

KAGERA ANESTHESIA REFRESHER COURSE 2019

**SAFE ANESTHESIA FOR EMERGENCY, TRAUMA AND PEADIATRIC SURGERIES
AT LOWER HOSPITAL LEVELS**

DATE: 25TH TO 27TH NOVEMBER 2019.

VENUE: ELCT BUKOBA KAGERA

SPONSORS:



SAFE ANAESTHESIA WORLDWIDE



DIAMEDICA UK

OFFICIAL APPROVAL: SATA, REGIONAL MEDICAL OFFICER- KAGERA REGION



Introduction

Safe Anaesthesia Worldwide (SAWW) is dedicated to improving anaesthesia services in the developing world, by the provision of suitable equipment and training. Most people in low-income countries do not have access to anaesthesia and surgery, which results in disability and death from surgically treatable conditions.

One limiting factor is the lack of qualified anaesthesia professionals. Most hospitals rely on nurses to deliver anaesthesia, instead of doctors. These nurses have little specialist training and often work alone with little support or opportunities to improve their skills.

In 2018 SAWW funded a refresher course in obstetric anaesthesia for nurse anaesthetists in the remote and rural area of Kagera in Tanzania. We followed this in 2019 by a refresher course to cover emergency, trauma and paediatric anaesthesia.

Background and Rationale:

In Tanzania, most emergency surgical procedures are conducted in peripheral district hospitals and health centres, where most of the population lives. Complex emergency operations are often unable to reach referral hospitals because of poor roads and transport, as well as financial constraints. Thus, rural hospitals and health centres carry a huge burden of complex cases, despite limited resources and few trained staff.

These rural hospitals are staffed by nurse anaesthetists who have few opportunities for refresher training. In the view of these challenges the focus of this course was to provide safe anaesthesia in emergency laparotomy, trauma and paediatric cases.

The aim was to refresh basic skills and knowledge that would enable participants to manage cases confidently and safely within their limits. This course did not intend to replace the full training needed in these specialist areas of anaesthesia.

Objectives:

The main objective was to provide refresher training and update clinical skills to nurse anaesthetists who practice anaesthesia in Kagera region. The nurses would learn how to best cope with complex cases in resource limited conditions; how to set themselves achievable goals; and to overcome common challenges that they face daily.

Participant information:

The training involved 21 nurse anaesthetists from 15 different hospitals in the Kagera Region that provide surgical services, particularly Caesarean section, and other emergency operations.

Organisation

The course was instigated and largely organised by Philbert John Tegambirwa, who is the Chief Nurse Anaesthetist at Kagondo Hospital in the Kagera region. Philibert John is a dedicated professional who has put in considerable time and effort to improve anaesthesia provision in this remote rural region of Tanzania.

The course was predominantly run by Tanzanians, and the teaching faculty was led by Dr Benard Kenemo, Head of Anaesthesia and Intensive Care at Bugando Medical Centre.

Teaching faculty:

1. Dr. Benard Kenemo – Anaesthesiologist and Head of Anaesthesia and Intensive Care at Bugando Medical Centre, Mwanza, Tanzania.
2. Dr. Debora F. Madyedye – Anaesthesiologist and Intensivist at Bugando Medical Centre, Mwanza, Tanzania.
3. Ms. Suzan P. Mbonde – Anaesthetist and at Muhimbili National Hospital, Dar es salaam, Tanzania.
4. Philbert John Tegambirwa - Chief nurse anaesthetist, Kagondo Hospital, Kagera, Tanzania.
5. Jesca John - Chief nurse anaesthetist, Kagondo Hospital, Kagera, Tanzania.
6. Dr Henriette Willigers – Anaesthesiologist and lecturer from Maastricht University, The Netherlands
7. Dr. Michiel de Wolf – Anaesthesiologist and lecturer from Maastricht University, The Netherlands

The faculty also included two Dutch volunteers Dr Henriette Willigers and Dr Michiel de Wolf, who have extensive experience of teaching anaesthesia in Tanzania, and were able to input on the course content.

Course preparation and training methodology:

The course was approved by Society of Anesthesiologists of Tanzania (SATA) as well as the local and regional medical authority, who gave the participants permission to attend.

The themes of safe anesthesia for **Emergency, Trauma and Paediatric patients** were covered over three days, with each day including lectures, breakout sessions for small group skill stations with discussion and simulation sessions.

Teaching emphasis was on interactive methodology with a friendly adult learning environment. It was important that the participating nurse anaesthetists should feel comfortable discussing the difficulties and problems they faced when dealing with challenging scenarios.

Much of the course was prepared well ahead using electronic communications. Local teachers were able to tailor teaching materials so that they were suitable for the nurses in that region.

Knowledge was assessed by a pre-course and post course test, to ensure that participants had improved their knowledge on the areas covered. After the course, there will be a follow-up visit to participants at their respective hospitals, to evaluate the impact of the training.

Pre-course logistics and planning:

The teaching faculty arrived in Bukoba one day before the start of the course to prepare the venue and hold final discussions on the topics and timetable. A main room at the venue included a projector and flip charts, whilst two smaller rooms were prepared for breakout sessions and skill stations with resuscitation manikins (adult and neonate), material for airway management and materials for simulation sessions. One intubating head that was donated from the UK.

Day One Theme: Emergency Laparotomy

Participants arrived and after an introduction took a pre-course test. The day went well and proceeded according to the timetable although as always keeping on time was a challenge.

There were interactive skill stations and in the afternoon the team went to Kagera Regional Referral Hospital for simulation on a sick laparotomy case. The atmosphere was brilliant; all participants and teachers were enthusiastic, and participants raised many questions.

Day Two Theme: The trauma patient

Day two started with a recap of day one. Participants had especially enjoyed the simulation sessions, which enabled them to discuss constructively the problems they face in their practice. The day followed the same pattern with lectures were held in the morning, tea break and then break out skill stations. After lunch, the group went to the hospital for another simulation on the trauma patient. Afterwards, everyone returned to the course venue to discuss their experience of the simulation session and the teaching faculty summarized take home messages.

Day Three Theme: The paediatric patient

The day started with a recap of day two, followed by lectures and a simulation session. Participants took a post course test and there was some general feedback and words of closure from Mr. Philibert John. The guest of Honor, Dr Julian Mugengi arrived to hand out certificates. There was a group photo and farewells were made. Participants took home with them endotracheal tubes of various sizes donated by Diamedica. All participants expressed their gratitude to the teaching faculty for improving and updating their knowledge and for sharing their experience.

Assessment

Pre- and post-course questionnaires aimed to assess theoretical knowledge and were marked at the end of the course. Results showed a pre-test mean of correct answers as 60%, post-test mean of 80%, indicating improvement in theoretical knowledge had been achieved.

Assessment of the practical impact of the course will be carried out by senior nurse anaesthetist Mr Philibert John. It was planned for him to visit all participants at their hospitals and health centres in the months following the course to assess key practical skills whilst the nurses were at work. Unfortunately, the effects of the Corona virus outbreak have delayed this final element of the project, that will now be carried out at a later date.

General evaluation of the course:

Achievements:

1. The course was well structured and organized, there were no major logistic issues. The strong logistic support of the local faculty and organizers was of major importance to this success.
2. The 21 participants all improved theoretical knowledge of safe anaesthesia in emergency cases, trauma and paediatric patients. Practical skills were also improved, but this has yet to be formally assessed, pending a follow up study. Each nurse anaesthetist quite literally holds the life of his/her patient in their hands, so competence and safety is crucial.
3. The simulation sessions were very well received, and participants reported that they felt as if they were in a live case scenario. This was completely new learning experience for them in which they all participated, enjoyed, and agreed that they had learnt a great deal.
4. This course boosted networking among nurse anesthetists in the Kagera region and between the participants and the teaching faculty. After training a Whatsapp group helped to keep the interaction and discussions going. This helps to make the nurse anaesthetists feel less isolated and boosts morale.

Challenges:

Various challenges remain that need to be overcome in future:

1. Lack of stable internet connections for communication, training and follow up assessments.
2. Most participants have no reliable access to online sources of knowledge or books. Hard copies of books were distributed during the first refresher course, but more books are needed, despite the expense of sending and distributing them.
3. At present there is no database kept on anesthesia cases and related morbidity at the hospitals /health centers where the participants work. Such a system would enable the evaluation of anesthesia related morbidity and lead to improvements.
4. Some participants may not be able to apply the standards taught in the course due to a lack of resources and equipment at their hospital/health centre.
5. Each course is short, just 3 days and can only cover a limited number of topics. More courses, held on a regular basis, would help to improve the nurses' knowledge and skills in a sustained way.

Conclusions:

Overall, these short refresher courses are enormously helpful to the nurse anaesthetists who work in difficult conditions. The challenges of improving anaesthesia services in rural Tanzania are huge and long lasting, sustainable solutions will require the coordinated effort of the government, health services and overseas aid. However, these short refresher courses are hugely important for the individuals who attend.

The courses provide a rare opportunity for nurses to refresh their knowledge and improve their skills, leaving them more confident about their ability to handle difficult cases. The courses have helped to create a 'family' of anaesthesia providers in the Kagera region of Tanzania, who continue to assist each other long after the course is over. They support each other by mobile phones and WhatsApp, discussing challenges and difficult cases, and working on solutions together.

We believe our approach is both practical, effective and represents excellent value for money. At the present time, COVID-19 is restricting travel, but we hope to support further courses when funds and conditions allow.

We are hugely grateful to the Fulmer Charitable Trust for supporting this project. Without your support our work is not possible.

Word of thanks from Dr Benard Kenemo:

"On behalf of organizing committee, I would like to thank everyone who participated from initial stages throughout the actual workshop. Special thanks to Dr. Henriette from the Netherlands who is our lead faculty, as well as Carol Newman from the UK, for making sure all the supplies and logistics and financing part are met. Thank you to our sponsors Safe Anesthesia Worldwide, who provided funding for this event."

Dr. Benard Kenemo - Anesthesiologist and Head of Anesthesia and Intensive Care at Bugando Medical Centre, Mwanza, Tanzania

Annexes:

Annex 1: List of Participants

S#	PARTICIPANT'S NAME	SEX	HEALTH FACILITY
1	DAVID KATONDO	MALE	BUKOBA RRH
2	SATURINININ STEPHEN	MALE	MURUGWANZA HOSPITAL
3	JENISTER KAMANDO	FEMALE	KAYANGA H/CENTRE
4	MADIA ZAIDI	FEMALE	KAYANGA H/CENTRE
5	EDISON MAKOYE	MALE	NDOLAGE H/CENTRE
6	WILBROAD KATUNZI	MALE	NKWENDA H/CENTRE
7	MAHEMBO KIJA	MALE	NYAKAHULA H/CENTRE
8	HASSAN SALIM	MALE	NYAKANAZI H/CENTRE
9	OCTAVIAN CYPRIAN	MALE	KAIGARA H/CENTRE
10	ANICETH GREGORY	MALE	KAGONDO HOSPITAL
11	EMMANUEL RASHID	MALE	BUKOBA RRH
12	VENANT KATABWA	MALE	BUKOBA RRH
13	MECTILDA WILLIAM	FEMALE	RULENGE HOSPITAL
14	GETRUDE KAKONDELE	FEMALE	NYAMIAGA H/CENTRE
15	SEVERINE BAMUSHARA	MALE	NKWENDA H/CENTRE
16	ELIZEUS KAIJAGE	MALE	IZIMBYA HEALTH CENTRE
17	EVODIUS BAZILA	MALE	ISINGIRO H/CENTRE
18	MARCELIAN STEPHEN	MALE	NYAKAHANGA HOSPITAL
19	ORONTE KAIHULA	FEMALE	NYAKAIGA HOSPITAL
20	INACTITIA RWEHUNGA	FEMALE	KAGERA SUGAR HOSPITAL
21	SR. LETICIA RWEKUNDA	FEMALE	KAJUNGUTI H/CENTRE

Annex 2:

BUKOBA REFRESHER COURSE TIME TABLE

Day One Monday 25th November 2019			
THEME: CARE OF THE SICK LAPAROTOMY PATIENT			
Time	Activity	Presenter	Audience
08:00 - 08:30	Arrival/Registration/Sign-In/	Trainers	Trainees
08:30 - 08:50	Pre test	Trainers	Trainees
08:50 - 09:00	Welcome & Introductions Overview of the Course	Dr Kenemo	Trainees
09:00 - 9:20	Lecture Optimization of a patient planned for Emergency laparotomy	Dr Debora	Trainees
09:20 - 09:40	Lecture Referral of patients	Dr Kenemo	Trainees
09:40 - 10:00	Role play Communication	Suzan	Trainees
10:00 - 10:30	Tea Break ALL		
10:30 - 13:00	Skill stations Four stations	Trainers	Trainees
13:00 - 14:00	Lunch ALL		
14:00 - 16:30	Hands-on Practice- SIMULATION	Trainers	Trainees
16:30 - 16:50	Q&A Session	Trainer	Trainees
16:50 - 17:00	General Feedback and Closure	Trainer	Trainees
17:00 - 17:30	Faculty Debriefing Meeting	Trainer	Trainees

Day Two Tuesday 26th November 2019

THEME: CARE OF THE TRAUMA PATIENT

Time	Activity	Presenter	Audience
08:00 - 08:20	Arrival Sign-In	Trainers	Trainees
08:20 - 08:40	Recap of Day one	Trainee	Trainees
08:40 - 09:10	Lecture Anesthesia for a Trauma case	Dr Kenemo	Trainees
09:00 - 9:20	Lecture Trauma team organization	Dr Debora	Trainees
09:20 - 09:40	Lecture Risk recognition in Trauma patient	Dr Michiel	Trainees
09:40 - 10:00	Lecture discussion Triage of trauma patient and transport to other facilities	Suzan	Trainees
10:00 - 10:30	Tea Break ALL		
10:30 - 13:00	Skill stations Four/five stations	Trainers	Trainees
13:00 - 14:00	Lunch ALL		
14:00 - 16:30	Hands-on Practice-SIMULATION	Trainers	Trainees
16:30 - 16:50	Q&A Session	Trainer	Trainees
16:50 - 17:00	General Feedback and Closure	Trainer	Trainees
17:00 - 17:30	Faculty Debriefing Meeting	Trainer	Trainees

Day Three Wednesday 27th November 2019

THEME: CARE OF THE SICK PEDIATRIC PATIENT

Time	Activity	Presenter	Audience
08:00 - 08:30	Arrival/ Sign-In	Trainers	Trainees
08:30 - 08:50	Recap of Day Two	Trainees	Trainees
08:50 - 09:10	Recognition and Optimization of a sick pediatric patient before anesthesia	Dr Henriette	Trainees
09:10 - 9:30	Lecture Airway management	Dr. Michael	Trainees
09:30 - 10:00	Lecture Anesthesia in a sick pediatric patient (Choice/Fluid management/Pain).	Dr Kenemo	Trainees
10:00 - 10:30	Tea Break ALL		
10:30 - 12:30	Skill stations Four/five stations	Trainers	Trainees
12:30 - 13:30	Lunch ALL		
13:30 - 15:00	Hands-on Practice-SIMULATION A pediatric case for laparotomy. Intubation/circuit/ETT size/fluid/choice of drugs/dosages	Trainers	Trainees
15:00 - 15:15	Q&A Session	Trainer	Trainees
15:15 - 15:35	Post Test		
15:35 - 15:50	General Feedback and Close Philbert	Trainer	Trainees
15:50 - 16:10	Certificate Handing and Fare Well	Guest of honor	All
16:10 - 16:40	Faculty Debriefing Meeting	Trainer	



Group photo: Participants and Faculty



Running simulation



Simulation session



Handing Certificates