



VITAL ANAESTHESIA SIMULATION TRAINING



VAST Course and VAST wellbeing Course

Dakar, Senegal, 20-25 February 2023

Oumar Kane, Mirjam Schotanus, Kwizera Ndekezi Jackson

Executive summary

Situation

At the request of Dr Oumar KANE (Head of Anesthesia at FANN Hospital and Simulation Center Coordinator) and Erin Muyres (Medical Capacity Building Projects Director at Mercy Ships) the Vital Anesthesia Simulation Training (VAST) Course and Wellbeing course (VAST WB) were introduced in Thies, Senegal.

Background

The VAST Course was developed to teach and reinforce essential clinical practices and non-technical skills for both anaesthesia providers and perioperative teams. VAST was first piloted in 2018. Since then, VAST has expanded to encompass a range of courses that have been offered 59 times to participants from 30 countries. The language of teaching has always been English, with occasional concurrent translation to local languages during courses. This is the first time the course was translated into French through a mix of professional translation and translation by VAST volunteers and Mercy Ships. This allowed the VAST Course to be delivered almost entirely in French to a multidisciplinary group of healthcare practitioners who work in Senegal. As this was the first version of translation, materials were edited and updated on site during course delivery by faculty and participants.

Assessment

All two courses were received with great enthusiasm and a desire for more training and practice. There was significant learning from the experience of delivering the training in a language other than English for the second time. This knowledge will inform future course delivery and translation efforts in other languages.

Recommendations

1. Completion of Version 2 of the French translation of all VAST Course and VAST Wellbeing materials and cognitive aids with the assistance of new Senegalese VAST FC graduates.
2. Specifically editing or redesigning the cognitive aids for the difficult airway algorithm to be in line with MAPAR recommendations and 2022 protocols. Consider involving MAPAR in the design or determining if they could provide any to hospitals. <https://www.mapar.org/>
3. Encourage the involvement of the new simulation coordinators trained during the first VAST course in as many simulation training sessions as possible with the perioperative

team there as they begin to use the simulation centre regularly so they can continue to refine skills and familiarize with equipment

4. Consider the creation of a subset of scenarios targeted to more advanced course groups. Those scenarios should be added onto VAST's Scenario Bank and will be accessible through VAST's website
5. Consider adapting scenarios to participant specialty so that there is a subgroup of scenarios used for example when midwives, urologists, neurosurgeon and hematologists are actively and freely participating. These should be added onto VAST's Scenario Bank and will be accessible through VAST's website
6. Apply lessons learned from this experience to the delivery of upcoming courses in more remote regions of Senegal where familiarity with simulation and crisis resource management may be minimal.

Contents

Acknowledgements	3
Attendees	4
Venue and equipment	5
VAST Course	5
Social life	6
Course evaluations and informal feedback	6
	7
Challenges and lessons learnt	8
Recommendations	8
Course photos	9
Course photos	10

Acknowledgements

We gratefully acknowledge financial support from the:

1. Mercy Ships
2. Royal College of Physicians and Surgeons of Canada

Attendees

VAST Course			
Name	Professional role	Course role	Workplace
Jackson Kwizera Ndekezi	Anesthesiologist	Course director	Rwanda
Prof Oumar Kane	Anesthesiologist	Co-course director	Senegal
Alain Irakoze	Anesthesiologist	Facilitator	Rwanda
Celestin Seneza	Anesthesiologist	Facilitator	Rwanda
Papa Ibrahima Ndiaye	Anesthesiologist	Facilitator	Senegal
Elaine Sigalet	Simulation coordinator	Simulation coordinator	Canada
Berger Dowevi	Project Manager	Mercy Ships Project Manager	Senegal
Mirjam Schotanus	Project Manager	Mercy Ships Project Manager	Senegal
Merilyn Phiri	Translator	Mercy Ships Day Crew	Senegal
Prof Mamadou Lamine CISSE	Gynecologist and Dean of Medical Faculty	Participant	Sénégal
Prof Balla DIOP	General Surgeon	Participant	Senegal
Dr Cheikh Ahmed Tidiane NDIAYE	Anesthesiologist	Participant	Senegal
Dr Adèle SY	Pediatric Surgeon	Participant	Senegal
Prof Abdou SY	ENT Surgeon	Participant	Senegal
Prof Yoro DIALLO	Urology Surgeon	Participant	Senegal
Rachel PREIRA COLY	Midwife	Participant	Senegal
Prof Saint Charles NABAB KOUKA	Urology Surgeon	Participant	Senegal
Prof Fatou Samba NDIAYE	Hematologist	Participant	Senegal
Dr Lamine GUEYE	Gynecology	Participant	Senegal
Dr Ngor Mack THIAM	Urology Surgeon	Participant	Senegal
Razafi Ange BA	Midwife	Participant	Senegal
Prof Papa Abdoulaye BA	General Surgeon	Participant	Senegal
Dr Gildas THIAW	Pediatric Surgeon	Participant	Senegal
Dr Yakhya CISSE	Neuro Surgeon	Participant	Senegal
Prof Seynabou FALL	Hematologist	Participant	Senegal
Dr Souleymane CONDE	Anesthesiologist	Participant	Senegal
Thérèse Cécile FAYE	Anesthetic Nurse	Participant	Senegal

VAST Wellbeing Course			
Name	Professional role	Course role	Workplace
Jackson Kwizera Ndekezi	Anesthesiologist	Course director	Rwanda
Oumar Kane	Anesthesiologist	Co-course director	Senegal
Seneza Celestin	Anesthesiologist	Facilitator	Rwanda
Alain Irakoze	Anesthesiologist	Facilitator	Rwanda
Papa Ibrahima Ndiaye	Anesthesiologist	Facilitator	Senegal
Elaine Sigalet	Simulation coordinator	Simulation coordinator	Canada
Mirjam Schotanus	Project Manager	Mercy Ships Project Manager	Senegal
Merilyn Phiri	Translator	Mercy Ships Day Crew	Senegal
Prof Balla DIOP	General Surgeon	Participant	Senegal
Dr Adèle SY	Pediatric Surgeon	Participant	Senegal
Prof Abdou SY	ENT Surgeon	Participant	Senegal
Rachel PREIRA COLY	Midwife	Participant	Senegal
Prof Saint Charles NABAB KOUKA	Urology Surgeon	Participant	Senegal
Prof Fatou Samba NDIAYE	Hematologist	Participant	Senegal
Dr Ngor Mack THIAM	Urology Surgeon	Participant	Senegal
Razafi Ange BA	Midwife	Participant	Senegal
Prof Papa Abdoulaye BA	General Surgeon	Participant	Senegal
Dr Gildas THIAW	Pediatric Surgeon	Participant	Senegal
Prof Seynabou FALL	Hematologist	Participant	Senegal
Dr Souleymane CONDE	Anesthesiologist	Participant	Senegal
Thérèse Cécile FAYE	Anesthetic Nurse	Participant	Senegal

Venue and equipment

Venue

The Simulation Center at l'Unité de Formation et de Recherche des Sciences de la Santé (UFR Santé), University of Thiès, Senegal.

Equipment

The ID badges were brought by the Canadian VAST team in February 2023. Mercy ships provided the printing of the course materials, posters and cognitive aids, iPads with SimMon App and the office supplies during the week.

All course equipment was organized by the VAST faculty team, except for the following items which were provided by Mercy Ships:

General Equipment:

- 10 Sheets
- 4 iPads
- 1 Doll + 1 Football
- 1 Large boxes for equipment

Box 1:

- 2 ETT tubes small sizes

Box 2:

- 1 Nasal Cannula (donated to Simulation Center after VAST Course)
- 1 IV Fluid Bag (donated to Simulation Center after VAST Course)
- 1 BF Cuff

VAST Course

The VAST Course was offered in French to 18 multidisciplinary participants who work in different health facilities in Dakar and Thies, Senegal. These healthcare practitioners work together regularly and were able to discuss common challenges and solutions. Recurring themes were: the need of re-implementing and using Checklists in Senegal; the lack of certain medications and blood products; and the need to increase the use and availability of cognitive aids in French not only in the operating rooms but also into every critical settings of the hospitals. The participants appreciated the rich discussion on non-technical skills and the sharing of experiences between surgeons, internists, nurses, anesthesiologists, and midwives to learn from the perspectives of their colleagues.

The skills sessions (difficult airway management, neonatal resuscitation, and primary trauma survey) were all conducted as PowerPoint presentations with concurrent demonstration of skills using mannikins (difficult airway management, neonatal resuscitation) or simulated patients (primary trauma survey). We also had skills set up where during breaks everyone had to pass by and learn how to do ventilation, and CPR. The iPads were used along with these demonstrations to show simulated vital signs.

Social life

All VAST course instructors and the simulation coordinator stayed at the same hotel, MASA MASA hotel, organized by Mercy Ships therefore frequent socialization and course planning took place during meals and down time. Mercy Ships supported food and needed expenses during the stay and also arranged for evening outings. They took instructors on a tour of the ship and arranged dinners out, one that included the planning and teaching team.

Course evaluations and informal feedback

Combined feedback from online evaluation and paper evaluation translated by Mercy Ships

VAST Course

What went well

- The simulation scenarios were practical cases that we face every day so it will help us to develop our skills
- The sequential organisation of the different simulations, role repetition
- The simulation training has allowed us a lot to question ourselves, to always work in a team in order to make the right decision. It's a complementary teaching with strong feelings. It feels like we were in a real situation
- The content of the training such as the communication, scenarios, mutual consideration and the good atmosphere in which the training took place
- Sharing spirit and feedback
- Humility and mutual respect during course
- The open-mindedness of the trainers, the positive interaction between trainers and participants

Challenges

- 1- To do more Simulations; 2- Roles distribution according to the specializations
- I didn't feel the place of the hematologist. Her role needs to be taken into account
- Conducting this type of training in a medical service with people that work together would be very beneficial
- To give more time to the training
- The scenarios must be more precise, review the translation of the document into French
- To reduce the didactics duration on the first day of VAST course
- Improve the sessions by bringing more reality from the country's hospitals
- If possible, we may start thinking putting videos with French. Scripts are more difficult to catch the message
- Increase the training duration, frequency and a VAST facilitator Course to allow for more service providers.
- I would like for a team at UFR be trained in order for them to act as a relay to train the rest of the personnel.

Take home messages

- Checklists and cognitive aids need to be employed routinely in practice
- A highlighted take home message by most participants was the need to improve closed loop communication and sharing of mental models in crises
- Concerns about implementing new skills in real practice where colleagues may not be employing non technical skills and communication sufficiently
- Involvement of each team member regardless their qualification, take into consideration the remarks and suggestions, implement the displayed protocols

Recommendations

- Include scenarios specifically designed for midwives if they are taking the course
- Continue use of new cognitive aid in debriefing, it was well received and utilized
- Ensure the course timing does not interfere with cultural or religious commitments such as having teaching on Friday afternoons and/or weekends
- Improve the sessions by bringing more reality from the country's hospitals
- Consider adjusting scenarios to increase complexity in settings with a higher level of anesthesia or medical knowledge surrounding crisis resource management
- Redesign certain cognitive aids provided to be in line with French currently available cognitive aids and provide those for the group to use in hospital settings
- Presentations on different themes like convulsions and losing consciousness.

VAST Wellbeing Course

What went well

- The course was precise and clear, the language was easy to understand
- The lovely atmosphere, the mutual respect in between each other, simplicity of the content of the courses
- Friendly environment, not feeling judged
- The training was very interactive and well presented
- Human resource management / creation of interactive environment in the workplace/ Debriefing
- Congratulations and thanks to VAST and Mercy Ship trainer's team. Thank you to all different facilitators for their good mood

Challenges

- Lunch break too short and should be lengthened
- Emotional sessions
- Can trigger awareness but sometimes no answer to the attendance

What to can improve:

- Increase the time of the program, consider doing the training in local hospitals
- Have this training done in the hospitals
- To invite more participants, increase the training periods
- To give more time for the training
- Reorganize the training by forming and integrating teams that will work together at hospital
- Improve the sessions by bringing more reality from the country's hospitals

Take home messages

- Empathy and listening with kindness
- Apply the SMART method always, have specific objectives, to plan in time
- Better organization of the work and more attention through colleagues, organize simulation sessions
- Taking care of myself, spending more time with my family and friends, paying attention to the concerns of my colleagues

Overall recommendations of all courses:

- Two simulation facilitators for the next courses
- To have the course materials translated well into French
- Videos or clips to be replayed with local people into French. Scripts are also not well understood as the videos move fast
- More training for the local team to be independent for the next course
- The first day of VAST Course to have some scenarios, reduce too much time for didactics

Challenges and lessons learnt

There were no significant challenges by far. We faced challenges in adapting the VAST Course and VAST wellbeing Course materials in a language other than English. It would have been beneficial for VAST FC participants to be involved in translating materials for the VAST Course ahead of time. Having course instructors that spoke French was essential as debriefing was a little bit a challenge on timing.

Another challenge was starting time which was mainly due to local participants who were coming late due to hospital duties. Taking people out of their daily activities and if possible, far away from their working environment.

Some of the course participants had simulation concepts for their first time in life. Next selection should put this a criterion for course participation with regard to short course timing and essence of contents.

Recommendations

1. Completion of Version 2 of the French translation of all VAST FC, VAST Course and VAST Wellbeing materials and cognitive aids with the assistance of new Senegalese VAST FC graduates.
2. Specifically editing or redesigning the cognitive aids for the difficult airway algorithm to be in line with MAPAR recommendations and 2022 protocols. Consider involving MAPAR in the design or determining if they could provide any to hospitals. <https://www.mapar.org/>
3. Encourage the involvement of the new simulation coordinators trained during the course week in as many simulation training sessions as possible with the perioperative team there as they begin to use the simulation centre regularly so they can continue to refine skills and familiarize with equipment
4. Consider the creation of scenarios for more advanced course groups
5. Consider adapting scenarios to participant speciality so that there is a subgroup of scenarios used for example when midwives, hematologists, obstetricians, neurosurgeons and

urologists are participating in training. These should be added onto VAST's Scenario Bank and will be accessible through VAST's website

6. Apply lessons learned from this experience to the delivery of upcoming courses in more remote regions of Senegal where familiarity with simulation and crisis resource management may be minimal.

Course Photos



Group photo after wellbeing course certification



A paramedic in Action with hat and a ready-to-use laryngoscope into the pocket





Debriefing session by Dr Celestin



Skills station: Dr Alain with a midwife, surgeon and anesthetist teaching them how to ventilate a neonate.