



# VITAL ANAESTHESIA SIMULATION TRAINING

---

## VAST Course report – Kibagabaga, Rwanda

1 to 3 October 2019

Dr Christian Mukwesi, Dr Celestin Seneza and Dr Tom Druitt

---



## Executive summary

### **Situation**

The Vital Anaesthesia Simulation Training (VAST) Course was conducted successfully at Kibagabaga Hospital, Rwanda. The participant group of twelve comprised non-physician anesthetists, a general physician, nurses and midwives.

### **Background**

VAST is an immersive three-day simulation based course focusing on essential clinical practices and non-technical skills. This course at Kibagabaga Hospital was planned and led by an experienced contingent of local facilitators with the support of visiting international faculty.

### **Assessment**

Feedback given by participant group was overwhelmingly positive. Simulation-based training was new to several participants. This course demonstrated the growing capability of Rwandan facilitators to organize and deliver VAST. There is a strong appetite among district level hospital clinicians for this type of training. Expansion of the course will require a larger pool of well-trained local facilitators.

### **Recommendations**

- Consider introducing the VAST course into existing training programs for non-physician anesthetists, surgeons, obstetricians, operating room nurses and midwives.
- Run a VAST facilitator course (training-of-trainers) locally to take advantage of high performing and enthusiastic course participants (including non-physician anesthetists) who could form future faculty.
- Emphasize facilitator quality, as strong experience in debriefing is mandatory for excellent course delivery. Continue to build the local facilitator network.
- Continue to conduct the VAST course in district level hospitals.
- Advocate for funding to make VAST courses more frequent and widespread.

## Contents

Executive summary	2
Acknowledgments	3
Background	3
Attendees	4
Venue and equipment	5
Course conduct	5
Summary of participant evaluations	6
Challenges and lessons learnt	6
Future directions	6
Appendix I – participant evaluations	7
Appendix II – course photos	8

## Acknowledgments

The course directors gratefully acknowledge support by:

- ✓ Rwandan Society of Anesthesiologists (RSA)
- ✓ Ministry of Health, Rwanda
- ✓ Canadian Anesthesiologists' Society International Education Foundation (CASIEF)

## Background

In a collaboration between Dalhousie University and the University of Rwanda Departments of Anesthesiology, VAST was developed to teach and reinforce essential clinical skills and non-technical skills for surgical teams including surgeons, anesthesia providers and nurses. The course content is based on common challenging situations found in the low resource district hospital.

To make it happen, VAST utilizes active teaching methodologies including group discussion and low-cost simulation. The clinical focus is on safe anesthesia, pain management and resuscitation in scenarios spanning obstetrics, pediatrics, trauma, pre- and post-operative care.

VAST is adapted to the local context of resource limited healthcare. Participants are encouraged to use teamwork and decision making to solve problems using the typical resources found in district hospitals.

This course in Kibagabaga was the tenth in Rwanda, building on a foundation of three pilot courses at Rwanda Military Hospital in January 2018. Further courses followed at Nyagatare in August 2018, then Rwanda military hospital, Huye (twice), Rwamagana and Kabutare. There is a growing faculty of committed local facilitators and international facilitators.

A separate VAST Facilitator Course has been developed to train facilitators in the VAST course teaching methodology and debriefing technique.

## Attendees

COURSE STAFF		
Last Name	First Name	Role
Dr Mukwesi	Christian	Course Director
Dr Druitt	Tom	Visiting Facilitator
Ms Mizero	Laurence	Simulation Coordinator

TRAINEE FACILITATORS		
Last Name	First Name	Role
Dr Peake	Megan	Visiting facilitator
Dr de Vries	Talitha	Visiting facilitator
Dr Irakoze	Alain	Local facilitator
Dr Seneza	Celestin	Local facilitator
Mr Niyongombwa	Christophe	Trainee simulation coordinator

COURSE PARTICIPANTS			
Last Name	First Name	Position	Level
NIYONSENGA	Immaculée	Midwife	A1
VERJUS	Marie Pierrette	Anesthetist	A1
UMULISA	Christine	Anesthetist	A0
MUSABYIMANA	Béatha	Nurse	A2
MUKAMAZERA	Lydia	Midwife	A1
NZEYIMANA	Jean Brahmans	Anesthetist	A0
MUKESHIMANA	Claudine	Midwife	A1
UWIHIRWE MUCYO	Didier	Nurse	A1
UWIMANA	Françoise	Midwife	A1
MUNGWARAKARAMA	Marceline	Anesthetist	A1
AHIGENEYE NDIKUMWENAYO	James	Medical generalist	GP

## Venue and equipment

The course was held in the new building of Kibagabaga District Hospital which is usually used by the laboratory and administration staff. We used three different areas including a meeting room, adjacent corridor and a very nice outdoor veranda with an excellent view from the second floor.

The meeting room was equipped with 60 inch screen which helped us for teaching. The hospital leaders were very supportive by providing additional materials including two stretchers, sheets and HDMI adapter.

Course materials were the property of “VAST kit” which has been previously donated by the Canadian Anesthesiologist’s Society International Education Foundation and Dalhousie University. This includes mannequins, iPads, simulation equipment, and scenario documentation. The VAST kit is currently stored in the simulation center of Rwanda Military Hospital under the stewardship of Dr Mukwesi.

The high quality of lunches and tea breaks during the course has contributed to participant satisfaction. As usual, Laurence Mizero did a great job as simulation coordinator, mentoring Christophe in line with the VAST goal of building a strong and expanded team to support ongoing course delivery.

## Course conduct

Generally, the course was well conducted, however we faced some challenges such as a delayed start time on the first day, clinical duty impacting staff and participant availability, a language barrier for sessions delivered in English and the novel concept of simulation to the participants.

After identification of those challenges, we instituted some strategies to help our participants understand the VAST course:

- The majority of the course was conducted in Kinyarwanda with slides verbally translated from English
- Dr Talitha did a great job of giving some presentation in French, a language most of the participants were comfortable with.
- The participants were asking questions and expressing themselves in different languages (Kinyarwanda, French and English), this was contributed to their satisfaction.
- We increased the preparation time and explanation for each role playing participant before starting each scenario.
- We required extra time for debriefing to answer many of the questions participants raised about clinical decision making.
- To keep within our time limit, we omitted 1.7 and 1.9 scenarios. Sessions 3.6 and 3.7 were combined.

## Summary of participant evaluations

- ✓ VAST course has been appreciated and participants' experience was positive for almost all. (Appendix I)
- ✓ Suggestions to organize more VAST training and to involve others health professionals from the perioperative environment were among the recommendations given by participants.
- ✓ The pain management discussion was well-received and some have committed to start working on a pain management protocol in the recovery room.

## Future directions

- ✓ Consider introducing VAST into postgraduate training programs of surgery, anesthesia, nursing and midwifery
- ✓ Organizing a VAST facilitator course to increase the number of local facilitators, including non-physician anesthetists that performed strongly as course participants
- ✓ Continue to conduct VAST course in district hospital settings such as Kibagabaga
- ✓ Consider a mentorship model for new facilitators to receive the ongoing support which is needed for excellent VAST course delivery

## Appendix I – Participant evaluations

Most things liked by participants	
Organization and preparation	<ul style="list-style-type: none"> <li>✓ Breakfast and lunch x 3</li> <li>✓ Organization was good x 6</li> </ul>
Course content	<ul style="list-style-type: none"> <li>✓ SBAR x 8</li> <li>✓ AMPLE history x 4</li> <li>✓ Management of burnout x 6</li> <li>✓ Management of PPH 2</li> <li>✓ Systematic approach ABCDE x 5</li> <li>✓ Neonatal resuscitation x 3</li> <li>✓ Pain management 5</li> <li>✓ Trauma management 4</li> <li>✓ Sepsis management 3</li> <li>✓ Non-technical skills x 2</li> </ul>
Simulation-based learning	<ul style="list-style-type: none"> <li>✓ Interactive session x 4</li> <li>✓ Debriefing x 5</li> <li>✓ Simulation x 9</li> </ul>
Facilitators	<ul style="list-style-type: none"> <li>✓ Facilitators were very knowledgeable x 6</li> <li>✓ Facilitators very active and committed x 3</li> </ul>

General comment	Learn about Prioritization in emergency situation
-----------------	---

Suggestions for improvement	
More VAST course	<ul style="list-style-type: none"> <li>• Regular training</li> <li>• Increase the duration of the course (more days)</li> <li>• Include other health provider</li> <li>• More time for practice</li> </ul>
Money	•Motivation of the participants x I

Take home message	
Technical skills	<ul style="list-style-type: none"> <li>✓ Fluid therapy in burn patients x 2</li> <li>✓ Left lateral tilt for pregnant women x 3</li> <li>✓ Airway management x 7</li> <li>✓ Sepsis management x 4</li> </ul>
Non-technical skills	<ul style="list-style-type: none"> <li>✓ Close loop communication x 4</li> <li>✓ Decision making x 3</li> <li>✓ Situation awareness x 4</li> <li>✓ Team working x 3</li> <li>✓ Systematic approach ABCDE</li> <li>✓ SBAR</li> </ul>

### Other comments

- All sessions were good for me; keep it up
- I like the way the facilitators were cooperative
- Thank you to the organizer, this course will help me to improve our health system.
- Consider organizing more training
- This training is very important. You can plan for it every two months.

## Appendix II – Course Photos



Director General (in white coat), facilitators and participants after delivery of certificate



Outlook from the veranda





Dr Seneza (right) in action



Dr Irakoze (left) in action

