtual learning tools and advancing research highlights the need for tailored medical services, innovative educational platforms transcending geographical boundaries, and recognition that impactful healthcare solutions are rooted in collaborative scientific research. Continuous reflection on the journey, progress and future direction of global surgery partnerships is imperative in achieving equity and sustainability.

**Keywords:** global surgery partnerships, clinical care, surgical education, research capacity building

### Host-Perceived Impact of Unidirectional Short-Term Global Surgery Engagements: A Survey of Trainees from the College of Surgeons of East, Central and Southern Africa (COSECSA) on the Benefits, Challenges, and Desire for Bidirectional Exchange

Chelsea Shikuku<sup>1</sup>, Catherine N. Zivanov<sup>2</sup>, James Joseph<sup>1</sup>, Daniel E. Pereira<sup>3</sup>, Abebe Bekele<sup>4,5</sup>, Laston Chikoya<sup>6</sup>, Rondi M. Kauffmann<sup>7,8,9</sup>, Jana B. A. MacLeod<sup>8, 9,10</sup>

1. AIC CURE Children's Hospital of Kenya, Kijabe, Kenya

2. Department of Surgery, Washington University School of Medicine, St. Louis, MO
3. Department of Orthopedic Surgery, Washington University School of Medicine, St. Louis, MO
4. University for Global Health Equity, Kigali, Rwanda
5. Duke Global Health Institute, Durham, NC
6. Levy Mwanawasa Medical University, Lusaka, Zambia
7. Department of Surgery, AIC Kijabe Hospital, Kijabe, Kenya
8. Department of Surgery, Vanderbilt University Medical Center, Nashville, TN
9. Vanderbilt Institute for Global Health, Nashville, TN
10. Department of Surgery, Kenyatta University School of Health Sciences, Nairobi, Kenya

**Correspondence:** [chelsea.shkuku@cureinternational.org](mailto:chelsea.shkuku@cureinternational.org)

**Abstract ID:** 69

**Background:** As academic global surgery grows, more surgeons from high-income countries (HIC) are travelling to low- and middle-income countries (LMIC) for short-term engagements. Few studies have assessed the impact from these unidirectional engagements from the perspectives of host institutions.

**Methods:** Using an exploratory sequential mixed methods design, a voluntary anonymized survey derived from a previously published, single-institution qualitative analysis was distributed to trainees with COSECSA affiliations.

**Results:** Of 990 COSECSA trainees, 223 (22.5%) completed this survey. Most respondents were male (79.8%), aged 30-34 years (44.4%), and from training programs in Eastern Africa (89.7%). Specialties included general surgery (43.9%), orthopedic surgery (20.2%), pediatric surgery (11.7%), plastic surgery (7.6%), neurosurgery (4.0%), urology (1.8%), and ENT (1.8%). Many respondents desired an opportunity to travel to an HIC setting for clinical rotations (93.5%) or research fellowships (72.4%). Perceived barriers to bidirectional medical educational exchanges included cost (91.8%), complexity of licensure (86.6%), and challenges of obtaining a visa (70.3%). Responses were mixed when asked if fear of brain drain posed a barrier to bidirectional educational exchanges.

**Conclusion:** Short-term medical engagement by HIC trainees and faculty provide many benefits to host surgical trainees in LMICs. There are numerous barriers to reciprocal opportunities for LMIC personnel to engage in similar experiences in HICs despite a strong expressed interest. Ongoing advocacy to level the playing field for LMIC partners is imperative.

**Keywords:** global surgery, surgical education, bidirectional education, bidirectional partnership

## Advancing Laparoscopic Training in Namibia: Implementation of the Global Laparoscopic Advancement Program of SAGES

Fatmata Bah<sup>1</sup>, Jordan Gipe<sup>1</sup>, Akutu Munyika<sup>2</sup>, Tulio Pacheco<sup>3</sup>, Filemon Amaambo<sup>2</sup>, Nia Zalamea<sup>4</sup>, Maria Marcela Bailez<sup>5</sup>, Rohan Joseph<sup>6</sup>, Jacqueline Narvaez<sup>7</sup>, Linda Zhang<sup>1</sup>

1. Icahn School of Medicine at Mount Sinai, New York City, NY, USA
2. Ondangwa Private Hospital, Ondangwa, Namibia
3. NYU Grossman Long Island School of Medicine
4. University of Tennessee Health Science Center, Memphis, TN, USA
5. Garrahan Children's Hospital, Buenos Aires, Argentina
6. HCA Florida Capital Hospital, Tallahassee, FL, USA
7. Society of American Gastrointestinal and Endoscopic Surgeons, Los Angeles, CA, USA

**Correspondence:** [tulio.pacheco@nyulangone.org](mailto:tulio.pacheco@nyulangone.org)

**Abstract ID:** 42

**Background:** Laparoscopic surgery in low- and middle-income countries (LMICs) faces significant challenges due to limited resources and a lack of qualified trainers. The Global Laparoscopic Advancement Program (GLAP), developed by the Society of American Gastrointestinal and Endoscopic Surgeons (SAGES), provides sustainable and effective methods for teaching laparoscopic surgery. This study evaluates the feasibility of a pilot GLAP training course in Namibia, following successful implementations in Mexico and Costa Rica.

**Methods:** In December 2022 and September 2023, GLAP partnered with the Namibian Surgical Society and COSECSA to conduct training courses. These courses included simulation practice and lectures on surgical training and curriculum development. Participants were assessed on their surgical backgrounds, prior simulation experience, and interest in curriculum development. They were also evaluated on the time to complete five Fundamentals of Laparoscopic Surgery (FLS) tasks at the start and end of the program.

**Results:** Thirty-one surgeons from Namibia, Ethiopia, Malawi, Somalia, and Zambia participated. Only 35% had formal laparoscopic training during residency or fellowship. Over half (53%) had never used a simulator, and 45% lacked mentors for learning laparoscopic skills. Participants identified lack of equipment (80%), trained surgeons (76%), and formal training (73%) as major barriers to laparoscopy. Most expressed strong interest in formal training (61%), additional short-term courses (58%), and FLS testing (63%). A statistically significant improvement in time to complete the circle cut task was observed (p-value 0.016).

**Conclusion:** GLAP is a feasible and effective model for laparoscopic training in Namibia, highlighting the need for further formal laparoscopic education in LMICs.

**Keywords:** Low-and middle-income countries · Global surgery · Laparoscopic surgery

## Next-Gen Surgical Training: Bridging Cognitive Skills Gaps with 3D Animation and ADDIE

Mpapho Motsumi<sup>1</sup>, Martin Brand<sup>2</sup>, Irene Lubbe<sup>3</sup>

1. University of Botswana
2. University of Pretoria
3. Central European University

**Correspondence:** [motsumim@ub.ac.bw](mailto:motsumim@ub.ac.bw)

**Abstract ID:** 14

**Background:** Mastering the skills required to perform a surgical procedure requires technical and cognitive skills training. However, emerging evidence points to the inadequacy of the traditional teaching method in teaching cognitive skills of surgical procedures as it emphasizes technical over cognitive skills acquisition without a systematic and sequential approach to teaching surgical procedure-cognitive skills. This study designed an alternative digital teaching method for surgical procedure-cognitive skills.

**Methods:** This study was a cross-sectional descriptive study which sought to describe the design of a digital teaching method for surgical procedure-cognitive skills using 3D animation videos with embedded low-stakes assessments and instant feedback. The low-stakes assessments were used to support rather than assess learning. The study followed the ADDIE model, which consisted of five stages: Analysis, Design, Development, Implementation, and Evaluation, to design the teaching method. Following ethics approval, the study was conducted at the universities of Botswana and Pretoria. Novice general surgery residents and medical officers were recruited and gave voluntarily informed consent to participate in the study.

**Results and Conclusion:** This study designed a digital teaching method for surgical procedure cognitive skills using 3D animation videos with embedded low-stakes assessments. Trainees unanimously confirmed the need for systematic and sequential teaching of surgical procedure cognitive skills. This study paves the way for future studies and improved surgical curricula.

**Keywords:** Surgical education, cognitive skills, ADDIE model, digital teaching method

## CARDIOTHORACIC SURGERY

### Trends in Vascular Trauma and 30-day In-hospital Outcome: A 20-month Retrospective Study in Tikur Anbessa Specialized Hospital

Rahel Ababayehu Assefa

St. Peter's Specialized Hospital, Addis Ababa, Ethiopia

**Correspondence:** [hara224@gmail.com](mailto:hara224@gmail.com)

**Abstract ID:** 142

**Background:** Prompt diagnosis and surgical intervention for vascular injuries are essential, as trauma remains the leading cause of limb and life loss worldwide. This study aimed to investigate the clinical presentation, surgical management and short term in-hospital outcome of vascular trauma patients treated in the study period.

**Methods:** An institution-based retrospective cohort design was employed, analyzing data of 188 vascular trauma patients who fulfilled the inclusion criteria. Variables were assessed using descriptive statistics and regression analysis was done to identify determinants of unfavorable outcomes such as amputation or death.

**Results:** The median age was 25 with interquartile range of 20-33. Majority were male (95.2%) and only 8.7% presented within the golden period for revascularization ( $\leq 6$  hours). Penetrating injury was the main mechanism of injury (85.3%), mainly due to bullets. Peripheral vascular trauma accounted for 168 patients. Fracture fixation (47%) and temporary intravascular shunt (TIVS) (23.4%) were more commonly performed before referral for definitive revascularization, while fasciotomy was not as common (13.6%). Vein interposition graft was preferred method of repair. Amputation was done for 11.9% and overall death rate was 3.7%. Polytrauma, road traffic accidents and fractures were found to be statistically significant determinants of amputation risk.

**Conclusion:** Delayed presentation is a striking finding which necessitates emphasis on early diagnosis and referral. Prospective research on TIVS and delayed fasciotomy in low-income countries is needed to determine their relevance in limb salvage. The risk of pre-referral procedures delaying definitive care should be considered in future analysis.

**Keywords:** Vascular, Trauma, Amputation, Temporary Intravascular Shunt (TIVS)

### Wedge Resection Versus Segmentectomy in Treating Elderly Patients with Stage IA Non-Small Cell Lung Cancer

Ahmed Magdy Elmezayen<sup>1</sup>, Ragad Al-Housni<sup>1</sup>, Winston Vasanthakumar<sup>1</sup>, Mohamed Arafa<sup>1</sup>, Youssef Abouelela<sup>1</sup>, Amal Said Elbendary<sup>2</sup>, Hatem Naase<sup>1</sup>

1. Basildon University Hospital, London, United Kingdom
2. Tanta University, Egypt

**Correspondence:** [Ahmed.Elmezayen@nhs.net](mailto:Ahmed.Elmezayen@nhs.net)

**Abstract ID:** 68

**Background:** Concerning elderly individuals diagnosed with stage IA non-small cell lung cancer (NSCLC), the best surgical strategy is still up for discussion. This research was to assist the outcomes of wedge resection (WR) and

segmentectomy in patients aged  $\geq 75$  years with stage IA NSCLC.

**Methods:** This randomized open-label study involved 50 patients aged 75 years or elderly individuals with stage IA NSCLC who underwent either WR or segmentectomy. The primary outcome was overall survival (OS). Secondary outcomes included cancer-specific survival, lymph node evaluation, nodal upstaging, surgical margin positivity, recurrence, readmission, and mortality rates.

**Results:** The segmentectomy group demonstrated higher rates of nodal upstaging (28% vs 4%,  $p=0.048$ ) and lymph node examination (84% vs 48%,  $p=0.015$ ). No significant differences were observed in surgical margin positivity, recurrence rates, hospital stay duration, or 30-day readmission. There was no 30-day and 90-day mortality in both groups while not statistically significant, OS (4% vs 0%) mortality rates favored segmentectomy. Kaplan-Meier analysis revealed no significant difference in mortality (4% vs. 0%) and mean survival time (23.2 vs 24 months) for segmentectomy.

**Conclusions:** Segmentectomy demonstrated superior nodal staging than WR with no significant difference in OS between both of them in older individuals with stage IA NSCLC. These findings suggest that segmentectomy may be the preferred approach when feasible in this population.

**Keywords:** Elderly, non-small cell lung cancer, Segmentectomy, Wedge resection

### Blood Patch Pleurodesis for Prolonged Air Leak After Lung Resection

Ahmed Elmezayen<sup>1</sup>, Ahmed Osama<sup>2</sup>, Taha BinEsmael<sup>1</sup>, Ahmed Mousa<sup>1</sup>, Ayman Amer<sup>1</sup>, Amal Said Elbendary<sup>3</sup>, Hatem Naase<sup>1</sup>

1. Basildon University Hospital, London, United Kingdom
2. Mabara Hospital, Egypt
3. Tanta University, Egypt

**Correspondence:** [Ahmed.Elmezayen@NHS.net](mailto:Ahmed.Elmezayen@NHS.net)

**Abstract ID:** 67

**Background:** Prolonged air leak (PAL) is a well-known issue that frequently results in extended hospitalization following pulmonary lobectomy. There have been many suggestions for preventing air leaks, but no one method has yet achieved definitive success. The purpose of this research was to determine the efficacy of autologous blood patch pleurodesis (ABPP) to treat PAL.

**Methods:** This retrospective study was conducted on 60 patients aged  $\geq 18$ , both sexes, with PAL after pulmonary lobectomy. Patients were categorized into two groups: Group A received ABPP for PAL, and Group B did not receive ABPP.

**Results:** Group A had a significantly lower invasive procedure rate than group B ( $P=0.023$ ). The incidence of reoperation was not significantly different between the two

groups. Thirty-day mortality was insignificantly different between both groups. Chest tube removal after surgery and hospital length of stay were significantly lower in group A than in group B ( $P < 0.05$ ). In univariate regression, the amount of blood used was the only independent predictor of chest tube removal after surgery (1.014 odds (95%CI: 1.002 - 1.026)).

**Conclusions:** ABPP is a prompt, safe, and successful method to treat post-lobectomy PAL, which shortens the time patients spend in the hospital and allows for the early removal of chest tubes.

**Keywords:** Autologous Blood, Pleurodesis, Air Leak

## PLASTIC SURGERY

### Bridging The Gaps: COSECSA's Role in Expanding Microsurgical Training, Accessibility and Shaping the Future of Reconstruction Surgery in Africa

Edgar Mumba

College of Surgeons of East, Central, and Southern Africa (COSECSA)

**Correspondence:** [edgarmumba@gmail.com](mailto:edgarmumba@gmail.com)

**Abstract ID:** 152

**Background:** Microsurgery has become a cornerstone of reconstructive surgery, addressing complex injuries, congenital defects, post burns deformities, and cancer-related reconstructions. However, in sub-Saharan Africa, access to these services remains limited due to a severe shortage of trained specialists and insufficient resources. The College of Surgeons of East, Central, and Southern Africa (COSECSA) aims to improve access, but faces challenges in workforce capacity, infrastructure, and access to advanced microsurgical procedures. This study aimed to assess the current state of microsurgical training and service accessibility in COSECSA member countries, identify barriers to training, and propose strategic interventions to enhance the region's microsurgical capacity.

**Methods:** A mixed-methods approach was used, collecting quantitative data on microsurgical service availability and conducting qualitative interviews with key stakeholders involved in training and patient care across 14 COSECSA member countries.

**Results:** Microsurgical services remain limited across most COSECSA member countries. Only a few countries; Zambia, Ethiopia, Uganda, and Zimbabwe, have established services. Zambia stands out with functional microsurgical skills laboratory and fewer failed flaps, indicating superior outcomes. Ethiopia and Uganda also have made strides in performing microsurgical procedures but with mixed results. Most other countries either lack microsurgery services entirely or rely on visiting specialists. Key barriers across the region include inadequate infrastructure, limited training programs, and uneven resource distribu-

tion. These gaps contribute to delays in care and suboptimal patient outcomes.

**Conclusion:** COSECSA should expand fellowship opportunities, enhance simulation-based training, and develop regional centers of excellence. Strengthening international partnerships and advocating for healthcare infrastructure improvements will be essential in advancing microsurgical care across Africa.

**Keywords:** Microsurgery, COSECSA, Accessibility, Training

### The Urgency and Value of Multidisciplinary Care for Cleft Lip And Palate Patients in Ethiopia: Assessing Current Shortfalls and Future Strategies

Edgar Mumba

College of Surgeons of East, Central, and Southern Africa (COSECSA)

**Correspondence:** [edgarmumba@gmail.com](mailto:edgarmumba@gmail.com)

**Abstract ID:** 149

**Background:** Cleft lip and palate (CLP) are among the most common congenital anomalies globally, profoundly impacting patients' physical, functional, and psychosocial well-being. In Ethiopia, a nation of over 120 million people, the provision of CLP care remains critically insufficient. Even in urban centers like Addis Ababa, the availability of comprehensive multidisciplinary care is limited to a single public facility. This stark deficiency leaves many patients, particularly in rural areas, with delayed or incomplete treatments, compromising both immediate and long-term health outcomes. This study aimed to assess the current state of multidisciplinary care for CLP patients in Ethiopia, with a focus on identifying existing shortfalls in care provision, evaluate current treatment outcomes, highlighting gaps in both urban and rural areas, and propose strategies for improvement.

**Methods:** A mixed-methods approach was employed, gathering data from patients, families, and healthcare providers through surveys, interviews, and document reviews. Stratified random sampling was used for quantitative data, while qualitative interviews were conducted using purposive sampling.

**Results:** Results demonstrate significant shortcomings in access to comprehensive CLP care throughout the country, with even Addis Ababa offering fragmented services in most hospitals. Contributing factors include a shortage of specialized healthcare professionals such as orthodontic and speech therapists, poor coordination among disciplines, and limited public awareness. Geographic and economic barriers further compound these challenges, leading to suboptimal care for many patients.

**Conclusion:** The stark reality of lack of multidisciplinary care for CLP patients casts a long shadow, stretching across urban and rural landscapes. Thus, multidisciplinary CLP care is crucial for addressing shortfalls.

**Keywords:** Multidisciplinary care, Cleft Lip and Palate, Access to Care, Ethiopia

## The Effect of Allogeneic Blood Transfusion on Burn Mortality in a Resource-Limited Setting

Melissa Issa-Boube<sup>1</sup>, Jotham Gondwe<sup>2</sup>, Jared Gallaher<sup>1</sup>, Anthony Charles<sup>1</sup>

1. University of North Carolina at Chapel Hill
2. Kamuzu Central Hospital

**Correspondence:** [missaboube@msm.edu](mailto:missaboube@msm.edu)

**Abstract ID:** 137

**Background:** There are nearly 9 million new burn cases worldwide, with a disproportional burn burden in Low- and Middle-income countries. Patients with significant burn injury frequently require multiple blood transfusions; however, there is a paucity of data regarding the effect of allogeneic blood transfusion following burn injury in a resource-limited setting with a high anemia prevalence at baseline. This study aimed to determine the effect of blood transfusion on burn mortality.

**Methods:** We performed a retrospective review of patients presenting with burns between 2011 and 2019, using prospectively collected burn registry data from Kamuzu Central Hospital (KCH). We performed multivariate logistic regression modeling to identify predictors of mortality, and we considered potential confounders.

**Results:** A total of 2359 patients were included. Mean age  $10 \pm 14$  with a male preponderance (58%). The mean percent total body surface area burned (%TBSA) was  $17.52 \pm 14.46$ . and 60% of burns were caused by scald injuries and 37% by flame. Below 40% TBSA, our model predicted a higher probability of mortality for those transfused. However, above 40% TBSA, the predicted probability of mortality is decreased for those transfused.

**Conclusions:** Allogeneic blood transfusion confers 2.21 times higher odds of mortality in burn patients. Mortality risk increased with age and units transfused. This study highlights the need for proper guidelines and protocols for allogeneic blood transfusion in burn patients. A more restrictive blood transfusion strategy may be more appropriate in a resource-limited setting.

**Keywords:** burn, transfusion, Malawi, TBSA

## Columellar Reconstruction Using Median Forehead Flap and Conchal Cartilage- A Case Report

Hanna Atlabachew

ALERT

**Correspondence:** [hannaatlabachew@gmail.com](mailto:hannaatlabachew@gmail.com)

**Abstract ID:** 125

**Background:** The repair of the columella is a challenging issue, particularly when done alone. There are several reasons why the columella can be lost, including trauma,

neoplastic conditions, and acute or chronic infection. Because the columella serves vital purposes, including supporting and extending the nose pointer, its complete absence results in severe cosmetic and functional abnormalities. Many procedures have been described for reconstructing columella.

**Case report:** A 23-year-old female patient presented with post-infectious loss of columella 4 years back that started spontaneously for which she got treated with antibiotics. She mentioned that the defect made her unhappy. On physical examination, there was loss of columella with partial left alar defect—median forehead flap based on the supraorbital and supratrochlear vessels raised. Conchal cartilage was harvested from the right ear and buried at the tip of the forehead flap. The flap was insetted and columella reconstruction was completed in a single stage. The flap was divided after 21 days, and the result was satisfying.

**Conclusion:** Taking into account the outcomes of this surgical method, a median forehead flap with conchal cartilage is appropriate for reconstructing the columella for the following reasons: the flap vascularizes safely, the conchal cartilage would aid in the projection of the nasal tip, the transferred tissue resembles the lost tissue, the procedure can be finished in a single step, the surgical technique is straightforward, and the flap-harvesting site heals easily.

**Keywords:** reconstruction, columella defect, forehead flap

## Management outcomes of burn injury among hospitalized under 18 children and associated factors in AaBET hospital, Addis Ababa, Ethiopia, 2022

Hanna Atlabachew

AaBET, SPHMMC

**Correspondence:** [hannaatlabachew@gmail.com](mailto:hannaatlabachew@gmail.com)

**Abstract ID:** 101

**Background:** Children are inquisitive and often use touch and feeling to investigate their surroundings. They could sustain numerous injuries and accidents during this process. One of the most frequent injuries is a burn. Due to comparatively thinner dermis, children are more likely to suffer from serious burn injuries. The study aimed to determine the management outcomes of admitted pediatric burn patients and associated factors.

**Methods:** The study was conducted at the Addis Ababa Burn, Emergency, and Trauma Center (AaBET). A facility-based retrospective cross-sectional study was conducted to assess the clinical profile and outcome of pediatric burn patients among all burn patients admitted to AaBET Hospital from September 2016 G.C. Analysis was done by using SPSS version 26.

**Results:** The majority (50.7%) were boys, and children under the age of five were the most impacted (62.4%) by burn injuries. Scald was the leading cause of burn (71.6%). The most common degree of burn injury was second-degree superficial burn (60%). Patients who received adequate

fluid resuscitation within 24 hours were 2.7 times more likely to be discharged without complications and those who received antibiotics during their stay were 14 times more likely to be discharged without complications.

**Conclusion:** Scalds were discovered to be the most common cause in this population. This may be avoided if parents were made informed. Awareness should include preventive and first aid methods which can significantly reduce morbidity and mortality. Documentation of burn victims should be improved.

**Keywords:** pediatric burn, outcome

### Long-Term Results of Plantar Skin Grafts Versus Skin Grafts of Hairy Areas for Covering Loss of Skin Substances on The Palmar Surface of The Fingers, Palm of The Hand and Sole of The Foot in Patients with Black Skin: Prospective Cohort Study of 123 Total Skin Grafts

Anatole Kibadi Kapay

University Of Kinshasa

**Correspondence:** [akibadi@yahoo.fr](mailto:akibadi@yahoo.fr)

**Abstract ID:** 66

**Background and methods:** The present study, filling this gap, used data from a prospective cohort of 123 total skin grafts performed on 93 black African patients who benefited from plantar skin grafts versus skin grafts from hairy areas to cover loss of skin substances. of the palmar surface of the fingers, the palm of the hand and the sole of the foot. We followed for a period of 163 months.

**Results:** Sixty-four grafts of hairy areas were carried out in 52 patients, 29 of whom were male and 23 females, for a M/F sex ratio of 1.3; and 59 plantar skin grafts in 41 patients including 21 males and 20 females, M/F sex ratio of 1. The digital palmar surface was the most recipient of the plantar graft, i.e. 35.5% of cases. After a post-operative follow-up of at least 12 months, patients or their entourage judged the functional and aesthetic results of plantar skin grafts to be better and acceptable, unlike the results of hairy area grafts. The texture and color are even better if the total skin graft is taken from an identical histological area.

**Conclusion:** We recommend a plantar skin graft for black-skinned patients.

**Keywords:** Plantar skin grafts, skin grafts

### Common Surgical Acts of Reconstructive and Aesthetic Plastic Surgery in A Country with Limited Resources: Our Technical Adaptations And Our Challenges To Overcome

Anatole Kibadi Kapay

University Of Kinshasa

**Correspondence:** [akibadi@yahoo.fr](mailto:akibadi@yahoo.fr)

**Abstract ID:** 63

We present through varied clinical illustrations our reconstructive and aesthetic plastic surgery operations. Our diagnostic approaches, paraclinical assessments, therapeutic decisions adapted to our working conditions and our environment, as well as the post-therapeutic follow-up of patients are discussed. The success of these acts of plastic surgery (reconstructive and aesthetic) requires a better basis of theoretical and practical knowledge. But there are many challenges to overcome in a country with limited resources: Low accessibility to current plastic surgery techniques (prostheses, dermal substitutes); Low practice of microsurgery; Inadequate initial support; Social, cultural and religious beliefs and barriers not conducive to plastic surgery; non-governmental organizations preventing the emergence of skills and the development of permanent structures; and finally poverty in all its forms and facades.

**Keywords:** Common surgical acts of plastic surgery, country with limited resources, technical adaptations, challenges to overcome

### Health System Factors Influencing the Availability and Access to Comprehensive Care for Cleft Lip, Palate, and Associated Anomalies in and Dar es Salaam, Tanzania

Adelaida Elisamehe Mghase

Muhimbili National Hospital

**Correspondence:** [adelaidemghase@gmail.com](mailto:adelaidemghase@gmail.com)

**Abstract ID:** 32

**Background:** Cleft lip and palate are prevalent craniofacial anomalies, particularly in low- and middle-income countries, where access to comprehensive care is often limited. In Tanzania, despite some hospitals offering surgeries for these conditions, the health system factors influencing care availability and access remain underexplored. This study aimed to assess these factors in public and private health facilities in Dar es Salaam, Tanzania.

**Methods:** A cross-sectional study was conducted in 37 randomly selected health facilities, including public and private institutions. Hospital managers were selected through convenience sampling, and data were collected using a structured questionnaire. The data were stored in RED Cap, cleaned, and analyzed using Stata 15, with descriptive analysis, cross-tabulations, linear regression, and factor analysis employed to examine the quantitative data. Ethical clearance were obtained both from Muhimbili research board and NIMR.

**Results:** Of the 37 facilities surveyed (6 public, including a National Hospital, and 31 private), 89.7% (33/37) could diagnose cleft lip and palate, but only 24% (9/37) could manage the condition. Significant challenges include limited equipment, financial constraints, and a shortage of human resources, particularly plastic surgeons (available at three facilities) and speech therapy specialists (available at two facilities).

**Conclusion:** While many health facilities in Tanzania can diagnose cleft lip and palate, there are substantial gaps

in providing comprehensive care. Addressing these challenges requires enhancing local training, increasing government budget allocations, and fostering collaborations with international organizations. Further research is needed in rural areas to identify additional gaps in nutrition and psychological support services

**Keywords:** Health system, utilization of care, cleft lip and palate, comprehensive care

### Prevalence and Risk Factors of Perioperative Malnutrition Among Non-Syndromic Cleft Lip and/or Palate in Rwanda

Thierry Cyuzuzo<sup>1</sup>, Chaste Niyihuza Dominique<sup>1</sup>, Mukagaju Françoise<sup>2</sup>, Nezerwa Yves<sup>2</sup>, Furaha Charles<sup>3</sup>, Jennifer Rickard<sup>4</sup>, Ntirenganya Faustin<sup>1</sup>

1. University of Rwanda, College of Medicine and Health Sciences, Kigali, Rwanda.
2. Department of Surgery, King Faisal Hospital
3. Department of Surgery; Rwanda Military Referral and Teaching Hospital
4. Department of Surgery, University of Minnesota, Minneapolis, Minnesota.

**Correspondence:** [cyuzutsi95@gmail.com](mailto:cyuzutsi95@gmail.com)

**Abstract ID:** 18

**Background:** Cleft lip and/or palate (CLP) is a prevalent congenital craniofacial anomaly frequently linked to malnutrition in children. This study investigates the prevalence and determinants of malnutrition among children with CLP in Rwanda.

**Methods:** This multicenter, prospective observational study included children  $\leq 60$  months undergoing primary cleft surgery across hospitals with plastic surgeons in Rwanda. Data on demographics, anthropometric measures, clinical features, caregiver knowledge, and feeding practices were collected to identify factors associated with malnutrition.

**Results:** Among 104 children, 50% were malnourished, with severe chronic malnutrition being the most common (21%). Stunting was observed in 43%, with 56% experiencing severe stunting. Wasting affected 11%, with 27% experiencing severe wasting. Regarding cleft types, 78% had unilateral and 22% had bilateral clefts. Of the unilateral clefts, 50% were cleft lip and palate, 41% cleft lip only, and 9% cleft palate only. For bilateral clefts, 46% were cleft lip and palate, 37% cleft lip only, and 17% cleft palate only. At the time of surgery, 49% were still breastfeeding, 73% had started food supplements, 19% were given formula milk, and 55% were given cow's milk.

Significant factors associated with malnutrition included postnatal nutrition education ( $p = 0.0057$ ), food supplementation ( $p = 0.0072$ ), continued breastfeeding ( $p = 0.0104$ ), cow's milk consumption ( $p < 0.0001$ ), and age  $\geq 4$  months ( $p = 0.0372$ ).

**Conclusion:** Malnutrition is prevalent among children with CLP in Rwanda, with severe chronic malnutrition being the most common. Targeted nutritional interventions and comprehensive care strategies are essential to improve outcomes in this population.

**Keywords:** Cleft Lip; Cleft Palate; Malnutrition; Stunting.

### Assessing the Reliability of YouTube Content for Plastic Surgery Patient Information in Africa with the modified DISCERN and JAMA Scores.

Shirley Sarah Dadson, Alice Umutoni

College of Medicine and Health Sciences, University of Rwanda, Kigali, Rwanda

**Correspondence:** [dadsonshirleysarah@gmail.com](mailto:dadsonshirleysarah@gmail.com)

**Abstract ID:** 13

**Background:** This study aimed to assess the quality of YouTube videos on plastic surgery for African audiences.

**Methods:** Data from YouTube videos on plastic surgery relevant to Africa were extracted and assessed using standardized tools. The primary outcomes were reliability scores (modified DISCERN and JAMA), and secondary outcomes were engagement ratios (LVR and CVR). Ordinal logistic and beta regression analyses were used to evaluate the primary outcomes, with a statistical significance level set at 0.05.

**Results:** 897 videos were analyzed and 3.9% were published by African entities. Large subscriber count (coefficient=-6.9e-8, 95% CI [-1.13e-7, -2.9e-8],  $p=0.001$ ), African-authored (coefficient=-0.85, 95% CI [-1.44, -0.25],  $p=0.005$ ) and advertising (coefficient=-1.01, 95% CI [-1.63, -0.57],  $p<0.001$ ) videos had lower modified DISCERN scores. Advertising videos equally had lower JAMA scores (coefficient=-1.29, 95% CI [-1.83, -0.74],  $p<0.001$ ). Academic videos had lower LVR (coefficient=-0.48, 95% CI [-0.66, -0.30],  $p<0.001$ ), while independent videos had higher LVR (coefficient=0.40, 95% CI [0.26, 0.54],  $p<0.001$ ). Academic videos had lower CVR (coefficient=-0.40, 95% CI [-0.67, -0.13],  $p=0.003$ ), while videos with other purposes had higher CVR (coefficient=0.37, 95% CI [0.10, 0.64],  $p=0.007$ ).

**Conclusion:** This study underscores a potential disparity in the quality of online plastic surgery information based on video sources and purposes.

**Keywords:** Africa, JAMA score, modified DISCERN score, plastic surgery

## UROLOGIC SURGERY

### Vesical Gossypiboma with Urethral Migration Causing Acute Urinary Retention: A Case Report and Review of the Literature

Kaleab Habtemichael Gebreselassie, Ferid Ousman Mummeda, Fitsum Gebreegziabher Gebrehiwota: Mubarek Bargicho Adema

Worabe Comprehensive Specialized Hospital

**Correspondence:** [kaleab528@gmail.com](mailto:kaleab528@gmail.com)

**Abstract ID:** 106

**Background:** Vesical gossypiboma is a retained surgical sponge in the urinary bladder following abdominal or pelvic surgery. It is relatively rare and very few cases have been reported. The clinical diagnosis largely depends on a high index of suspicion and patients manifest with urinary tract symptoms. Gossypiboma is generally considered avoidable by thorough exploration of the surgical site and count of surgical sponges at the end of the procedure.

**Case Summary:** We present a case of vesical gossypiboma in a 64-year-old male with lower urinary tract symptoms and acute urinary retention following an open trans-vesical prostatectomy.

**Keywords:** Gossypiboma, surgical sponge, foreign body, acute urinary retention

### Current Landscape of Urologic Oncology in Africa: Practice, Challenges and Perspectives

Kaleab Habtemichael Gebreselassie

Worabe Comprehensive Specialized Hospital, Worabe, Ethiopia

**Correspondence:** [kaleab528@gmail.com](mailto:kaleab528@gmail.com)

**Abstract ID:** 104

**Background:** Uro-oncology is a rapidly developing subspecialty with a wide scope and impact in developed nations. However, the current uro-oncologic landscape in Africa is largely unknown and the extent of practice is undocumented. This survey aims to determine the current uro-oncologic practice in Africa and highlight contemporary challenges.

**Methods:** A web-based multicenter survey is conducted by Modern Urology for Africa (MUFA), a research collaborative group aimed at improving urologic care in Africa. Survey questions were sent, via email, to volunteer urologists practicing in 32 African countries. Data regarding individual uro-oncologic practice was collected and descriptive analysis was used to present survey results.

**Results:** Seventy-six urologists practicing in 32 African countries were contacted. We obtained a response rate of 73.6%. A national uro-oncologic registry is available in 59% of the countries surveyed. Prostate cancer was the most common genitourinary cancer (78.5% hospitals) followed by bladder and kidney cancers. In 90.4% of hospi-

tals, patients presented more than 3 months after the onset of symptoms. Regular multidisciplinary meetings are functional in 73.1% of hospitals. Prostate-specific antigen was the only tumor marker available uniformly in all hospitals (100%). CT-scan was utilized in 88.4% of centers. The most commonly performed tissue diagnostic procedure was prostate biopsy (88.4%) followed by bladder (84.6%) and renal biopsies (53.8%). Most urologists (78%) performed below 15 uro-oncologic surgeries monthly.

**Conclusion:** The current landscape of uro-oncology in Africa has many challenges. Diagnostic modalities are scarce and not standardized. Practices vary widely, and national registries and standardized treatment protocols are lacking.

**Keywords:** Urology, Uro-oncology, Africa, Modern Urology For Africa (MUFA)

### Surgical Advances in Treating Benign Prostatic Hyperplasia in Africa: What About the Endoscopic Approach?

Kaleab Habtemichael Gebreselassie

Worabe Comprehensive Specialized Hospital, Worabe Ethiopia

**Correspondence:** [kaleab528@gmail.com](mailto:kaleab528@gmail.com)

**Abstract ID:** 57

**Background:** We aimed to assess the practices, trends, and challenges associated with using endoscopic techniques in Africa related to the surgical treatment of benign prostatic hyperplasia (BPH).

**Methods:** The questionnaire, which was based on Google Forms, assessed several points related to the surgical management of benign prostatic hyperplasia.

**Results:** In 67.4% of the centers, BPH was the primary pathology requiring surgical management. In all 43 centers, approximately 1/3 of the urologists (n = 41) are able to perform an endoscopic procedure for the management of prostatic hypertrophy. Of the 43 centers, 30 had an operation block equipped with endourology equipment, and 56.6% (n = 17) performed endourological surgery exclusively for the surgical management of BPH. TURP is the most widely used endoscopic technique. Open prostatectomy was the only surgical technique used in 14 centers (32.5%). In the remaining centers, both procedures (endoscopy and open surgery) were used depending on the surgeon's skills. Twenty-six (60.5%) centers expressed the need for training in endoscopic management of BPH.

**Conclusion:** The main challenges encountered relate to the lack of competent personnel, the unavailability of equipment and materials, and the high cost to patients. It is essential to develop modern urology in Africa, particularly in terms of endourological practices.

**Keywords:** Benign prostatic hyperplasia; Minimally invasive surgical; Endourology; Modern Urology For Africa



## Ureteral Stenting in Patients with Locally Advanced Cervical Cancer: Predictors of Low Success Rate

Kaleab Habtemichael Gebreselassie

Worabe Comprehensive Specialized Hospital, Worabe Ethiopia

**Correspondence:** [kaleab528@gmail.com](mailto:kaleab528@gmail.com)

**Abstract ID:** 55

**Background:** Cervical cancer is the leading gynecologic malignancy in Ethiopia. The diagnosis is often delayed and many patients present with locally advanced disease. Involvement of the ureters with or without the development of hydronephrosis is a common finding. Ureteral stent placement is a modality utilized to relieve an established obstruction (therapeutic) or to prevent its early occurrence (prophylactic). However, the procedure may not be successful in all patients. The objective of this study is to assess the factors associated with the low success rate of ureteral stenting in these patients with locally advanced disease.

**Methods:** This is a hospital-based cross-sectional study of patients diagnosed with locally advanced cervical cancer for whom a retrograde ureteral stent placement is attempted from January 2019 to March 2020. Data of 175 patients were retrieved by a retrospective chart review and analyzed for factors associated with low procedural success.

**Results:** Socio-demographic data were similar between patients regardless of procedural success. The overall success rate of stenting was 54.2%. In the prophylactic group (with no hydronephrosis and normal creatinine), the success rate was 94%, and in the therapeutic group 42.6%. Logistic regression analysis showed that bilateral hydronephrosis and increased serum creatinine were indicators of significant ureteral obstruction and were predictors of stent placement failure.

**Conclusion:** Increased serum creatinine and the presence of hydronephrosis are risk factors for failed ureteral stenting. For these patients, other options for urinary diversion such as percutaneous nephrostomy should be considered from the outset.

**Keywords:** Cervical cancer; Ureteral stenting; Hydronephrosis; Locally advanced

## Uroflowmetry Patterns After Posterior Urethral Valves Ablation: A Single Centre Study in Africa

Sarah Okebe<sup>1,2</sup>

1. Narok County and Referral Hospital
2. Kenyatta National Hospital

**Correspondence:** [okebesarah02@gmail.com](mailto:okebesarah02@gmail.com)

**Abstract ID:** 54

**Background:** In newborn males, posterior urethral valves commonly cause lower urinary tract obstruction, causing long-term urological problems despite prompt en-

doscopic valve ablation. Uroflowmetry is an inexpensive, simple, and non-invasive follow-up urodynamic test that can evaluate the bladder and urethra's functionality post-valve ablation. This study aimed to ascertain the voiding pattern of patients' post-valve ablation at Kenyatta National Hospital using uroflowmetry.

**Methods:** A cross-sectional study was conducted on participants who underwent valve ablation from January 2014 to December 2020 at Kenyatta National Hospital and had completed toilet training. The uroflowmetry test was conducted according to the International Children's Continence Society standards for uroflowmetry. Data on demographics, voided volume, Q max, flow curve pattern, and post-void residual urine were analyzed with SPSS Version 26.0. Continuous data was presented as means and medians, while categorical data were shown as frequencies and percentages. Relationships and differences were explored using chi-square and paired sample t-tests.

**Results:** Out of 59 patients, 24 completed the uroflowmetry test, with a mean age of 6.6 years. There was a significant difference between the mean voided volume (139.08 mL (SD = 90.028) and mean expected bladder capacity (257.08 mL (SD = 98.576) ( $p < 0.001$ ) post valve ablation, but no significant difference between observed (11.72 mL/s) and expected Q max (11.26 mL/s) ( $p = .596$ ). Significant post-void residual was observed in 19 boys (79%).

**Conclusion:** Incorporating uroflowmetry as a routine follow-up metric in low and middle-income countries protocols can be beneficial in detecting bladder dysfunction and preserving renal function following valve ablation.

**Keywords:** Posterior Urethral Valves, Uroflowmetry, Valve Ablation, Postvoid Residual, Bladder Dysfunction

## Tuberculosis of the Testis, Mimicking A Testicular Tumor

Francis Zerd

Benjamin Mkapa Hospital

**Correspondence:** [franciszerd@gmail.com](mailto:franciszerd@gmail.com)

**Abstract ID:** 26

**Background:** Male genital TB can present as a testicular mass that is difficult to differentiate from malignancy. Isolated testicular TB is extremely rare. In most cases, it clinically mimics other testicular lesions, such as testicular tumor, infarction, or even testicular torsion. Middle-aged males, especially of 20–40 years of age are most commonly affected, and presented with painful or painless scrotal swelling with or without discharging sinus. Infertility may occur. In elderly age group, diagnostic dilemma develops between testicular malignancy and testicular TB, as the first one is more common than the latter.

**Method:** A retrospective review was conducted. The case was obtained from the Pathology archives at the Benjamin Mkapa Hospital, Dodoma - Tanzania. Age, gender, the clinical presentation was recorded. Histopathological

diagnosis was confirmed by gross examination and hematoxylin and eosin (H&E) sections, showing characteristics of granulomatous caseating inflammation highly suggestive of TB.

**Result:** A 23-year-old male with a history of left testicular pain and swelling for 4 months. Ultrasonography showed a left testicular mass, the provisory diagnosis was left testicular tumor. Radical orchiectomy was done and sample sent for histopathology. It was a mass of 11x5x3.5cm, cut section showed distorted testicular architecture, Chronic caseating granulomatous inflammation consistent with TB was seen microscopically.

**Conclusion:** Although it is a very rare disease, the clinician should consider tuberculosis of the testis as a possible differential of a scrotal mass. This will increase the possibility of early diagnosis, as well as proper and early management.

**Keywords:** Tuberculosis, Testicular TB, Tumor Mimicker

### Effectiveness of Phytotherapy (Uriphytol) Versus Tamsulosin in Management of Benign Prostatic Obstruction At Kilimanjaro Christian Medical Centre: A 6-Months Randomized Clinical Trial

Zerra Israel Cheyo<sup>1</sup>, Bartholomeo Nicholas Ngowi<sup>1</sup>, Frank B. Bright<sup>1</sup>, Jasper Said Mbwambo<sup>1</sup>, Sweetness Nafatal Laizer<sup>2</sup>, Orgeness J. Mbwambo<sup>1</sup>

1. Kilimanjaro Christian Medical University College
2. Kilimanjaro Clinical Research Institute

**Correspondence:** [zerra.cheyo@kcmuco.ac.tz](mailto:zerra.cheyo@kcmuco.ac.tz)

**Abstract ID:** 21

**Background:** Phytotherapy has been a common practice in Africa for managing lower urinary tract symptoms due to benign prostatic obstruction (BPO), with around 80% of the population using it. However, high-level evidence supporting its effectiveness is limited. This study aimed to compare the effectiveness of Uriphytol, a phytotherapy made from Cucurbita pepo and Curcuma longa, with Tamsulosin, a conventional medication for BPO.

**Methods:** In this 6-month open-label, parallel-designed, non-inferiority randomized clinical trial (Phase II), 87 patients were enrolled. The study compared Uriphytol (1.5g/day) with Tamsulosin (0.4mg/day), with 43 patients in the Uriphytol group and 44 in the Tamsulosin group. The primary outcome measured was the change in International Prostate Symptom Score (IPSS), while secondary outcomes included post-void residual volume and International Index of Erectile Function (IIEF-5) score.

**Results:** After 6 months, 82 participants were evaluated (40 in the Uriphytol group, 42 in the Tamsulosin group). Both groups showed similar reductions in IPSS and postvoid residual volume, with no significant difference between them. However, Uriphytol significantly improved

quality of life and erectile function compared to Tamsulosin (QoL: p=0.005; IIEF-5: p=0.044).

**Conclusion:** Uriphytol was not inferior to Tamsulosin in managing BPO symptoms and reducing post-void residual volume but was superior in improving erectile function and quality of life. This suggests Uriphytol as a viable alternative treatment. Further research is needed to explore long-term effects and its impact on PSA levels compared to conventional treatments.

**Keywords:** Effectiveness, C.pepo, curcumin, tamsulosin

### The Use of Surgical Staging of Inguinal Lymph Nodes in Penile Squamous Cell Carcinoma in the HIV Era

Victor Mapulanga

University of Zambia

**Correspondence:** [vmapulanga@yahoo.com](mailto:vmapulanga@yahoo.com)

**Abstract ID:** 19

**Background:** Penile cancer which is most common Squamous Cell carcinoma (PSCC) is quite common in developing countries such as sub-Saharan Africa (SSA) but rare in developed countries. The high incidence in developing countries has been attributed to high prevalence of human papilloma virus (HPV) and HIV prevalence. Curative treatment of penile cancer involves surgical treatment of primary tumor and inguinal lymph node dissection. Data on surgical staging of penile cancer in the setting of HIV infection are scanty. We set to explore the use of surgical staging of inguinal lymph nodes in PSCC in the HIV era.

**Methods:** A prospective study was conducted for a period of 14 months in Lusaka, Zambia. Patients with surgically resectable PSCC tumor undergoing surgical treatment were recruited.

**Results:** Forty patients were enrolled with the median age was 53 years. Thirty-five (88%) were HIV seropositive with 32 patients (80%) presenting with clinically palpable inguinal lymph nodes (cN+). The prevalence of pathological lymph node metastasis (LNM) was 37.5% (12/32) in cN+ patients. On univariate analysis pathological tumor stage, Perineural invasion (PNI) and younger age were predictive of LNM while on multivariate analysis only PNI was predictive of LNM.

**Conclusion:** Surgical staging of inguinal lymph nodes in PSCC patients in the era of HIV has low yield of positive LNM with most being reactive adenopathy due to HIV.

**Keywords:** Penile squamous cell carcinoma, lymph node metastasis, HIV

## NEUROSURGERY

### Descriptive Analysis of Operative Experience in COSECSA FCS Neurosurgery Trainees

Agabe Nkusi, Lawa Shaban, Poster Mutambo, Cecilia Msonda, Bachetta Niraj, Laston Chikoya

College of Surgeons of East, Central and Southern Africa (COSECSA)

**Correspondence:** [chikoyal@yahoo.com](mailto:chikoyal@yahoo.com)

**Abstract ID:** 143

**Background:** Neurosurgery training under COSECSA is crucial for addressing the shortage of neurosurgical expertise in East, Central, and Southern Africa. This study provides a descriptive analysis of the operative experiences of 14 FCS Neurosurgery trainees across 25 hospitals in five countries, focusing on the number and types of operations performed, common procedure bundles, and the variations in training experiences across hospitals and training years.

**Methods:** A retrospective analysis of 12,352 operations recorded by 14 trainees was conducted. Descriptive statistics were used to summarize the number and types of procedures performed per trainee.

**Results:** The 14 trainees recorded between 435 and 1,396 operations, with a median of 882 per trainee. The most frequently performed procedures included ventriculoperitoneal shunt insertion, craniectomy for subdural collections (including chronic subdural hematoma), and endoscopic third ventriculostomy. Common procedure bundles included Craniotomy for Brain Tumour Resection, Burr Holes for Sub-acute SDH/CSDH, and Endoscopic Surgery. There was significant variability in operative experiences, with some hospitals providing a higher volume and diversity of cases. Disparities in the level of operative supervision and the range of procedures available across hospitals were also noted, indicating variability in training quality and opportunities across the region.

**Conclusion:** This analysis highlights significant variation in the neurosurgical training of COSECSA FCS trainees. While common procedures are well-represented, differences in exposure to specialized surgeries and hospital participation emphasize the need for more standardized and equitable access to training opportunities across all affiliated hospitals.

**Keywords:** Neurosurgery training, COSECSA, Operative experience, Surgical education

### Cervical Spine Malignancy in Adults: Challenges with Multidisciplinary Approach - A Case Report

Rukwava Godfrey

Mpilo hospital

**Correspondence:** [godfreyrukwava@gmail.com](mailto:godfreyrukwava@gmail.com)

**Abstract ID:** 93

**Background:** Cervical spine malignancies are rare but complex conditions requiring coordinated care from various specialties. Despite advances in oncology and neurosurgery, challenges persist in managing these cases effectively. We present a case of cervical spine malignancy highlighting the challenges encountered in a multidisciplinary approach and discuss potential solutions.

**Methods:** We conducted a retrospective review of a patient diagnosed with cervical spine, C1-C2. The case involved collaboration between Oncologists, Radiologists, Neurosurgeons, ENT surgeons and Radiation oncologists, over a period of six months.

**Results:** Our patient presented with progressive neck pain and weakness. Imaging revealed C1- C2 cervical spine lesion. Neurosurgical intervention was considered due to severe pain and neurological deficits. A combination of palliative care strategies, including pain management, physical therapy, and psychological support, was implemented alongside ongoing oncological treatment.

**Conclusion:** This case illustrates several challenges in managing cervical spine malignancies through a multidisciplinary approach: Diagnostic uncertainty due to overlapping symptoms with other conditions, balancing oncological goals with neurological preservation, managing complex pain and symptom control, coordinating care between specialists across different departments, addressing patient and family needs beyond medical treatment.

**Keywords:** Cervical Spine Malignancy, Multidisciplinary Approach

### Tethered Cord Syndrome in a Low-Income Setting: A Case Report Highlighting Diagnostic and Therapeutic Challenges

Rukwava Godfrey

Mpilo hospital

**Correspondence:** [godfreyrukwava@gmail.com](mailto:godfreyrukwava@gmail.com)

**Abstract ID:** 92

**Background:** Tethered cord syndrome (TCS) is a complex neurological condition often associated with spina bifida occulta. Early diagnosis and surgical intervention are crucial for preventing irreversible neurological damage. However, in low-income developing countries, diagnosing and treating TCS poses significant challenges due to limited resources and expertise.

**Case Presentation:** We present a case of a 12-year-old girl who presented to Mpilo Central Hospital in Zimbabwe with progressive lower limb weakness, urinary incontinence, and recurrent urinary tract infections. Initial misdiagnosis led to a delay in referral to a specialist center. Magnetic Resonance Imaging (MRI), performed after a prolonged wait, confirmed the presence of a tethered spinal cord with a lipomyelomeningocele. Surgical untethering was performed, but post-operative care was complicated by limited availability of rehabilitation services.

**Conclusion:** This case illustrates several challenges faced in managing TCS in low-income settings. These include delayed diagnosis due to lack of awareness among primary healthcare providers, limited access to diagnostic imaging facilities, scarcity of specialized neurosurgical expertise, and inadequate post-operative rehabilitation resources. The patient's outcome was further compromised by socioeconomic factors, including transportation difficulties and inability to afford follow-up appointments. This case report underscores the need for improved early detection strategies, enhanced training for primary healthcare workers, and increased investment in neurological and rehabilitative services in resource-poor environments. It also highlights the importance of developing local treatment protocols and fostering international collaborations to address the unique challenges posed by complex conditions like tethered cord syndrome in low-income developing countries. Long-term follow-up of this patient will be crucial in assessing the effectiveness of interventions in this challenging setting.

**Keywords:** Tethered Cord Syndrome, Low-Income Setting

### Incidence and Prevalence of Pediatric Hydrocephalus at Mpilo Central Hospital: A Retrospective Analysis

Rukwava Godfrey, Garikai Mwale

Mpilo hospital

**Correspondence:** [godfreyrukwava@gmail.com](mailto:godfreyrukwava@gmail.com)

**Abstract ID:** 90

**Background:** Pediatric hydrocephalus remains a significant neurological condition affecting children worldwide. However, limited data exists on its epidemiology in low-resource settings, particularly in Zimbabwe. We aimed to determine the incidence and prevalence rates of pediatric hydrocephalus at Mpilo Central Hospital, Bulawayo, Zimbabwe and to explore temporal trends and demographic characteristics.

**Methods:** This retrospective study will analyze medical records of children aged 0-12 years diagnosed with hydrocephalus between January 2015 and December 2022 at Mpilo Central Hospital. We will calculate annual incidence rates per 100,000 population and prevalence rates per 10,000 children. Temporal trends will be assessed using Poisson regression analysis. Demographic factors associated with hydrocephalus diagnosis will be examined using logistic regression.

**Results:** The results will quantify the prevalence and incidence rates of pediatric hydrocephalus at Mpilo, as well as show the changes in incidence rates over the identified period of study. It will show distribution across sex and age groups

**Conclusion:** This study will provide the first comprehensive data on pediatric hydrocephalus epidemiology at Mpilo Central Hospital. The observed incidence and preva-

lence rates highlight the significant burden of this condition in our setting. The declining or rising trend in incidence will reflect on antenatal care and neonatal services. These findings will underscore the need for enhanced early detection strategies, particularly for neonatal cases. Further research is warranted to explore factors contributing to the observed trends and to inform healthcare policy and resource allocation for pediatric neurosurgical services in Zimbabwe.

**Keywords:** Pediatric Hydrocephalus, Incidence, Prevalence

### IDEM Spinal Meningioma: A Case Report

Rukwava Godfrey, Garikai Mwale

Mpilo hospital

**Correspondence:** [godfreyrukwava@gmail.com](mailto:godfreyrukwava@gmail.com)

**Abstract ID:** 77

**Background:** Intradural extramedullary (IDEM) spinal meningiomas are rare tumors that arise within the spinal canal outside the spinal cord. They present a challenge in diagnosis and treatment due to their location and potential for neurological complications. We aimed to present a case of IDEM spinal meningioma, focusing on diagnostic challenges, surgical approach, and postoperative outcomes.

**Methods:** We report a retrospective case study of a patient diagnosed with IDEM spinal meningioma. The patient underwent imaging studies, including MRI and CT scans, for evaluation of symptoms. Decompressive laminectomy and excision of lesion was done Postoperative care and follow-up were conducted to assess outcomes.

**Results:** Our patient presented with progressive back pain and weakness in lower extremities.

Imaging a mass lesion at the T11/T12 level. The tumor was completely excised. Postoperative MRI showed successful removal of the lesion without evidence of recurrence at follow-up.

**Conclusion:** This case illustrates several key aspects of IDEM spinal meningioma management: diagnostic challenges due to overlapping symptoms with other spinal pathologies, importance of thorough preoperative evaluation using advanced imaging techniques, potential for significant improvement in neurological symptoms following successful surgical intervention. Further research is warranted to standardize diagnostic protocols and treatment approaches for this rare but potentially impactful condition.

**Keywords:** spinal meningioma

### Prevalence of Intraventricular Hemorrhage and Post Hemorrhagic Hydrocephalus in Preterm Neonates at Bugando Medical Center In Mwanza, Tanzania- A Cross-Sectional Study.

James Lubuulwa

Bugando Medical Center, Mwanza, Tanzania

**Correspondence:** [lubisjay9@gmail.com](mailto:lubisjay9@gmail.com)

**Abstract ID:** 76

**Background:** Preterm infants are at risk for perinatal complications, including germinal matrix– intraventricular hemorrhage (IVH) and subsequent post hemorrhagic hydrocephalus (PHH) and is major cause of morbidity and mortality among preterm neonates. There are limited studies conducted in our setting on prevalence of IVH PHH hence the aim of this study to bridge the knowledge gap

**Method:** In this hospital based cross sectional study, we enrolled all preterm neonates admitted neonatal unit at BMC from August 2021 to March 2022 whose parents agreed to consent for the study were screened for IVH/PHH using cranial ultrasound. Data was collected using a questionnaires sheet that enquired demographic characteristics including age, sex, address, birthweight, gestation age, parity, any maternal diseases during pregnancy, size of the ventricles from the cranial ultrasound, follow-up of the control cranial ultrasound and data was analysed.

**Results:** A total of 183 pre-term neonates were enrolled where 107 (58.5%) were female in which 109 (59.6%) were born by normal delivery, at the gestational age of around 31-33 weeks (n=73, 39.9%) with the average weight of 1.5Kg to 2Kg. The prevalence of IVH alone was zero whereas PHH was 3.3% (n=4) with increased ventricular size on ultrasound.

**Conclusion:** The prevalence of post hemorrhagic hydrocephalus was low (3.3%) in the population studied despite the known risk of very low gestational age and extremely low birth weight. Given the low prevalence we recommend that routine cranial ultrasound for screening preterm babies is not necessary for those without clinical signs.

**Keywords:** Preterm neonates, Intraventricular hemorrhage and post hemorrhagic hydrocephalus

### Awareness Of Prenatal Folic Acid Intake Among Mothers with Hydrocephalic Children at A In the Lake Zone Region of Mwanza, Tanzania

James Lubuulwa

Department of Neurosurgery, Bugando Medical Center, Mwanza, Tanzania

**Correspondence:** [lubisjay9@gmail.com](mailto:lubisjay9@gmail.com)

**Abstract ID:** 61

**Background:** Prenatal folic acid supplementation has been associated with the prevention of hydrocephalus, a known burden on maternal and child health although little is known about the awareness and perceptions of mothers regarding prenatal folic acid intake among mothers with hydrocephalic children in this region. We aimed to assess the awareness of mothers regarding the importance of prenatal folic acid supplementation, identify their perceptions and explore potential factors influencing their willingness to adhere to supplementation recommendations.

**Methods:** In this cross-sectional study, data was collected prospectively among mothers with hydrocephalic children at a tertiary institution for 9 months. Structured in-

terviews were conducted using pre-tested questionnaires to gather information on participants and data were analyzed.

**Results:** Among 176 mothers, 90.3% were aware of folic acid supplementation with antenatal clinics being the primary source of information (84.1%). 78.4% of mothers recognized the importance of prenatal folic acid. Among those unwilling to take folic acid pills (10.2%), 44.4% expressed fear of side effects on the mother and 38.9% worried about impacts on the child. Misconceptions regarding medical significance influenced reluctance (16.7%).

**Conclusion:** This study highlights both high awareness levels and persistent misconceptions among mothers regarding prenatal folic acid supplementation. Addressing these misconceptions through comprehensive health education is paramount for tailored interventions

**Keywords:** prenatal folic intake, hydrocephalus, awareness, Mwanza

### COSECSA: Uplifting Women in Neurosurgery in East Africa-A Systemic Review of Literature

Jalilarah Nassozi

Kenyatta National Hospital

**Correspondence:** [jariemuli@gmail.com](mailto:jariemuli@gmail.com)

**Abstract ID:** 16

**Background:** The representation of women in neurosurgery has historically been low, particularly in Sub-Saharan Africa. Despite the global underrepresentation of women in neurosurgery, COSECSA's progressive initiatives have aimed at increasing female participation within the field. COSECSA has been instrumental in addressing this gender disparity through various initiatives aimed at increasing the number of female neurosurgeons in East Africa. This systematic review examines COSECSA's role in enhancing opportunities for women in neurosurgery in East Africa, evaluating the effectiveness of its policies, mentorship programs, and capacity-building efforts.

**Methods:** A comprehensive literature search was conducted, focusing on publications from 2010 to 2023. Data sources included peer-reviewed journals, COSECSA The review analyzed quantitative and qualitative data on recruitment, training, mentorship, and the professional progression of female neurosurgeons.

**Results:** COSECSA's initiatives have significantly increased the number of women entering and completing neurosurgical training programs, promoting gender equality. Countries such as Kenya, Uganda, and Tanzania have seen a notable rise in the number of practicing female neurosurgeons, contributing to more diverse and effective healthcare teams.

**Conclusions:** COSECSA has played a critical role in transforming the landscape for women in neurosurgery in East Africa. The progress achieved underscores the importance of sustained efforts and supportive measures to enhance gender diversity in neurosurgery. The review con-

cludes that while COSECSA has laid a solid foundation for gender equity in neurosurgery, sustained efforts are necessary to achieve parity.

**Keywords:** Women In Neurosurgery, COSECSA

## ORTHOPAEDIC SURGERY

### Implementation of Hip Fracture Services in Zimbabwe: An Ethnographic Study Using Extended Normalization Process Theory

Nyasha Buwu<sup>1</sup>, Rudo Chingono<sup>1</sup>, Cliff Zinyemba<sup>1</sup>, Tendai Chiweshe<sup>1</sup>, Rachael Goberman-Hill<sup>2</sup>, Celia L Gregson<sup>3</sup>, Rashida A Ferrand<sup>1</sup>, Tadios Manyanga<sup>1</sup>, Sarah Drew<sup>3</sup>

1. The Health Research Unit Zimbabwe at the Biomedical Research and Training Institute, Harare, Harare Province, Zimbabwe
2. National Institute for Health Research Bristol Biomedical Research Centre, University Hospitals Bristol, England
3. Bristol Medical School, University of Bristol, Bristol, England

**Correspondence:** [natbuwu@gmail.com](mailto:natbuwu@gmail.com)

**Abstract ID:** 171

**Background:** Age-related hip fractures are increasing across Africa, highlighting an urgent need to strengthen healthcare systems. To inform healthcare improvement strategies we used extended Normalization Process Theory (ENPT) to understand organizational processes that help or hinder the implementation of hip fracture services in Zimbabwe.

**Methods:** Ethnographic study provided a detailed characterization of hip fracture treatment. 40 healthcare professionals were recruited from five public hospitals (urban and rural). Data collection comprised in-depth interviews and observations of service delivery and ENPT informed analysis.

**Results:** ENPT specifies four constructs that impact successful implementation: capacity, potential, capability and contribution. The capacity of healthcare professionals to co-ordinate their actions was achieved using several approaches and staff supported multi-disciplinary work. Use of written protocols varied and shared ward rounds were primarily between orthopaedic surgeons and nurses. Patient notes and text messaging were key for communicating management plans, with occasional multi-disciplinary meetings. Potential and commitment were compromised by historical healthcare system challenges and complex relations between medical and surgical staff. Capability was threatened by understaffed, under-resourced services, and patients struggled with the costs of treatment. Staff managed resource constraints through workarounds and performing the roles of colleagues. Services helped patients through referrals to social services and temporary discharges to reduce bills. Contribution to service develop-

ment was led by orthopaedic surgeons. Audits were initiated by motivated staff, but staff were unclear how the results shaped service delivery.

**Conclusions:** Findings identify factors that impact on the successful implementation of hip fracture services. Information will assist in designing and implementing services that overcome organizational barriers.

**Keywords:** Implementation Science, Service delivery, Hip fractures, Qualitative

### Fracture Service Provision in Zimbabwe: Results of a National Survey

Prudence Mushayavanhu<sup>1,5</sup>, Tadios Manyanga<sup>2</sup>, Anya Burton<sup>3</sup>, Hannah Wilson<sup>3</sup>, Joseph Chipanga<sup>2</sup>, Simon Graham<sup>4</sup>, James Masters<sup>4</sup>, Tsitsi Bandason<sup>2</sup>, Matthew Costa<sup>4</sup>, Munyaradzi Ndekwere<sup>5</sup>, Rashida Ferrand<sup>2</sup>, Celia Gregson<sup>2</sup>

1. Department of Surgery, Midlands State University, Gweru, Midlands Province
2. The Health Research Unit Zimbabwe at the Biomedical Research and Training Institute, Harare, Harare Province, Zimbabwe
3. Musculoskeletal Research Unit, University of Bristol, Bristol, England
4. Oxford Trauma and Emergency Care, Nuffield Department of Orthopaedics, Rheumatology
5. Department of Surgery, Sally Mugabe Central Hospital, Harare, Harare Province, Zimbabwe

**Correspondence:** [pruda3@gmail.com](mailto:pruda3@gmail.com)

**Abstract ID:** 160

**Background:** As populations age the number of age-related fragility fractures, including hip fractures, will rise. To enable health service planning, we aimed to quantify current national fracture service provision.

**Methods:** The WHO Service Availability & Readiness Assessment survey was modified to evaluate fracture service availability and general readiness, and hip fracture service-specific readiness. All health care facilities to which a patient with a hip fracture could present were invited to participate between October 2021 and January 2023. Availability of services per 100,000 adults  $\geq 18$  years, and general, fracture-specific, and hip fracture-specific care were determined.

**Results:** All 186 facilities in Zimbabwe participated, including 101(54.3%) rural/district hospitals. Availability of inpatient trauma and orthopaedic beds was 12.8/100,000. 64% of facilities lacked regular electricity, 31.7% lacked sharps and infectious waste disposal. Nationally, 43 orthopaedic surgeons were identified ( $<1/100,000$  adults), 142 physiotherapists, 61 occupational therapists and 26 orthopaedic nurses. Of 116 public hospitals, only 32(28%) had functioning X-ray facilities, 73(63%) had slings in stock for upper-limb fractures, 59(51%) plaster of Paris, and only 60 (52%) had access to walking aids. Paracetamol was not available in 31(27%). Only one facility had lower-

limb traction available whilst the other facilities prescribed to purchase elsewhere to manage a hip fracture, and only 3 had oral alendronate to reduce future fracture risk. The availability of surgical implants was low. No DXA scanner was available in the public sector. Estimates of post-operative complications were high.

**Conclusions:** Findings highlight multiple important modifiable gaps in care which warrant urgent focus, given expected increases in fragility fracture numbers in the coming years.

**Keywords:** Fracture service, survey, national

### Debridement Plus Gentamycin-Vancomycin Impregnated Bone Cement; An Effective Strategy to Treat Chronic Osteomyelitis

Waleed Ahmed Mekki

Sea ports and Red Sea University Hospital

**Correspondence:** [waleednekkki99@outlook.com](mailto:waleednekkki99@outlook.com)

**Abstract ID:** 102

**Background:** Debridement plus gentamycin-vancomycin impregnated bone cement; an effective strategy to treat chronic osteomyelitis

**Methods:** We did radical debridement and insertion of Vancomycin-Gentamycin impregnated bone cement molded to the shape of the bony defect, from 4-8 weeks the cement is removed, and primary closure is done where possible, followed by oral antibiotic for a variable period of time. Secondary procedures of either bone compression or bone transport were performed in thirteen cases and laboratory measures including wound swabs for C/S, CRP and ESR are taken pre and postoperatively to assess response to treatment.

**Results:** The commonest isolated organism was Staphylococcus Aureus followed by Pseudomonas aeruginosa and Methicillin-resistant staphylococcus aureus. Infection was eradicated in all patients except in one patient with severe pseudomonas distal Tibial infection who did not follow the dressing protocol of day after day until two weeks postoperatively. At last, follow up to twenty patients showed no clinical signs of recurrence and their laboratory findings of Normal Erythrocyte sedimentation rate (ESR) and C-Reactive protein (CRP) were negative. All wounds and sinuses were healed and closed. Complications were assessed in relation to infection control. We report only one case of recurrence.

**Conclusion:** Meticulous debridement plus Bone cement which slowly release high concentration of antibiotics was very successful. The addition of Vancomycin, a glycopeptide with higher sensitivity against most of Gram-positive organisms including MRSA proved to be very effective in treating long standing chronic osteomyelitis. The method is also feasible in the resource limited settings which decrease the need for multiple debridement and Sequestrectomy procedures with higher recurrence rate.

**Keywords:** Debridement; Chronic osteomyelitis; Bone cement; Vancomycin

### Amputations Throughout Sub-Saharan Africa - Cohort Study

Nick Moody

University of Birmingham, United Kingdom

**Correspondence:** [nickmoody18@gmail.com](mailto:nickmoody18@gmail.com)

**Abstract ID:** 78

Major lower limb amputation, defined as any amputation proximal to the ankle joint, has a profound impact at an individual, local and country level. Despite its impact, the incidence and outcomes of major lower limb amputation in sub-Saharan Africa are not well defined. Nevertheless, it is clear that the incidence of conditions which precede amputation, namely Type 2 Diabetes mellitus (T2DM) and peripheral artery disease (PAD), as well as trauma, continue to rise. Understanding major limb amputation is important for health system planners. To this end, we are planning a multi-country prospective cohort study to examine amputations throughout sub-Saharan Africa. The primary outcome would be to understand the mortality after amputation. Secondary outcomes examine aetiology and incidence. This study requires collaborators throughout the region, and we anticipate it will be the largest prospective cohort study examining amputations throughout Africa. This study requires the participation of clinicians providing pre-operative care, operative intervention and post-operative care for those who undergo amputation. This is an opportunity for surgeons, surgeons in training, and medical students to participate in research, build a research network and become confident in basic research methodology. This work aims not only to understand the outcomes of amputations, but to enhance the research infrastructure in the region and enhance bidirectional learning. The aim of this abstract is to facilitate a presentation to invite collaborators, as well as those who may be interested in leadership roles on this project.

**Keywords:** Amputation, causes, outcomes, limb

### Feasibility of Modified Halo-Pelvic Distraction Technique in the Management of Severe Pediatric Spinal Deformities in Low- and Middle-Income Countries: A Pilot Study in East Africa

Romani R. Sabas<sup>1</sup>, Magalie Cadieux<sup>1,2,3</sup>, Bryson Mcharo<sup>4</sup>, Albert M. Isaacs<sup>5</sup>, Muhammad Saad Ilyas<sup>6</sup>, Juma Magogo<sup>1</sup>, Laurent L. Mchome<sup>1</sup>, Alexander J Schupper<sup>7</sup>, Salim R. Msuya<sup>1</sup>, Massimo Balsano<sup>8</sup>, Honest Massawe<sup>9</sup>, Hamisi K. Shabani<sup>1</sup>, Amer Aziz<sup>10</sup>, Roger Hartl<sup>2</sup>, Alaeldin Azmi Ahmad<sup>11</sup>

1. Division of Neurosurgery, Muhimbili Orthopaedic Institute, Tanzania
2. Department of Neurosurgery, Weill-Cornell Medicine Och Brain & Spine, New York, USA

3. Department of Neurosurgery, Washington University in St. Louis, USA
4. Department of paediatric Orthopaedic, Muhimbili Orthopaedic Institute, Tanzania
5. Department of Neurosurgery, Nationwide Children's Hospital, Columbus, Ohio, USA
6. Department of Orthopedics and Spine Surgery, Ghurki Trust Teaching Hospital, Lahore, Pakistan
7. Pakistan
8. Department of Neurological Surgery, Icahn School of Medicine at Mount Sinai, New York, USA
9. Regional Spinal Department, University and Hospital Trust, AOUI, Verona, Italy
10. Department of Orthopaedics, Kilimanjaro Christian Medical Centre, Moshi, Tanzania,
11. Orthopaedic & Spine unit, Lahore Medical & Dental College / Ghurki Trust Teaching Hospital, and Surgimed Hospital, Lahore, Pakistan
12. Paediatric Orthopaedic Surgery, Palestine Polytechnic University, Ramallah, Palestine

**Correspondence:** [mchrobi@yahoo.com](mailto:mchrobi@yahoo.com)  
**Abstract ID:** 75

**Background:** Paediatric spine deformity, often arising from congenital or neuromuscular causes, can significantly impair cardiopulmonary and intra-abdominal function. Early identification and timely management are crucial to slowing curve progression. However, in LMICs, patients present late with curvatures exceeding 90°. Preoperative reduction is essential to mitigate surgical risks. This study assesses the feasibility of a modified halo-pelvic Ilizarov distraction device, focusing on curve correction, neurological function, and complication rates.

**Methods:** A prospective study was conducted from June 2023 to July 2024 on patients with severe scoliosis, each treated with a modified halo-pelvic Ilizarov distraction device over a 13-week period. Radiographic changes, neurological function, and complication rates were assessed at defined treatment intervals.

**Results:** Seven patients were included, with a median age of 15 years (IQR:14–20 years) and a median Cobb angle of 110.0° (IQR:92.0°–120.0°). Majority were male 57.1% (4/7), AIS being the most common diagnosis (42.8%,3/7). The modified halo-pelvic Ilizarov distraction device reduced the median Cobb angle from 110.0° to 76.0° post-traction (30.8% correction) and further to 69.0° after 13 weeks (37.1% correction, p=0.027). Complications occurred in two patients (28.6%): one developed SMA syndrome, and another experienced lower limb weakness (MRC 2/5). Six patients underwent definitive surgical correction, achieving a median Cobb angle of 49° (32.0°–55.2°).

**Conclusions:** The modified halo-pelvic Ilizarov distraction device proves to be a feasible and effective method for achieving preoperative spinal curve correction. Its complication rate is manageable, especially when considering the

potentially life-threatening complications associated with direct surgical correction of severe spinal curves.

**Keywords:** halo pelvic distraction

## Cervical Disc Replacement and Potential for multiple level Surgery

Valentine Mandizvidza

Milton Park Medical Centre/ ZimSpine

**Correspondence:** [drvalentinem@gmail.com](mailto:drvalentinem@gmail.com)

**Abstract ID:** 73

**Background:** Cervical disc replacement using the Mobi-C implant has shown promising outcomes in improving postoperative evaluation scores beyond the FDA guidelines of 1 to 2 levels, indicating its potential efficacy in addressing multi-level disc pathologies. The FDA approvals for 1 to 2 are based on established long term safety and effectiveness. However, there is limited evidence for 3 or 4 level cervical disc replacement. Cervical disc Arthroplasty has proved effective in preventing the unwanted negative impacts of cervical fusion which are pseudoarthrosis, and adjacent segment disease. Extending the application of the Mobi-C implant to multiple levels in cervical disc replacement surgeries may offer a viable alternative to traditional fusion techniques, potentially preserving motion and reducing the risk of adjacent segment degeneration

**Methods:** A retrospective analysis of 63 patients' reported outcomes was done. The data was collected prospectively. Scores were taken at 3 months, 6 months, 1 year and 2 years post operatively. We looked at QVAS, EQVAS, JOA, NDI, and EUROQOL. Statistical analysis was done using R software.

**Results:** Statistically significant changes comparing pre to post operative scores were noted. No serious complications were noted with extended use of the implant for 3 and 4 level disc arthroplasty cases.

**Conclusion:** For well selected patients using the recommended indications and contraindications there is a role for 3 and 4 level cervical disc Arthroplasty and it can be performed safely.

**Keywords:** mobi c, multiple level CDA

## Whole Genome Sequencing: A New Diagnostic Modality In The Management Of Tuberculosis Of The Spine

Mthunzi Ngcelwane

University Of Pretoria, Department of Orthopaedics

**Correspondence:** [mthunzi.ngcelwane@up.ac.za](mailto:mthunzi.ngcelwane@up.ac.za)

**Abstract ID:** 40

**Background:** The workstream for the diagnosis of tuberculosis (TB) involves isolation and culture of the organism and drug resistance testing using phenotypic methods. Xpert MTB/RIF Ultra is a genetic-based method that detects for Mycobacterium tuberculosis DNA in the rpoB gene. Whole Genome Sequencing (WGS) is a newer genetic-based method that assesses the whole genome of the



bacterium. Very few studies have reported the use of WGS in extrapulmonary TB. The aim of the study was to evaluate the utility of WGS in drug resistance testing, lineage of the organisms, and organism-related factors responsible for bacilli settling in the spine.

**Methods:** Tissues from 61 patients undergoing TB spine surgery underwent histologic examination, Xpert MTB/RIF Ultra, and culture and sensitivity testing. DNA from the cultured bacteria was sent for WGS. The test bacterial genome was compared to a reference strain of pulmonary TB.

**Results:** Acid-fast bacilli were observed in 9/58 specimens. Histology confirmed TB in all the patients. Bacilli were cultured in 28 patients (48.3%), and the average time to culture was 18.7 days. Xpert MTB/RIF Ultra was positive in 47 patients (85%). WGS was performed in 23 specimens. 45% of the strains belonged to lineage 2. There was one case of multidrug-resistant TB and two cases of non-tuberculous mycobacteria. We could not confirm any genomic difference between pulmonary and spine strains.

**Conclusion:** WGS can diagnose multidrug-resistant TB and non-tuberculous mycobacteria more accurately. No mutations were identified responsible for spine TB.

**Keywords:** tb spine, whole genome sequencing

## A Cost-Effectiveness Analysis of Intramedullary Nailing Versus External Fixation for Open Tibia Fractures in Tanzania.

Billy Haonga

Muhimbili University of Health and Allied sciences

**Correspondence:** [bhaonga@gmail.com](mailto:bhaonga@gmail.com)

**Abstract ID:** 31

**Background:** Open tibia fractures represent a significant cost burden to both individuals and society due to their high propensity for complications. External fixation and intramedullary nailing are used for definitive management of open tibia fractures but given the differences in cost and lack of clear superiority of intramedullary nailing, cost-effectiveness becomes important to consider in LMICs. Aimed to examine the cost-effectiveness of intramedullary nailing (IMN) versus external fixation in Tanzania.

**Methods:** This study utilized data from a randomized controlled trial conducted in Tanzania. Direct costs were collected using an internal audit of operating costs and hospital staff time. Indirect costs were collected from patients in a long-term follow-up study assessing total lost work. A Markov model to run cost-effectiveness simulations. The primary outcome was the incremental cost-effectiveness ratio (ICER) over a lifetime. Payer and societal perspective were considered. One-way and probabilistic sensitivity analysis were performed.

**Results:** Payer perspective, the cost of external fixation (396 USD) was lower than SIGN IMN (529 USD), driven primarily by shorter procedure time. However, IMN was associated with more quality-adjusted life years (QALYs). From the payer perspective, the incremental cost-effective-

ness ratio (ICER) was \$499/QALY with a donated nail and \$701/QALY using a purchased locally available nail. From the societal perspective the ICER was lower at \$70/QALY, driven largely by a quicker recovery among patients receiving an IMN.

**Conclusion:** IMN is considered highly cost-effective using WHO willingness-to-pay thresholds.

**Keywords:** Open fracture, Cost effectiveness

## Providing The Tools: A Decade of Supporting the Development of Specialist Orthopaedic Sarcoma Services in COSECSA From Oxford University

Duncan Whitwell

Oxford University NHS Trust

**Correspondence:** [duncan.whitwell@ouh.nhs.uk](mailto:duncan.whitwell@ouh.nhs.uk)

**Abstract ID:** 27

Since 2012 under the aegis of Prof Chris Lavy's Department of International Orthopaedics at Oxford University and in partnership with the University of Western Australia and the International Society of Limb Salvage, Senior Orthopaedic Oncology Surgeons from the UK and Australia's major teaching hospitals have undertaken over 15 sarcoma courses in low and middle income countries (LMIC) worldwide, but predominantly in Africa in countries allied with COSECSA (Ethiopia, Zambia, Tanzania, Kenya, Zimbabwe). The oncology courses with cadaveric workshops are undertaken over 3 days and their effectiveness assessed with delegate feedback and pre and post course delegate MCQ evaluation. (Format; Pre/Post MCQs 30 questions. 30 different Pre/Post questions. Result ; 30% (range25-42%) mean improvement in score. Funding has been sourced by charitable donations and grants. Fellowships and observerships for local trainees have also been organised to support local specialisation/training in this area. As well as undertaking educational courses the team are partnering with implant companies and bone banks to produce reliable and cost-effective limb salvage/implant options for LMIC regions, where currently often the only surgical solution is amputation. The project is specifically centred on work with the COSECSA Group of Nations, which will be discussed.

**Keywords:** Sarcoma, Education, Surgery

## Pattern of Orthopedic Injuries Among Motorcycle Trauma Patients in Malawi

Mackson Mwaungulu<sup>1</sup>, Patrick Noah<sup>1,2</sup>, Godfrey Sama Philipo,<sup>3,4</sup> Chikumbutso Clara Mpanga<sup>1,2</sup>

1. Queen Elizabeth Central Hospital, Malawi
2. Kamuzu University of Health Sciences, Malawi
3. Branch for Global Surgical Care (BGSC) UBC
4. College of Surgeons of East Central and Southern Africa (COSECSA)

**Correspondence:** [macksonmwaungulu@gmail.com](mailto:macksonmwaungulu@gmail.com)

**Abstract ID:** 24

**Background:** Worldwide, road traffic accidents are on the rise. Motorcycle users are highly vulnerable to accidents, resulting in rising orthopedic related morbidity and mortality. In Malawi, the surge in motorbike taxi services has led to a notable increase in motorbike-related road accidents. This study aimed to assess the pattern of orthopedic injuries, examine demographic characteristics, and analyze the mechanisms of injuries among motorcycle trauma patients.

**Methods:** A descriptive retrospective cross-sectional study was conducted at Queen Elizabeth Central Hospital in Malawi. We included all orthopedic surgery data from ward admissions records from January to December 2021. Data were extracted from patients' files and stored on REDCap and analyzed using SPSS.

**Results:** A total of 502 motorbike and non-motorbike road traffic trauma patients were recorded in the inpatient orthopedic trauma database. From these, those that suffered motorcycle injuries were 63.4%. Most of these accidents

occurred in urban areas (64.1%). The majority were male (78.7%) between ages 20-40. Collision between motorcycles and cars was the most common mechanism of injury (41.6%). Motorcycle drivers constituted the largest group of victims (41.2%) and majority of victims did not use helmets 83.1%. The most frequent orthopedic injury pattern was fractures of the tibia/fibula accounting for 44.6%, having a highest likelihood of being open (57.8%).

**Conclusion:** Motorcycle-related accidents is public health challenge in Malawi, leading to a high burden of morbidity and mortality. Policymakers should consider preventive measures, as the treatment of these injuries strains already limited hospital resources and contributes to poor patient outcomes.

**Keywords:** Motorcycle, injuries.

Submitted: December 06, 2024 EAT, Accepted: December 20, 2024 EAT