SAFE

Safer Anaesthesia From Education

Obstetric Anaesthesia Course
Pointe Noire, Republic of Congo

March 25th - 27th 2014

Association of Anaesthetists of Great Britain and Ireland

In Partnership with Mercy Ships

Written by

Dr Savini Wijesingha and Dr James Leedham
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Executive Summary

This was the first SAFE (Safer Anaesthesia From Education) OA (Obstetric Anaesthesia) course to be conducted entirely in French.

It was also the first time that a SAFE OA course had been run in the Republic of Congo and it took place during the country’s ‘Year of Health’. It proved to be both suitable for and successful in this context.

The course was attended by 35 delegates, from different medical disciplines involved in the inpatient care of obstetric patients and their babies:

- 25 anaesthetic nurses/anaesthetic officers
- 4 midwives
- 3 obstetricians
- 3 anaesthesiologists

Delegates attending this course were predominantly from hospitals in and around Pointe Noire. This is the second largest city in the Republic of Congo and the country’s major port.

The course was conducted in partnership with Mercy Ships. Their hospital ship called ‘Africa Mercy’ has been docked in Pointe Noire since the summer of 2013 and undertaken thousands of life-changing operations. They have implemented education and training programmes in areas of need identified by the country’s Department of Health. One such aim was to help reduce maternal mortality rates. This course could not have taken place without Mercy Ships generous support.

The course was directed by Dr James Leedham, Dr Michelle White and Dr Keith Thompson.

The teaching faculty consisted of nine anaesthetists and one obstetrician, all from the UK.

A team of four bilingual French interpreters worked extremely hard to translate and prepare course materials, as well as interpret throughout the course.

All delegates were assigned an individual mentor to whom they had access throughout the course.

Knowledge and clinical skills were formally assessed before and after the course. Knowledge scores were high from the outset but improved nonetheless. Skills scores showed statistically significant improvements overall.

Feedback from delegates was excellent and their appraisal of the course along with some of its highlights can be viewed in this short video at http://vimeo.com/91066502
Acknowledgements

This course could not have taken place without the assistance of Mercy ships. The organisations in-country partners and contacts enabled their programmes co-ordinator, Krissy Close, to organise and recruit delegates for the course. The ship provided all transportation within Pointe Noire, food and accommodation for the travelling faculty and all of the necessary medical equipment and teaching materials for the course.

A special thank you goes to Dr Michelle White (resident anaesthetist and medical advisor for education on board the Africa Mercy ship) and Krissy Close for fully supporting the course and hosting us as guests on board the ship.

We are grateful to the Centre Culturel Jean Baptiste for providing the venue for this course.

We thank Dr Keith Thompson for organising the travelling team and arranging their transport to and from the Republic of Congo.

The Faculty worked incredibly hard, not only teaching during the day but also working with French translators during the evenings to prepare course materials. All performed very well as a team.

We are especially grateful to our four French interpreters who worked tirelessly throughout the course.

Thanks also goes to Dr Benoire Beauve, Mr Sebastian Mallet, Mr David Guthrie, Mrs Mireille Benge, Mrs Therese Prunet-Brewer, Dr Matt and Mrs Aude Jarrett and Mrs Lo Odile Garde for generously giving their own time to translate course materials into French during the preceding weeks.

We are grateful to the Association Anaesthetists of Great Britain and Ireland (AAGBI) for their support. A particular thank you goes to Dr William Harrop-Griffths, President of the AAGBI for his continued support of the project and to the IRC for contributing towards the teams travel costs.

We want to thank the Royal College of Anaesthetists for providing all of the course delegates with copies of the e-SAFE DVD to facilitate their continuing anaesthetic education.

Lastly we would like to thank all of our course delegates, many of whom travelled for many miles each day, enduring difficult journeys in order to attend the course and they were a delight to teach.
Background

The WHO, World Bank and UN inter-agency group estimated the overall maternal mortality ratio (MMR) in the Republic of Congo to be 540 per 100,000 live births in 2010.

Despite sustained economic growth during the last ten years and significant investment in health system strengthening projects to improve both the utilization and quality of maternal and child healthcare services across the country. Further reductions in maternal mortality rates are needed and the Republic of Congo remains short of highly skilled healthcare professionals. Those individuals who pursue specialist medical training in Europe, for example, may choose not to return to work in the country. There are currently only ten physician anaesthetists in the republic of Congo, seven of whom work at the university teaching hospital in Brazzaville, the country’s capital. The majority of obstetric anaesthesia in the country is delivered by nurse anaesthetists who have undertaken a three year anaesthesia training programme following completion of their basic nursing qualification.

Obstetric anaesthesia related morbidity and mortality, along with in-hospital obstetric emergencies that require anaesthetic services to facilitate their effective management, remain a significant cause of maternal mortality in lower resource settings. All countries must be willing to work together towards the goal of improving maternal health. The SAFE OA course is designed to provide the specialist technical training needed to improve the quality and safety of obstetric anaesthesia through skill and knowledge sharing between healthcare professionals from different countries.
The venue  (Centre Culturel Jean Baptiste)
The March 2014 Course

The goal of the project was to deliver the SAFE Obstetric Anaesthesia course to French speaking anaesthetic nurses and anaesthesiologists in the Republic of Congo.

Mercy Ships and its partners have been conducting other educational programmes in the country, including Lifebox pulse oximetry, the WHO Safe Surgery Checklist, neonatal resuscitation and theatre team communication courses. Because it takes longer to cover the same amount of subject matter when using French interpreters topics already taught in the country were taken into consideration and our course timetable was adapted appropriately.

Approximately 50 healthcare workers from throughout the Republic of Congo were invited to attend. The actual total number of delegates was 35. The teaching faculty comprised of a further 10 individuals plus 4 interpreters which took the total number attending the course to 49. Figure 1 shows the number of delegates attending the course on each day.

![Attendance Chart](image)

**Fig 1. Attendance at the course**

Delegates were divided into groups of 5-8 for breakout and skills stations which proved to be a good number and an extremely effective way of delivering information.

Most delegates attended all 3 days of the course but this was not possible for all:

1 day of course attended = 7 delegates
2 days of course attended = 9 delegates
3 days of course attended = 19 delegates

The Training of the Trainers Course

The Training of Trainers (TOT) day was not run during this first Republic of Congo course, given the added challenges of working via French interpreters. This will be further evaluated for future courses.
The SAFE Pointe Noire Team

The SAFE Obstetric Anaesthesia Course commenced on Monday 25th March.

The course was directed by Dr James Leedham, Dr Michelle White and Dr Keith Thompson.

*The teaching faculty consisted of 10 doctors:*

Dr Wynne Davies  
Consultant Anaesthetist  
*UCLH*

Dr James Eldridge  
Consultant Anaesthetist  
*Portsmouth Hospital*

Dr Emma Halliwell  
Consultant Anaesthetist  
*Salisbury District Hospital*

Dr Keith Thompson  
Consultant Anaesthetist  
*Basingstoke Hospital*

Dr Nicola Cox  
Specialist Trainee Anaesthetics  
*Wessex Deanery*

Dr Lorna Howie  
Specialist Trainee Anaesthetics  
*North West Deanery*

Dr James Leedham  
Specialist Trainee Anaesthetics  
*North West Deanery*

Dr Richard Ramsaran  
Specialist Trainee Anaesthetics  
*North West Deanery*

Dr Savini Wijesingha  
Specialist trainee Anaesthetics  
*South-East Scotland Deanery*

Dr Vivian Rusman  
Associate Specialist, Obstetrics and Gynaecology  
*Royal Surrey Hospital*

*French interpreters:*

Ms Stephanie Bazin, Canada

Mrs Thérèse Prunet-Brewer, UK

Mr Jim Callahan, Australia

Mrs Stella Kouemo, Cameroon

<table>
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<tr>
<th>Sun 23rd March</th>
<th>Mon 24th March</th>
<th>Tues 25th March</th>
<th>Wed 26th March</th>
<th>Thurs 27th March</th>
<th>Fri 28th March</th>
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<tbody>
<tr>
<td>Flights from UK to Pointe Noire</td>
<td>Faculty Meeting, venue preparation, visit to local hospital</td>
<td>SAFE course day 1</td>
<td>SAFE course day 2</td>
<td>SAFE course day 3</td>
<td>Return flights from Pointe Noire to UK</td>
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</table>

Written by Dr Savini Wijesingha and Dr James Leedham
Monitoring, Evaluation and Results

The course evaluation involves the following 5 steps:

‣ Delegate’s feedback (about the course overall and individual sessions)
‣ Pre and post course knowledge (MCQ) assessment
‣ Pre and post course skills assessment
‣ Logbooks – review and reflective practice
‣ Field work to include cell phone and email interviews where possible

Delegates’ feedback

All delegates were pleased to receive their copy of the e-SAFE DVD, a book ‘Anesthésie a Moindre Risque’ and their logbook to complement the content that is taught on the course.

Instructions and reminders to complete feedback forms after each session were given and repeated throughout the course. The scores are very impressive.

The chart below displays specific feedback from sessions. It was on a scale of 1-10 (very poor – excellent).

The range and the median scores are illustrated by red bars and blue diamonds respectively.

Fig 2. Candidate feedback from lectures
SAFE Course, Pointe Noire, March 2014

Fig 3. Candidate Feedback from breakout sessions

**General Feedback**

This second chart illustrates overall course feedback again using a scale of 1-10 (very poor – excellent).

Fig. 4 General feedback from the course
Overall the course feedback was extremely positive and encouraging. Some of the comments from delegates are listed below:

‘It’s so beautiful, important and beneficial’

‘In summary I can say that in 3 days I grew a year’

‘Awesome, affirming and very practical’

‘The course was very interesting, very practical and very enriching’

‘It was wonderful, it went well and I have learnt a lot of things’

‘It is a training that has allowed me to learn more about the practice of anaesthesia in my hospital. Otherwise there were lots of things I didn’t know. I thank you infinitely and I hug you all and I love you all’

‘I suggest this training happens more often’

‘To be done at all times during one’s training’

‘Our wish would be that simulation training seminars be performed every year’

‘I wish that Mercy ships organises another one of these in the next few years in Congo and do other seminars to improve our quality of care’

‘Continue to train and give these trainings’

‘We thank you for this and if it could be done every year or 2 years it would be a good thing for our knowledge’

‘I wish these trainings would be repeated and by diversifying topics (peritonitis, intestinal obstruction, resuscitation)’

‘training was good but timing was short and language didn’t help us much’
Pre and Post Course Skills Assessment

17 candidates underwent a skills test before and after the course. The four skills tested were:

1. Maternal cardiac arrest
2. Management of eclamptic seizure
3. Rapid sequence induction
4. Neonatal life support

Each candidate repeated the same test post-course as they had undertaken pre-course. Each time they were assessed by the same members of faculty.

**Mean**

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<table>
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<tr>
<td>Pre-skills mean test score:</td>
<td>4</td>
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<tr>
<td>Post-skills mean test score:</td>
<td>6</td>
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<tr>
<td>Paired student’s T-test p value:</td>
<td>0.0006</td>
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</tbody>
</table>

The improvement in candidates skills test scores were <0.05 and therefore statistically significant.
Pre and Post Course Knowledge Assessment

Candidates were given a multiple choice question (MCQ) paper containing 50 questions to test their knowledge before and after the course. This was conducted under examination conditions and adequate time was allowed for completion. After registration on the first day the pre course skills test was immediately followed by the pre course MCQ paper.

On the last day of the course 50% of candidates took the post course MCQ paper while 50% took the post course skills test. The two groups then swapped round.

Although 26 delegates completed the pre-course MCQ, only 19 completed the post-course MCQ. Of these only 16 of the 35 delegates who attended the course completed both pre- and post- course knowledge tests.

Data was analysed using a paired student’s T-test.

Mean (%)

<table>
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<th>Test Score</th>
<th>Mean (%)</th>
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<tr>
<td>Pre Knowledge Test Score</td>
<td>33 (66)</td>
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<tr>
<td>Post Knowledge Test Score</td>
<td>34 (68)</td>
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<tr>
<td>Paired student’s T test p Value</td>
<td>0.415</td>
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</table>
Post Intervention Activity

The Monitoring and Evaluation applied to the SAFE course is as follows:

‣ Level 1: Reaction and enjoyment – measured by numerical analogue scores
‣ Level 2: Change in knowledge – assessed by pre and post course MCQ tests
‣ Level 3: Change in skill ability – assessed by before and after course skills tests
‣ Level 4: Change in behaviour and ability in the workplace – recorded in logbook
‣ Level 5: Institutional (and ultimately widespread) change – assessed by analysis of institutional and national data where possible

Levels 1 - 3 were assessed during the course and the results are published in this document in the monitoring and evaluation section.

Levels 4 and 5
Change in behaviour and in the workplace will be measured by the keeping of logbooks. The logbook contains brief introductory information and spaces for 30 examples of care that was improved having attended the SAFE Obstetric Anaesthesia course. Logbooks were presented to 21 delegates at the end of the course and others were provided for those who could not attend the closing ceremony.
Summary

Thirty-five anaesthetic delegates were trained, the majority were from non physician backgrounds reflecting anaesthetic practice within the Republic of Congo. A small number of obstetricians and midwives also attended the course which facilitated a multidisciplinary approach to managing obstetric anaesthetic emergencies.

Skills in four key areas of anaesthetic practice were assessed and shown to have improved by a statistically significant amount as a result of this course. These skills along with the many others acquired during the course will help to reduce maternal and infant mortality and morbidity in the Republic of Congo.

This first French SAFE Obstetric Anaesthesia course was extremely well received by local delegates. Working in partnerships with the Mercy ships represents a very exciting step towards disseminating this course throughout this country and to other parts of West Africa.
Appendices:

Appendix 1 - Faculty List
Appendix 2 – Delegate List
Appendix 3 – Course Photographs
# Appendix 1: Faculty list

<table>
<thead>
<tr>
<th>Name</th>
<th>Role</th>
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<tbody>
<tr>
<td>Dr Michelle White</td>
<td>Course Director</td>
</tr>
<tr>
<td>Dr James Leedham</td>
<td>Course Director</td>
</tr>
<tr>
<td>Dr Keith Thompson</td>
<td>Course Director</td>
</tr>
<tr>
<td>Ms Krissy Close</td>
<td>Course Organiser</td>
</tr>
<tr>
<td>Dr Nicola Cox</td>
<td>Teaching faculty</td>
</tr>
<tr>
<td>Dr Wynne Davies</td>
<td>Teaching faculty</td>
</tr>
<tr>
<td>Dr James Eldridge</td>
<td>Teaching faculty</td>
</tr>
<tr>
<td>Dr Emma Halliwell</td>
<td>Teaching faculty</td>
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<tr>
<td>Dr Lorna Howie</td>
<td>Teaching faculty</td>
</tr>
<tr>
<td>Dr Vivian Rusman</td>
<td>Teaching faculty</td>
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<tr>
<td>Dr Richard Ramsaran</td>
<td>Teaching faculty</td>
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<tr>
<td>Dr Savini Wijesingha</td>
<td>Teaching faculty</td>
</tr>
<tr>
<td>Ms Stephanie Bazin</td>
<td>Interpreter</td>
</tr>
<tr>
<td>Mr Jim Callahan</td>
<td>Interpreter</td>
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<tr>
<td>Mrs Stella Kouemo</td>
<td>Interpreter</td>
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<tr>
<td>Mrs Thérèse Prunet-Brewer</td>
<td>Interpreter</td>
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# Appendix 2: Delegate List

<table>
<thead>
<tr>
<th>Surname</th>
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<tr>
<td>BAKALA</td>
<td>Solange</td>
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<td>Hôpital General Adolphe Sicé</td>
</tr>
<tr>
<td>BALOU</td>
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<tr>
<td>BIAKAKOUDY</td>
<td>Rosny</td>
<td>Anaesthetic Officer</td>
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<tr>
<td>BILAGNEBI</td>
<td>Angelique Agathe</td>
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<tr>
<td>BOUITY</td>
<td>Rodrigue</td>
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<td>DIAMESSO</td>
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<td>DOUMBI</td>
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Appendix 3: Course photographs
SAFE Course, Pointe Noire, March 2014

Written by Dr Savini Wijesingha and Dr James Leedham