Safer Anaesthesia From Education

SAFE Obstetrics Anaesthesia
Zimbabwe
March 2017

Association of Anaesthetists of Great Britain and Ireland

Report compiled by Dr Lara Herbert FRCA
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Introduction

Zimbabwe, with an estimated population of 15·6 million, is one of the poorest countries in the world and has a maternal mortality ratio (MMR) of 614 per 100 000 live births (2014). For comparison in 2013, the average MMR worldwide was 210, in sub-Saharan countries 510, and in high income countries 16 per 100 000 live births.

The SAFE obstetrics anaesthesia course coincided beautifully with national anaesthesia efforts. In 2015, a nationwide survey was conducted, with an aim to describe anesthetic practices and resources used for caesarian sections in Zimbabwean provincial, district, and mission hospitals.

The survey highlighted several shortcomings in anesthetic provider skills, drugs, equipment, routine patient safety practices and quality of care.

Recommendations from the survey included refresher courses, updating practices and guidelines, practice of safety drills, better team training and improved mentorship and supervision of nurse anaesthetists by physician anaesthetists.

Course overview

The course ran from Friday 10 March to Tuesday 14 March 2017. It took place in Harare and consisted of 1 day of Training of the Trainers (ToT), 3 days of SAFE obstetrics anaesthesia and 1 day of Lifebox training.

We trained 12 ToTs (5 senior anaesthetics consultants, who were also part of the ZAA leadership, 4 younger anaesthetics consultants and 3 nurse anaesthetists (NAs)). As the NAs had not undergone SAFE or Lifebox training before, they attended the ToT day, and then became delegates for the remainder of the course. We trained 32 delegates (including the 3 NA ToTs). Of the delegates, there were 28 NAs and 1 GMO.

In order to practice anaesthesia independently in Zimbabwe, non-physician anaesthetists must be nurses who hold a diploma in anaesthesia. This is awarded after successful completion of 1 year of anaesthetics training in Harare.

Delegates came mainly from district hospitals across the country, with one travelling for nearly 24 hours by public transport to attend.

Funding

Funding was awarded by the AAGBI and DAS after successful application through the SAFE Steering Group 14 months prior to the course. Given Zimbabwe’s volatile economic climate, it was difficult to predict costs. A spreadsheet of the budget and costs for the course is presented in Annex 1.
**Preparation**

The SAFE Obstetrics Anaesthesia Course in Zimbabwe was co-directed by Dr Lara Herbert (ST6 Anaesthetics Registrar, Severn Deanery, UK), Dr Edson Chikumba (president of the ZAA) and Dr Farai Madzimbamuto.

Dr Herbert met with Dr Chikumba and other key ZAA members in Harare in November 2016 to plan the SAFE course. This meeting proved to be a valuable “ice-breaker”, enabling the Zimbabwean Anaesthetists to focus on the SAFE objectives and consider how SAFE could be relevant to Zimbabwe.

Most of the organisation (faculty selection and role allocation, coordinating flights, managing the budget, liaising with venue, organising printing and sourcing of equipment) fell to Dr Herbert. This was challenging, given her demanding clinical rotation and the logistics of settling back in the UK after being away in Uganda for 6 months on a Lifebox Fellowship.

The Zimbabwean team were responsible for inviting delegates and ToTs, booking the venue, coordinating transport for both the delegates and faculty within Harare and liaising with customs officials in advance.

The overall success of the course can be attributed to excellent teamwork, communication and motivation between the co-directors and the ZAA in the preparation phase. Communication was facilitated by using a watsapp group.

**Faculty**

We agreed that having a faculty that was mostly African was important for course credibility, networking and further expansion of SAFE in Africa.

2 of our South African instructors were not SAFE trained, but are experienced obstetric anaesthetists. Exposing them to SAFE under the mentorship of the other SAFE instructors had the added benefit of expanding the pool of SAFE trained instructors in South Africa.

We had 12 international faculty members, of which 8 were instructors. The SAFE delegates were divided into groups of 4, with 8 delegates per group. Each group was allocated 2 international faculty members. This ratio of international faculty to delegates (2:8) proved very effective.

For the SAFE course, we divided the Zimbabwean ToTs into 4 groups of 3 and rotated them around the international faculty each day to expose them to different teaching styles. By the end of day 1 of the SAFE course, under the mentorship of the international faculty, the newly trained Zimbabwean instructors were leading break out sessions and delivering lectures.
<table>
<thead>
<tr>
<th>NAME</th>
<th>COUNTRY</th>
<th>ROLE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Edson Chikumba</td>
<td>Zimbabwe</td>
<td>Co-Director and President ZAA</td>
</tr>
<tr>
<td>Farai Madzimbamuto</td>
<td>Zimbabwe</td>
<td>Co-Director</td>
</tr>
<tr>
<td>Lara Herbert</td>
<td>UK</td>
<td>Co-Director</td>
</tr>
<tr>
<td>Katie Fernandez</td>
<td>UK</td>
<td>Project Manager</td>
</tr>
<tr>
<td>Naomi Pritchard</td>
<td>UK</td>
<td>Instructor</td>
</tr>
<tr>
<td>George Kataregga</td>
<td>Uganda</td>
<td>Instructor</td>
</tr>
<tr>
<td>Elizabeth Igaga</td>
<td>Uganda</td>
<td>Instructor</td>
</tr>
<tr>
<td>Ushma Patel-Mujajati</td>
<td>Zambia</td>
<td>Instructor</td>
</tr>
<tr>
<td>Jackson Mwanza</td>
<td>Zambia</td>
<td>Instructor</td>
</tr>
<tr>
<td>Zane Farina</td>
<td>South Africa</td>
<td>Instructor</td>
</tr>
<tr>
<td>Tsakani Mhlari</td>
<td>South Africa</td>
<td>Instructor</td>
</tr>
<tr>
<td>Mdu Mashinini</td>
<td>South Africa</td>
<td>Instructor</td>
</tr>
<tr>
<td>Iain Wilson</td>
<td>UK</td>
<td>Strategy</td>
</tr>
<tr>
<td>Isabeau Walker</td>
<td>UK</td>
<td>Strategy</td>
</tr>
</tbody>
</table>

Katie Fernandez, who normally works as Lifebox Project Manager, was the overall course project manager whilst in Harare. Working closely with Dr Herbert, her role included coordinating course timings, registration, marking MCQ and skills tests, collating feedback, taking faculty meeting minutes, conducting the Lifebox needs assessment and ensuring appropriate allocation of Lifeboxes, as well as performing her ongoing work for Lifebox.

Having a course project manager was important, as it allowed the course director to step back and have a strategic overview of the course.

Drs Wilson and Walker came to Harare strategise with the ZAA leadership about the future of SAFE in Zimbabwe and further afield. Their presence added gravitas and undoubtedly contributed towards local ‘buy in’ of the SAFE concepts. Dr Wilson, who was there for the entire course, also provided invaluable mentorship for the course director.
Medical equipment

Whilst the budget covered the costs of the more expensive items on the equipment list, such as the "Resuscitation Annie" manikins, the "Neonatalies" and the Laerdal Intubating manikin, it did not cover the costs of the other medical equipment.

It was clear that it is no longer possible to rely on NHS goodwill to gain free medical equipment for courses abroad. Whilst it was possible to get most of the medical equipment in Harare on the SAFE equipment list, this would have been expensive.

Being a former Royal Navy Medical Officer, Dr Herbert sourced medical equipment from a nearby military base, as well as from her local simulation centre. It was fortunate that she was able to acquire the necessary medical equipment for free.

Travel

Dr Herbert used the AAGBI flight agency, “Diversity Travel”. Although more expensive than other agencies, it was understood that this company had the advantage of providing flexibility for charitable flights, so that if a flight change was required, this would be done without cost. Unfortunately, this was not the case, as any flight changes we had, incurred the usual costs. In addition, it was often possible to find cheaper flights online.

Once in Harare, transport was provided by the ZAA members, who used their personal vehicles and a trusted taxi service.

The UK faculty members had to pay $55.00 each for visas. These were obtained at Harare airport. The other faculty members did not have to pay for their visas.

Customs

The ZAA provided Dr Herbert with a duty free letter, signed by the Permanent Secretary. This enabled us to bring in the equipment for the course without paying duty. We did however have to pay an unexpected airport-handling fee of GBP182.50 and it took several hours to process the equipment at the airport.

Venue

The course took place at Resthaven Retreat, which is a small, peaceful resort 25km out of Harare. It has several meeting rooms and a large lecture hall. Good value accommodation and meals were provided on site. The staff members were extremely friendly and frequently went out of their way to address our needs. Most delegates stayed on site; this helped with punctuality in the mornings and ensured that people stayed present and focused. Lack of wifi was an issue for some of the faculty.
Course Reflections

See Annex 2 for key points generated from daily faculty meetings. This section has been included to aid future SAFE faculties in Zimbabwe to tailor their courses appropriately.

Any manual update suggestions that arose from this course have been forwarded to the SAFE manual editor.

MCQ and Skills Tests

The standard of training and knowledge of the delegates was overall very high. This was reflected in high pre-course MCQ scores. The delegates’ practical skills and confidence levels, however, were generally found to be weaker.

Fig 1. Average SAFE MCQ scores out of 50 pre and post SAFE course
Delegate feedback on the SAFE course

23 delegates completed and returned monitoring and evaluation forms.

Fig 3. Delegate feedback showing average scores out of 10, where 10/10 is extremely useful and 1/10 is not useful.
Delegate feedback on general points about the SAFE course. Scores are out of 10, where 10 represents “extremely” and 1 represents “not”.

Delegate comments are listed below:

“Really enjoyed and learnt a lot from this course”
“Can these courses be done routinely, maybe annually if possible? Break out sessions were superbly educational!”
“Can we have more training to accommodate others who didn’t manage to come?”
“This course was very informative and really improved me as a practitioner.”
“Venue was far away and meals were not so good. It would help to provide participants with an out of pocket allowance. Course should not be done over the weekend.”
“I suggest if possible we should be issued resources to carry out the same course in hour hospital. I suggest courses should be carried out during weekdays. Recommend including student nurse anaesthetists and their educators.”
“Make it an annual or bi-annual even. Break out sessions were a fantastic way of learning. No sleeping!”
“Suggestion to include student nurse anaesthetists in the training.”
“It would be helpful if the bosses conduct scheduled support and supervision in district hospitals.”
“To have more time in breakout sessions”
“Continue with such training. Supply us with the some equipment like bougies. Also introduce retention allowance for anaesthetists.”
“An extremely informative and skills uplifting programme. I appreciate greatly and hope all of us will receive this kind of training. Thank you.”
Future of SAFE in Zimbabwe

Having secured funding from Laerdal, there is a plan in place to deliver 2 further SAFE obstetric anaesthesia courses in Zimbabwe in 2017. Although still in the initial planning phase, the aim is for the first course to take place in Bulawayo in June or July 2017.

After the third SAFE Obstetric Anaesthesia course, the expectation is that the ZAA will be running regular SAFE courses independently.

We are also planning for a SAFE fellow to follow up the SAFE OA course in Zimbabwe by collating monitoring and evaluation data from all the relevant hospitals. There is agreement with the ZAA leadership that the SAFE fellow should be a Zimbabwean physician anaesthetist. Exact details on the SAFE fellowship in Zimbabwe are to follow.

There is great enthusiasm amongst the ZAA leadership to also roll out the SAFE paediatrics course in Zimbabwe soon.

Recommendations

Please refer to Annex 2 to see recommendations on the course content for future SAFE courses in Zimbabwe.

The following recommendations can be made for future pilot SAFE courses in any country:

1. It is reasonable to assume that a pilot course is likely to have more unforeseen challenges than subsequent courses. It is also important that the pilot course is seen to be a success to obtain local "buy in" for future courses in that country. It is therefore recommended that a UK project manager accompany the course director on a pilot course to assist with the smooth running and efficiency of the course. (Subsequent courses in the same country would also benefit from this, although preferably with a local project manager.)

2. Given the time constraints and administrative workload on the course director, administrative support for the organisation of SAFE courses is recommended, particularly pilot courses, where risk is high and success is paramount. This may have the following added advantages:
   - Likely to encourage more clinicians to both engage and direct more courses.
   - It would ensure continuity of high standards between courses.
   - Increased efficiency, by avoiding duplication of mistakes, and re-learning of lessons learnt from previous courses.
   - More professional, particularly with regard to managing finances.

3. Having a senior anaesthetics consultant present on any pilot course is to be recommended, as this adds gravitas and undoubtedly encourages local "buy in".
4. It is worth budgeting for SAFE medical equipment and sundries. Can these be sourced in bulk at reduced cost?
5. Consider using a more cost effective travel agency.

**Conclusion**

Having representatives from 4 different African countries and the UK allowed for an extremely strong faculty with a considerable scope of relevant knowledge and experience. This undoubtedly contributed towards the success of the pilot SAFE OA course in Zimbabwe, with 32 delegates and 12 ToTs being trained.

Funding is now in place to deliver 2 further SAFE OA courses in Zimbabwe this year.

Under the exemplary leadership of the ZAA, there is very strong potential for the SAFE course to become integral in refresher training for anaesthesia providers in Zimbabwe.

**Acknowledgements**

I would like to thank the following people who went out of their way on numerous occasions to provide support and guidance for the course directors: Iain Wilson, Isabeau Walker, Aaliya Ahmed, Karin Pappenheim and Andrew Fyles.

**References**

### Annex 1. Budget for Zimbabwe SAFE Obstetrics Course March 2017

<table>
<thead>
<tr>
<th>Item</th>
<th>Actual Cost Total/ GBP</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Flights &amp; Travel</strong></td>
<td></td>
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<tr>
<td>2x flights Entebbe-Hre</td>
<td>915.48</td>
</tr>
<tr>
<td>My flight LHR-Hre</td>
<td>650.47</td>
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<tr>
<td>2x flights Zambia-Hre-Zambia</td>
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<td>2x flights Hre-Zambia-Hre</td>
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<td>3x flights LHR-Hre-LHR</td>
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<td>2x flights Jhb-Hre-Jhb</td>
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<td>Flight change costs for Zim faculty to Zambia</td>
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<td>UK visa</td>
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<tr>
<td>UK visa</td>
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<tr>
<td>Local transport costs= $360</td>
<td>288.45</td>
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<td>1x faculty Uber to station</td>
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<tr>
<td>1x faculty London travel costs (taxi + train with SAFE equipment)</td>
<td>16</td>
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<tr>
<td>1x faculty uber to Life box offices with suitcases</td>
<td>19.09</td>
</tr>
<tr>
<td>1x faculty uber from airport with cases/ remaining equipment</td>
<td>48.85</td>
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<tr>
<td>1x faculty Taxi to Harare airport</td>
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<td>3 x faculty uber to airport</td>
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<td><strong>Total Travel</strong></td>
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<tr>
<td><strong>Equipment</strong></td>
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<td>Neonatalie Manikins</td>
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<tr>
<td>Adult airway manikin and Little Anne</td>
<td>2,516.41</td>
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<td>Printing, photocopying, laminating ($1446.88 of which 446.88 was covered by ZAA)</td>
<td>801.20</td>
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<tr>
<td>Spine, stationery, whiteboards, namebadges, memory sticks</td>
<td>203.9</td>
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<tr>
<td>Publicity, flyers, ceremonies etc</td>
<td>0</td>
</tr>
<tr>
<td>Course materials for 32 delegates @£15 per person</td>
<td>0</td>
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<tr>
<td>Projector, printer</td>
<td>0</td>
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<tr>
<td>Audiovisual $250.00</td>
<td>200.25</td>
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<tr>
<td><strong>Total Equipment</strong></td>
<td>4,236.99</td>
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<tr>
<td><strong>Accommodation &amp; Venue</strong></td>
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<tr>
<td>242 Nights accommodation @$12pppn= $2904</td>
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<tr>
<td>449 Teas@$2per tea= $898</td>
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<tr>
<td>231 Breakfast@$3pppn= $693</td>
<td></td>
</tr>
<tr>
<td>231 Lunches @$4pppn= $924</td>
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<tr>
<td>235 Dinner@$4pppn= $940</td>
<td></td>
</tr>
<tr>
<td>Venue hire per day $20 per day= $120</td>
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<tr>
<td><strong>Total accommodation &amp; venue = $6479</strong></td>
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<tr>
<td><strong>TOTAL AMOUNT GRANTED</strong></td>
<td>17,434</td>
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<tr>
<td><strong>TOTAL COSTS</strong></td>
<td>16,365.13</td>
</tr>
<tr>
<td><strong>TOTAL UNDERSPEND</strong></td>
<td>1,068.87</td>
</tr>
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</table>
Annex 2. Summary of key points from daily minutes for ToT and SAFE courses. (Included to aid and inform future organisers for SAFE in Zimbabwe)

Faculty meeting 10 March 2017: ToT Day.
Present: Lara (Chair), Iain, Katie, Zane, Naomi, Ushma, Jackson, Mdu, Tsikani, Liz and George

a. “How to present” session:
- Many of the ToTs had not prepared a presentation in advance. This meant that they were presenting the same presentations from the ToT presentation bank, which was repetitive and probably less engaging.
- Suggestion to send out a You-Tube video prior to course with a “how to present” tutorial and instruct participants to arrive with 10 slides prepared on a USB stick, max 5 mins, on a non-medical subject of their choice.
- Important to allocate time within day for those who don't come prepared, to prepare their presentation.

b. Registration
- Ensure a few spare delegate packs are available in case of extra delegates.
- Many of the ToT delegates wanted the blue SAFE handbook and orange Obstetric Anaesthesia for developing countries books. Consider including these books in their delegate packs in the future.

c. Lectures
- There is fair amount of repetition in the lectures. Consider editing these to remove repetition in future.

Faculty meeting 11 March 2017: SAFE Day 1
Present: Lara (Chair), Iain, Katie, Zane, Naomi, Ushma, Jackson, Mdu, Tsikani, Liz, George + ToTs:- Edson, Farai, Noti, Doreen, Laurie, Fadzai, Mufudzi, Prince, Dube, Mary, Alice and Arnold

a. MCQs
- MCQs were completed within 15-20 mins, but agreement that 30 mins time allocation was fair.
- Lack of instructions on MCQ was an issue. There was no explanation on the paper for delegates as to the style of MCQ (i.e. T/F or select one answer after the stem.) This caused some confusion.
- Should explain no negative marking.

b. Skills Tests
- Variable performance on fitting mother station. Most people realised need for magnesium; but dosages were very variable.
• Performance on neonatal resuscitation station was poor. NAs in Zimbabwe don’t get training in this, as midwives generally do neonatal resuscitation. Agreed that it should still be on the course.
• Airway test. Generally areas of underperformance were areas that delegates are not exposed to in practice.
• Collapsed patient – most didn’t think of left lateral tilt. Useful suggestion to call every patient in every scenario “Mrs. Tilt”

c. Airway Lecture
• Consider adding a slide on extubation.
• Consider adding a video to make content more engaging.
• Emphasis on eclamptic patients should be stressed? BUT would need to be clear that shouldn't do GA – be clear that spinal is best option. OR emphasise airway in eclampsia lecture/station?

d. Breakouts
1a. Assessment of the airway
• Too much time. But this can be used to delve into issues/stories etc. Content fine.

1b. Management of the airway
• Often NAs only work in theatres.
• Instructors need to explain the context in which basic airway skills are necessary to make it more relevant for delegates e.g. in recovery.

1c. Rapid sequence induction
• Main issue was that there was not enough time for everyone to practise.
• Might be beneficial to have more airway mannikins. Could use cheaper mannikins for practice (Zane has details). ZAA has some PTC mannikins.
• Suggestion to encourage people to practice during breaks.

1d. Extubation
• A lot of information, and not enough time.
• Suggestion to set up airway manikin in corner of main hall and let people practice during breaks. Rota faculty in to supervise.

2a. Difficult intubation
• Same issue of not every one getting a chance to practise.

2b. Failed intubation
• Consider amalgamating 2a and 2b into 1 session, as there is a lot of overlap, although this repetition does allow practice in smaller groups.
• We are training with kit that people don’t necessarily have in their hospitals, but agreed that despite this, it is important that delegates are exposed to the kit and get a chance to practice.
• Suggestion for instructors to encourage delegates to speak to procurement departments at hospital to request essential equipment such as bougies.
• Noted that some places do have the kit, but often anaesthetists don’t realise it.

2c. Cricothyroidotomy
• Unfortunately there are no practice models so this was quite a quick session.
• Suggestions of improvising trachea models using animal tracheas (approach local butchers) or tubing and tape.

2d. Pulse oximetry and intra-operative monitoring
• 5 mins on how pulse ox works is not enough time.
• Consider removing this session if the Life box day is being run as well.
• Virtual pulse ox works on non-macs.
• PowerPoint not really necessary.

3a. Assessment and preparation
• Length of time adequate. Content good.

3b. WHO Checklist
• Plenty of time for group to discuss personal experiences.
• Most people had some experience with use of the WHO checklist, but all had stopped using it.
• Discussion about whether this session could be done in plenary with faculty simulating a theatre team, but faculty agreement that it is useful to have a breakout session on the WHO checklist, as it allows people to share stories of errors confidentially in a small group.

3c. GA
Not enough time. Consider cutting content of session or allocating more time.

3d. Post-op pain relief and recovery
• Time and content were fine.
• Delegates hadn’t heard about SBAR.
• A recent national survey\(^3\) has revealed that because of the move to spinals, there is an assumption that recovery isn’t required and patients tend to go straight from theatre to ward.

Faculty meeting 13 March 2017: Day 2 SAFE
Present: Lara (Chair), Iain, Katie, Zane, Naomi, Ushma, Jackson, Mdu, Tsikani, Liz, George + ToTs: Edson, Farai, Noti, Doreen, Laurie, Fadzai, Mufudzi, Prince, Dube, Mary, Alice and Arnold.

a. Lectures
• Add more on sepsis to first lecture, “Critical care and resuscitation” lecture.
• Emphasise manually moving uterus rather than lateral tilt in “Maternal Trauma” lecture.

b. Breakout stations
4a. Anatomy and conduct
• Enough time & v interactive
• Instructors found that it was more effective to not show the video. They thought it was not very constructive, as delegates do spinals on daily basis.
• There were queries as to whether the level of the block should be T4 or T5/6. Faculty agreement that it should preferably be T4.

4b. Failed/difficult spinal
• It was felt there was excess content that could be covered elsewhere.
• Suggestion to discuss dose of Ketamine for breakthrough pain i.e. 0.1mg/Kg IV.
• Important to emphasize that there are no sedation options for a failed spinal.
• Should we have a “SAFE course protocol” for repeating spinal – when and how much?
• It was felt that the manual needs to be clearer about what to do when spinal has failed.

4c. Hypotension
• Time & content OK
• Hypotension also covered in high spinal.

4d. High/total spinal
• Not enough time.
• Consider spending less time on management of hypotension, as this is covered extensively in 4c.

5a. PDPH prevention + differential diagnosis
• Content & time fine.

5b. Neurological complications
• PDPH is covered in 5a, however faculty agreement that it should also be mentioned in 5b.
• The manual has 4 pages to cover. This is very daunting! Suggestion to summarise content in a table and to then lead a discussion that involves filling out the table
• Suggested card game/team game with laminated cards that have answers to the gaps on the table. As a team they fill the gaps in the table with the cards.
• For example, see table below:

<table>
<thead>
<tr>
<th>Complications (discuss early versus late)</th>
<th>Signs and symptoms</th>
<th>Risk factors</th>
<th>How to avoid</th>
<th>How to treat</th>
</tr>
</thead>
<tbody>
<tr>
<td>Itching</td>
<td></td>
<td></td>
<td>Emphasize practice improvements e.g. spinal packs</td>
<td>Should involve advice on providing a follow up service.</td>
</tr>
<tr>
<td>PDPN</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Epidural</td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Haematoma</td>
<td></td>
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<tr>
<td>PN palsy</td>
<td></td>
<td></td>
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<tr>
<td>Meningitis</td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Arachnoiditis</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Epidural abscess</td>
<td></td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>

5c. Advantages of spinal anaesthesia
• There is no content on GA versus spinal in APH patients. Instructors therefore added a section on “when would a spinal not be ideal.”
• GA versus spinal in eclampsia is well covered under the eclampsia section, so it was not necessary to dwell on it.

5d. Urgency of C section
• Some confusion around how much focus should be on pre-op.
• Maybe scenario should be slightly altered to say patient needs resuscitation before going to theatre. Or use an “assistant” to put in cannula and set up a drip etc to speed things up.
• Suggest if there is time at the end to explore other issues like consent, technique, common complications and addressing patients’ concerns.
6a. Physiology of pregnancy
- Content & time were fine.
- The instructors decided not to share the slides with the delegates, as felt this encouraged more group interaction.
- Note that some delegates needed clarification of the questions being asked; slides may have been helpful in these circumstances.

6b. Recognition of the sick obstetric patient
- Sepsis is covered elsewhere, but suggest re-capping as it is an important cause of mortality.
- It saved time to revise the ABCDE approach before running the scenarios.
- Using a table and filling in the gaps helps cover this efficiently.

<table>
<thead>
<tr>
<th>Parameters</th>
<th>Investigation</th>
<th>Management</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Open?</td>
<td>ECG, NBP, catheter</td>
</tr>
<tr>
<td>B</td>
<td>Sats, RR</td>
<td></td>
</tr>
<tr>
<td>C</td>
<td>HR, BP, CRT</td>
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<tr>
<td>D</td>
<td>AVPU</td>
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<tr>
<td>E</td>
<td>UO</td>
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</tbody>
</table>

6c. Principles of critical care
- Too many scenarios for the time available.
- Some scenarios were not really appropriate to NA work situations, making discussions very slow.
- Suggest omitting scenarios 2 and 4, particularly scenario 2 which is a trauma scenario because there is likely limited experience of managing trauma to this level at district hospitals and also, this session was before the trauma lecture.

6d. Providing obstetric high dependency care
- NAs not adequately trained in high dependency care in Zimbabwe.
- Most have limited HDU experience.
- Some struggled with the question about setting up a HDU.
- Consider discussing transporting critically ill patients (often NAs accompany patients).
- A Transfer scenario/breakout session would be useful.

7a. Maternal cardiopulmonary resuscitation
- Note that new guidelines are CABC rather than ABC (the manual is out of date).

7b. Sepsis/HIV
- Delegates not aware of SIRS.
- Teaching on septic patients needs to be emphasised more.
- Suggest adding a slide on sepsis to the lecture.
- Also need to update manual with new sepsis definitions.

7c. Maternal trauma
- Time was short.
- Using a table and filling in the gaps made the discussion and questions much easier.
7d. Newborn resuscitation
- Need more time
- Didn’t play video due to time constraints.
- Consider setting up a video station for delegates to watch during their breaks OR combining 2 groups and having 40 mins. Could then play the video and practice.
- Conflicting guidelines was causing confusion, especially regarding suction. Consider using WHO algorithm.

c. Miscellaneous points
- Some facilitators referring to the course being a “safe space” to encourage responses, as delegates often afraid to give the wrong answer.
- Suggest sharing the list of scenarios in a break out station with local faculty first to determine most appropriate scenarios.

Faculty meeting 13 March 2017: Day 3 SAFE
Present: Lara (Chair), Iain, Katie, Zane, Naomi, Ushma, Jackson, Mdu, Tsikani, Liz, George + ToTs: Edson, Farai, Noti, Doreen, Laurie, Fadzai, Mufudzi, Prince, Dube, Mary, Alice and Arnold.

a. Break out stations
8a. Management of pre-eclampsia
- It was difficult to cover all content in time available. Agreement that all content important to include.
8b. Management of a seizure
- Better to get delegates to run scenario – helped to direct discussion & save time.
8c. Preparation of PET patient for CS
- Emphasize hypertensive response to laryngoscopy as not covered in detail elsewhere.
8d. Communication
- Consider adding RSI as a communication topic.

9a. Estimation of blood loss
- Content fine. Indications for blood transfusion covered in 9b, so no need to discuss this in 9a.
9b. Fluid replacement/blood transfusion
- Part 1. Discussing management using the ABC approach can be time consuming. This part can be sped up by using a table and filling in the gaps.
- Part 9. It is not routine practice to give anti-malarials to patients receiving blood transfusions in Zimbabwe. Consider removing this from content, as not relevant.
- Consider having a summary slide or advice section about Jehovah’s witnesses. There would be time to include this.
9c. Haemorrhage control
- Time was short.
Important to check uterotonic and tranexamic acid practice, as well as blood product availability in host country beforehand.
Consider less emphasis on surgical things, including tourniquet.
Useful to bring in teamwork & communication with surgeon.

9d. Venous cut down, intraosseus and/or central (femoral) access
- Manual refers to video & DVD but we didn’t have it.
- None of delegates had seen venous cut down. A video would have been very useful.
- A table with 3 methods and subheadings helped to save time.
- Consider using a Crunchie bar for IO access

10a. Anaesthetic management of ruptured uterus
- No change.

10b. Anaesthetic management of ectopic pregnancy
- Emphasize that suxamethonium should be given in full dose.
- Note that the manual refers to “local policy” with regard to auto transfusion. There is no local policy in Zimbabwe. Leave this out to avoid confusion.

10c. Anaesthetic management of cord prolapse, uterine inversion and anaphylaxis
- Consider removing uterine inversion section. No one had seen it, but understood first principles.
- Agreement that anaphylaxis section is crucial.
- Consider making anaphylaxis its own station.

10d. Anaesthetic management of anaemia and malaria
- The content in this section was vast.
- Using a table helped to save time.
- Agreement to keep HIV section in course.

b. Lectures
- Pre eclampsia lecture. The Treatment of Eclampsia slide may be misinterpreted. It advises intubation if mother doesn’t regain consciousness, but does not address the risk of cerebral haemorrhage. May be worth mentioning this.