



**REPORT  
ON THE  
MANAGEMENT OF SURGICAL EMERGENCIES  
COURSE**

**and preceding**

**TRAIN THE TRAINERS COURSE**

**hosted by**

**The Surgical Society of Zambia**

**24<sup>th</sup> February to 1<sup>st</sup> March 2013**

**at**

**LUSAKA UNIVERSITY TEACHING HOSPITAL**

**Convener**

**RHS Lane MS FRCS Eng FRCS Ed (ad.hom) FACS FWACS (Hon)**

**Project Director - DFID (UK) / THET LPIP Grant**

**Programme Director for International Development &**

**Past President Association of Surgeons of Great Britain & Ireland**



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## ***Introduction***

The Association of Surgeons of Great Britain and Ireland (ASGBI) undertook a successful Pilot Course on the **Management of Surgical Emergencies (MSE)** in Lusaka in October 2011 (for report see [www.internationalsurgery.org.uk](http://www.internationalsurgery.org.uk)) and as a result successfully applied with the College of Surgeons of East, Central and Southern Africa (COSECSA) to the UK Department for International Development, (DFID) for a Large Paired Institutional Partnership Grant with the aim of improving emergency surgical care and capacity across the nine member countries of COSECSA by delivering appropriate multi-level accredited training courses at agreed sites across the Region over a period of two and a half years. The application was successful and it was therefore planned to hold three MSE Courses in Lusaka and these for participants from the countries in the southern half of the Region and three in Nairobi for the countries in the northern half of the Region.

At the outset it was very clear that if these were to be sustainable then we should have to run a Train the Trainers (TTT) course before each MSE course. Furthermore it was mandatory that to become sustainable these courses would have to be fully resourced with equipment from the UK and manuals for the Trainers and Trainees. It was appreciated that to accomplish our objectives it would take three courses to finish up with the final product. In other words each of the three courses would be work in progress and after the third and final one we should be able to hand over the running of the course in its entirety to COSECSA through the local leads in Lusaka and Nairobi. The TTT Course would be planned as a one day affair **prior** to the start of the MSE Course. This would be concentrated on how to run the course satisfactorily. A number of the visiting Faculty had experience of running TTT Courses in the UK and their expertise was utilised. This was not intended to be a day immersed in deep educational theory but one which would get across the basic principles of training and how to overcome the numerous pitfalls that could occur in running the MSE Course.

Unfortunately there was no Theatre Nurse Training Course held on this occasion due to family illness involving the course tutor.

The basic outline of the MSE Course will remain the same as the Pilot Course, with two days dedicated to Critical Care, one day to General Surgery, one day to Orthopaedics and Trauma and half a day each to Urology and Obs / Gynae. The lessons learned from undertaking the Pilot Course were put into practice. It was generally agreed that 24 trainees were too many and that the number be reduced to 18 which would allow three groups of six

which would be easier to manage especially during demonstrations and would also allow more personal tuition.

It was decided that for the first course in each centre there would be a total of 13 Faculty from the UK, for the second course 8 and for the third and final course 6 with the Convener in addition to the above. As the trainers came on stream they would replace the gaps left by the gradual withdrawal of the visiting UK Faculty.

The Critical Care and General Surgery Faculties were increased by one each. The timetable and contents of the Critical Care module were adjusted to give more time for interactive sessions. Various minor adjustments were made to the other modules and these mainly relating to feedback from the trainees after the Pilot Course. Appropriate flyers, manuals for each module and a list of reading material were supposed to have been distributed to each trainee four weeks prior to the MSE Course. The Registration, induction and pre course MCQ's for trainees were undertaken during the afternoon **before** the course started and this to save time on the first day of the course. The assessment process had been modified and it was hoped that this would provide better information with regard to each trainee.

### ***Acknowledgements***

I should like to thank the UK Department for International Development (DFID) and the Tropical Health and Education Trust (THET) for awarding the Surgical Foundation of the Association of Surgeons of Great Britain and Ireland and the College of Surgeons of East, Central and Southern Africa (COSECSA) a Large Paired Institutional Partnership Grant to undertake a total of 36 surgical training courses across East, Central and Southern Africa. These comprise 6 Management of Surgical Emergencies Courses and 6 Basic Surgical Skills Courses preceded by 12 Train the Trainers Courses and in addition 12 Theatre Nurse Training Workshops.

I acknowledge the Veta Bailey Charitable Trust for assisting trainers and trainees from outside Zambia with their travel and accommodation expenses, Johnson & Johnson Professional Export for awarding an Educational Grant to provide sutures for all the above courses, Limbs & Things for contributing in a number of ways to the success of the project and to Tim Beacon and his team at Medical Aid Overseas Ltd for sourcing and shipping all the instruments and manikins to Lusaka.

A special thank you to Dr. Laston Chikoya, Chairman, Surgical Society of Zambia under whose auspices the Courses were run, Dr. James Munthali (Head of Department of Surgery) for allowing us to use the Department of Surgery as our main venue. Dr. Robert Zulu for his considerable efforts to ensure the success of the Course, to Ms Angela Garrity (Key Travel), Mrs Bhavnita Borkhatria Patel (Project Manager) and Mrs Jane Gilbert (Executive Assistant to RHSL) for their assistance, patience and support.

Finally I owe immense thanks to the Faculty who worked extremely hard in preparing for and during the course and demonstrated great commitment to the principles of Surgical Training in Africa.

## ***Visiting UK Faculty***

**Convener**

**Mr Robert Lane**

**Critical Care**

Module Lead

**Mr Fanus Dreyer**  
Mr Peter Armstrong  
Dr David Ball  
Mr Jonathan Hannay\*

**General Surgery**

Module Lead

**Mr Paul Gartell**  
Mr Clive Quick  
Mr Jonathan Hannay\*

**Orthopaedics / Trauma**

Module Lead

**Mr Yogesh Nathdwarawala**  
Mr Naidu Maripuri\*

**Urology**

Module Lead

**Shekhar Biyani**  
Mr Jaimin Bhatt\*

**Obstetrics / Gynaecology**

Module Lead

**Ms. Shirin Irani**  
Ms. Malarselvi Mani \*

\*Senior Trainees

## ***Travel Itinerary and accommodation***

Key Travel (Angela Garrity) arranged group tickets with BA with great efficiency. The Faculty all stayed at the Taj Pamodzi Hotel, where we had stayed when running the Pilot Course for the MSE in October 2011. We were offered an extremely favourable rate for us to return to this hotel. This was ideal as it was important that we all stayed in the same place for ease of transport back and forth to LUTH and for evening debriefings.

***Friday 22<sup>nd</sup> February.*** The outbound journey went smoothly departing LHR T5 on the overnight BA flight arriving in Lusaka at 06:55 the following morning. There were 12 of us travelling together. Fanus Dreyer arrived later on Saturday 23<sup>rd</sup> from Johannesburg and Jaimin Bhatt arrived on Tuesday 26<sup>th</sup> travelling from Nairobi.

***Saturday 23<sup>rd</sup> February.*** At Lusaka airport the main group were met by Dr. Robert Zulu and his colleagues who transported us to the Taj Pamodzi Hotel. Fanus Dreyer and Jaimin Bhatt utilised the hotel shuttle bus.

***Saturday 2<sup>nd</sup> March.*** The whole group departed Lusaka at 9.10am on BA254 back to the UK. The journey was uneventful.

# ***Train the Trainers Course***

***Sunday 24<sup>th</sup> February 2013***

The aim of this Course is to introduce the basic concepts of how to run a successful MSE Course. Our objective is to do this in a systematic way which is easy to understand and put into practice and will enable the participant to become a competent trainer.

The MSE Course has been designed to show ***one safe way*** of accomplishing procedures and trainers need to abide by this and not be overly critical of the content. The module leads have spent a lot of time in designing the MSE Course and distilling the important aspects that can be taught in the timescale provided.

Nine trainers registered; 8 from Zambia and one from Zimbabwe. Their position, specialty and place of work were recorded and this gave us an indication as to their workload. For instance, a general surgeon in Lusaka University Teaching Hospital (LUTH) will only deal with general surgery whereas a general surgeon in Ndola or Livingston may also have to manage fractures and urological emergencies. The distinction has relevance with regard to which specialty module they wish to become competent in.

The trainers were chosen according to their primary specialty, commitment to becoming a trainer and continuing thereafter. Their previous training experience was also taken into account.



***Setting up for TTT Course***

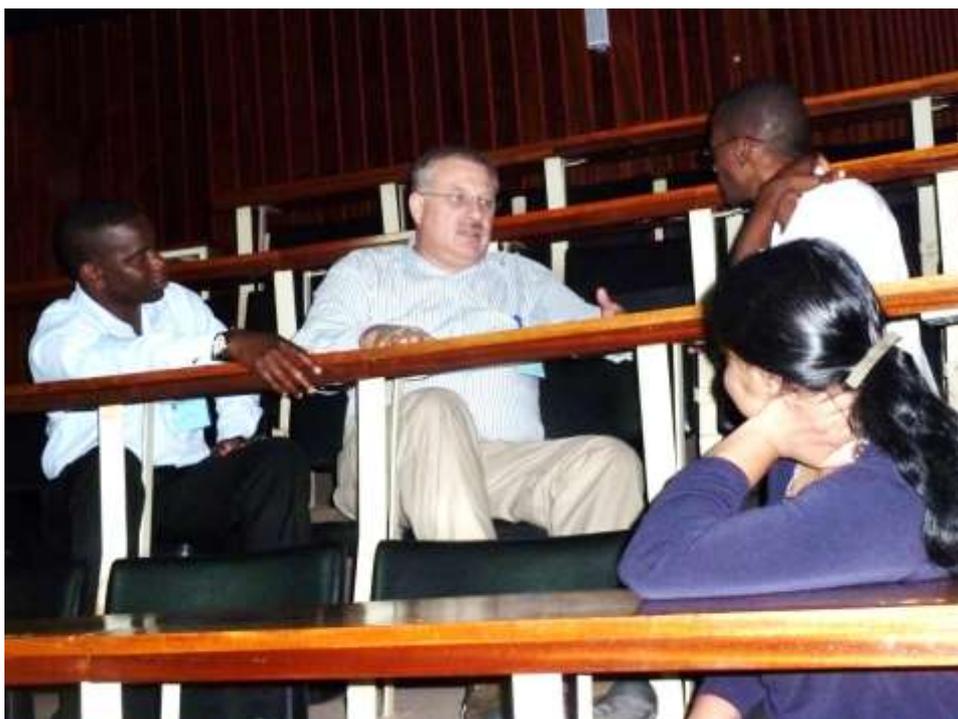
The background as to why such a TTT course was deemed necessary was discussed and furthermore that it is not intended to be an opportunity to update their specialty knowledge but rather to specifically learn how to run their module within the Course. The trainers were given a USB stick which contained **all** the presentations in the TTT course.

The first presentation was on the Art of Lecturing (Bob Lane) which covered a number of scenarios including large audience lecturing, presenting material on a training course and small group discussions. This was followed by a presentation on the Assessment Process, including feedback, monitoring and evaluation (Fanus Dreyer). These are very important aspects of the course especially for each individual trainee for without proper feedback and evaluation we shall never know whether the course is fit for purpose.

The meeting then broke for coffee and thereafter the trainers undertook role playing and critiquing exercises. These involved, for instance, teaching how to tie knots, how to cope with a participant who is disruptive during a module, how to counsel a participant who has been told that he/she has failed the course and who is very reluctant to accept this and clinical scenarios, for example, whereby an individual suddenly collapses on the floor and the trainer has to explain how he/she is going to cope with that situation. These are some examples of role play during which the other participants critique performance. This activity is very important and brings out a lot of non-technical skills such as decision making, judgement, communication and team work.



***A Trainer demonstrating the knot tying exercises to a member of Faculty***



***Fanus Dreyer pretending, very realistically, to be a failed trainee being interrogated by Trainers on the Course***

The lunch break was followed by a brief presentation by Bob Lane on the background, scope and structure of the MSE Course. The objective is to learn how to assess signs and symptoms of common surgical emergencies and how to initiate an immediate management plan based upon sound principles of clinical practice. The maximum number of trainees is 18 and these are broken down into three groups of six each. All should have attended a Basic Surgical Skills course (BSSC). The ideal time to attend the MSE course is during the first year of a postgraduate residency programme or during the first or second year of the MCS programme. The timetable allows for five days of activity; Monday and Tuesday are devoted to Critical Care and Wednesday, Thursday and Friday to the specialties of General Surgery, Orthopaedics and Trauma, Urology and Obs/Gynae. General Surgery and Orthopaedics are undertaken over a whole day whereas Urology and Obs/Gynae over half a day each. Thus three groups of six rotate through the specialties over the three days. At the end of each specialty module there are post course MCQ's and the trainees complete a ***module evaluation form***. At the end of the course on Friday afternoon they complete a ***general evaluation form*** for the whole course.

Formative assessment is undertaken by the faculty concerned during each specialty module. This covers technical and non-technical aspects such as judgement and decision making,

communication and teamwork. The need for small group assessment is essential to identify poorly performing trainees and rectify problems quickly.

It was emphasized that trainers must attend their chosen module(s) on each day they occur. If trainers do not attend as described then they will not be recommended to COSECSA for accreditation. The trainers themselves will be assessed on general performance during the one day course (Sunday) and then by the module lead during their participation in their chosen module(s) and, if satisfactory, recommendation will be made to COSECSA for accreditation as a trainer for the MSE Course.

Thereafter each module lead described their module in detail and although there was some duplication this was a worthwhile exercise for at the end the Trainers knew exactly how the course would be conducted and their particular role within their module.

After a short tea break the trainers discussed which modules they would prefer to be involved in. Five chose Critical Care, two chose General Surgery, three chose Orthopaedics /Trauma, three chose Urology and two chose Obs/Gynae. In addition two of the trainers who chose Critical Care also chose General Surgery, one chose Obs/Gynae and one chose Orthopaedics. One trainer who undertook the CC module failed to attend a speciality module due to illness. This arrangement is possible because the Critical Care module does not clash in time with the specialty modules.

## ***Course Evaluation Report***

***Evaluation of the TTT course held on Sunday 24 February 2013 by 9 trainers who were present for the whole day.***

*Mean score 8.14/10 with the mode and median being 8.*

All reported that the course was well structured, well delivered, interactive and provided much information to run the MSE Course.

All commented that better communication prior to the course would have been an advantage. It was suggested that the USB information should be forwarded by email at least two weeks prior to the course so that participants could be aware of what to expect.

Several trainers reported that we should reduce the repetitive information contained within the module presentations. They pointed out that they only really need to attend the module presentation that refers to **them** and their specialty. In other words if they are an orthopaedic

surgeon and going to participate in the Orthopaedic module then there is no point in them sitting and listening to the General Surgery, Urology and Obs/Gynae presentations. I resonate with this suggestion but on the other hand one trainer suggested that in a resource poor environment participants on the TTT course should be offered the chance to be trainers in **several**, not just one module. However, it is not really practicable other than for a specialty to link up with Critical Care because all the other modules run concurrently. The only way this could occur would be for the Trainer to attend **another** TTT course and opt for a different module.

To emphasize this point a number of General Surgeons from outside Lusaka opted to become trainers in Orthopaedics/Trauma and Urology because clearly they have to cover emergencies in those specialties as well as in general surgery.

### ***What went well?***

The concept of a Train the Trainers Course for the MSE Course was well accepted. The formal lectures were well received as was the role play and critiquing exercises. The latter was particularly appreciated. The presentations on the overall structure of the course and the details of the modules were generally well received with certain reservations alluded to in the Trainers feedback. (See above).

### ***What could we have done better?***

- We need to speed up the Registration process. However, this does depend on trainers turning up on time!
- We need to rethink the module presentations. Critical Care is somewhat different to the specialty modules and, to be fair, the Critical Care module presentation was well received. It may be that we should ask Paul Gartell, Module Lead for General Surgery, who presents the first of the specialty module presentations, to include all the general, non-specific aspects and to ask those who come after to omit these from their presentations and restrict the content to their actual module. This would reduce duplication and the time taken for each presentation.

- Allocation of trainers to specialty modules is an important aspect and preferences should be voiced after the module presentations. There has to be a fair and just allocation to make sure that all modules are covered.
- It was decided, after much discussion, that **all** trainers should attend **all** module presentations and this for the benefit of those surgeons who have to deal with multi-specialty emergencies and not just those within general surgery. However, it was also decided that after all the presentations there should be a 20 minute breakout period which would allow the trainers an opportunity to discuss each module with the lead for those they wish to pursue in addition, or not, to Critical Care.
- We should include a presentation on Safe Surgery for this is important to emphasize in Africa.
- It would be useful for logistical purposes to have the formal presentations in the morning before coffee and the module presentations before lunch. After which we could expand the role play and critiquing exercise because this is extremely beneficial and furthermore is thoroughly appreciated by the trainers. The lecture on the safe surgery could be delivered after a tea break.
- At the end of the TTT day there should be a general feedback session after which evaluation forms should be completed.
- Communication should be improved. Fliers and application forms should go out to all country reps and COSECSA Fellows at least three months prior to the course inviting potential trainers from all the countries in the southern half of the COSECSA Region, namely Zimbabwe, Zambia, Malawi, Mozambique and Tanzania. We should aim for 12 to 14 trainers on any one course and this depending upon their specialty.
- An application form should state why prospective trainers wish to come onto the TTT course and what their previous experience of training is, together with a commitment to continue to train on the MSE course thereafter. It must be emphasized that it is vital for trainers to attend the **whole** of the course on Sunday and also their relevant modules during the week. Ideally this means that they should arrive in Lusaka on Saturday to make sure that they are at the Department of Surgery at LUTH at the appropriate time on Sunday morning. One way around reducing the Registration time at the beginning of the course is to send forms to all accepted trainers well

beforehand and have them emailed back so there is only need for a photograph for identification purposes on Sunday morning.

## ***Conclusion***

The visiting Faculty were gratified at the positive response to this one day Course. The changes suggested will be implemented for the future.



# **MANAGEMENT OF SURGICAL EMERGENCIES**

## **COURSE**

**25<sup>TH</sup> February to 1<sup>st</sup> March 2013**

### ***Introduction***

#### ***Course objectives***

To learn how to assess signs and symptoms of common surgical emergencies and how to initiate an immediate management plan based upon sound principles of clinical practice.

#### ***Course content***

The course began promptly at 08:30 each morning.

Monday and Tuesday were devoted to the management of the critically ill surgical patient and involved lectures, demonstrations, DVD's and practice of procedures, discussion of images and case studies, role play and, finally, critiquing each other's performance.

12 trainees registered for the MSE Course and were together for these two days but were split into 3 groups for rotation through some teaching stations with each group being allocated a mentor for this part of the course.

Wednesday, Thursday and Friday were run in a different manner. The trainees were divided into three groups with equal numbers in each which allowed for more supervised tuition.

On Wednesday, one group spent all day devoted to general surgical emergencies whilst another spent all day devoted to orthopaedics and trauma. Finally the last group spent the morning devoted to urological emergencies and the afternoon to obs/gynae emergencies.

The groups switched over on Thursday and Friday such that they rotated through all the specialties during the three days. Mini lectures, DVD's, demonstrations, case scenarios and much "hands on" practical tuition were the essence of these Specialty modules.

## **Assessment**

All trainees underwent assessment throughout the course. On Tuesday afternoon there was formal (summative) assessment of critical care knowledge through MCQs (multiple choice questions) and EMQs (extended matching questions). On Friday afternoon there was formal assessment of knowledge of the surgical specialties (days 3-5) through MCQs.

During the critical care block, trainees were assessed continuously on non-technical skills (e.g. communication skills, decision making, teamwork, leadership, enthusiasm and participation).

During the surgical, orthopaedic, urological and obstetric rotations trainees were also assessed on their technical skills.

Each trainee received individual feedback on his/her strong and weak points.

A Certificate was awarded to those who satisfied the Specialty Leads with regard to their knowledge and competence. It was therefore important that each participant was punctual and attended **every day** of the course. The expectation was that participants who attended all the sessions and actively participated in the programme should learn enough to be in a strong position to pass the course.

Trainees were asked to complete an evaluation form at the end of each module and at the end of the course with regards to general matters.

# ***Critical Care Module Report***

## **Visiting Faculty**

Fanus Dreyer (Lead)

David Ball

Jonathan Hannay

Peter Armstrong

## **Local trainers**

Daliso Makani

Jacqueline Mulundika

Joseph Musowoya

Matthew Wazara

Omega Chituwo

**Monday 25<sup>th</sup> & Tuesday 26<sup>th</sup> February 2013**

**Venue: Department of Surgery, LUTH**

## ***PRE-COURSE DAY (Sunday 24 February):***

Registration for MSE and pre-course MCQ's were undertaken in the afternoon.

### ***Programme***

#### **DAY 1 (Monday 25 February):**

Registration for the day	<b>08.10 - 08.40</b>
1.1 Welcome & Introduction	<b>08.40</b>
1.2 Introduction to Critical Care:	<b>09.10</b>
1.3 Assessment of Critically ill surgical patient	<b>09.30</b>
➤ A. Practical demonstrations by faculty (20 min)	
➤ B. Lecture (20 min)	
1.4 CPR (A) BLS/ALS <u>tutorial</u> and (B) BLS <u>demonstration</u>	<b>10.10 - 10.45</b>
<b>Refreshments</b>	<b>10.45 - 11.05</b>
1.5 ALS Practical (Practice CPR in groups of 3 under guidance)	<b>11.05 - 11.50</b>
1.6 ALS in Children (tutorial)	<b>11.50 - 12.15</b>
<b>Lunch</b>	<b>12.15 - 13.00</b>
Meet with Mentors	<b>13.00 - 13.15</b>
AIRWAY, BREATHING: Rotate through 3 tutorials (30 min each)	<b>13.15 - 14.45</b>
➤ 1.7 Advanced Airway management	
➤ 1.8 Trauma causes of breathlessness:	
○ life threatening respiratory injuries	
➤ 1.9 Post-operative hypoxia in surgical patients	
<b>Refreshments</b>	<b>14.40 - 15.05</b>
CIRCULATION: Rotate through 3 tutorials	
(35 min each <u>with 5 minute break between each rotation</u> )	<b>15.05 - 17.00</b>
➤ 1.10 Shock and Haemorrhage	
➤ 1.11 New approaches to fluid therapy and Oliguria	
➤ 1.12 Cardiac complications in surgical patients	
Feedback with Mentors	<b>17.00 - 17.20</b>

## **DAY 2 (Tuesday 26 February):**

2.1 Introduction	<b>08.00</b>
DISABILITY: Rotate through 3 tutorials (30 min each)	<b>08.10 - 09.40</b>
➤ 2.2 Confusion in surgical patients	
➤ 2.3 Head injuries	
➤ 2.4 Spinal injuries and patient transfer	
2.5 Practical: Log roll, transfer etc	<b>09.40 - 10.10</b>
Refreshments	<b>10.10 - 10.30</b>
Rotate through 3 tutorials (35 min each)	<b>10.30 - 12.15</b>
➤ 2.6 Surgical Sepsis	
➤ 2.7 Obstetric critical care for surgeons	
2.8 Emergency care of Burns	
Lunch	<b>12.15-13.00</b>
Rotate through 3 tutorials (30 min each):	<b>13.00 - 14.30</b>
➤ 2.9 Anaesthesia for surgeons: Ketamine; Local and ○ Regional anaesthesia	
➤ 2.10 Pain management	
➤ 2.11 Monitoring in critical care	
Refreshments	<b>14.30 - 14.50</b>
EXTRAS: Rotate through 3 stations (30 min each):	<b>14.50 - 16.20</b>
➤ 2.14 SBAR Communication intro + scenarios (2 tutors): PRACTICAL	
➤ 2.15 Quality control in critical care (tutorial)	
➤ 2.16 End-of-life care in critical illness (tutorial)	
10 minute break	
TEST: MCQs and EMQs	<b>16.30 - 17.00</b>
2.18 Course Summary and Feedback	<b>17.00 - 17.20</b>

***END OF CC COURSE***

## ***Preparation for CC module***

Reading material was provided online through the recent CC series of *Surgery in Africa* review articles published for COSECSA through the University of Toronto at [www.ptolemy.ca/members](http://www.ptolemy.ca/members). Trainees were expected to read these articles and work through the related MCQs before attending the course:

- Dec 2011: Introduction to critical care and patient assessment
- Feb 2012: Airway management in CC and trauma
- Mar 2012: Chest trauma
- Apr 2012: Post-operative hypoxia
- May 2012: Shock and Haemorrhage
- Jul 2012: Communication skills
- Aug 2012: Fluid therapy; Renal and Cardiac complications
- Sep 2012: Trauma Neurosciences
- Oct 2012: Surgical sepsis
- Nov 2012: Obstetric and paediatric aspects of CC for surgeons
- Dec 2012: Emergency management of burns
- Jan 2013: End-of-life care and Psychology of critical illness
- Feb 2013: Patient safety (Quality control) and Non-technical skills in CC.

## ***Aim of teaching Critical Care***

Surgical trainees are "at the coalface" in managing surgical emergencies. Patients present with major injuries, post-operative complications or sepsis. These patients are critically ill and need rapid assessment, decision making and initiation of treatment; a process that needs to be structured. Good communication is vital in asking for help and/or transferring patients to theatre, ICU or another facility.

The aim of the course is not to teach ICU care. It is about recognising critical illness and physiological support before the patient needs the ICU. Teaching is based on the needs of learners and focuses on critical care (CC) situations that surgical trainees are often asked to deal with, usually as emergencies, often at night with limited help available and with little time to prepare. Such situations include:

- Cardiac arrest or impending arrest
- Hypoxia/Breathlessness
- Hypotension/Tachycardia
- The patient has collapsed
- Oliguria
- Pyrexia
- Confusion
- Pain relief
- The patient is dying
- To explain what is going on (to the patient, family or other staff).

The two-day critical care syllabus topics have been selected to reflect this need and have been tested in a number of similar courses in East and Central Africa. The syllabus is related to that taught in similar courses in the UK.

### **Course Delivery**

**On Sunday 24 February** the critical care (CC) faculty contributed to Training the Trainers (TTT) in four ways: presentation on CC module, role play in SBAR communication skills, registration of local trainer faculty, surgical trainees and in supervising pre-course written tests for trainee participants on the MSE course. All these interactions were delivered without any problems.

**On Monday and Tuesday (25-26 February)** the CC module was delivered without any difficulty. Contents were well received and overall feedback was very good to excellent, except for one topic (paediatric ALS) where a problem-based learning approach was trialled as a tutorial teaching method.

There were 13 course participants (originally we planned for 18). They were asked to divide themselves into three groups (red, green and purple) of 4, 4 and 5 members respectively. The five trainer faculty (one from Zimbabwe and four from Zambia) were allocated to these three groups as 2, 2 and 1, so that each group had 6 members overall, which worked well for small-group teaching.

Assessment of trainees depended largely on continuous assessment. Trainees were given a pre-course test of 20 multiple choice questions (MCQs) taken from MCQs published on the [www.ptolemy.ca](http://www.ptolemy.ca) website with a series of *Surgery in Africa* review articles on critical care, published since December 2011. Unfortunately trainees were not advised by the local course co-ordinator that they had to read the ptolemy CC articles and, although all trainees passed the pre-course MCQs, it was decided by faculty that this could not contribute to a pass/fail mark for the CC module. The post-course written test was also modified by the CC module lead and, after some discussion, approved by the rest of faculty. Trainees were asked four complex questions (one from each faculty member) addressing a series of complex problems in critical care. They were asked to sit in their respective teams and allowed to discuss the questions and potential answers within certain time constraints but then marked their answer sheets individually. These written answer scores correlated well with continuous marking scores for each individual trainee. Faculty Trainers completed the

same written test as a team and found it a valuable exercise (they were allowed to mark their own answer sheets confidentially).

### ***What went well?***

- All trainees turned up for the course on time, were enthusiastic and keen to learn. One trainee developed malaria during the course but persevered, with success.
- Trainees were at a more advanced level of training than for the Pilot course and this made learning and teaching more rewarding.
- Having only 13 trainees allowed much more effective small-group teaching and faculty got to know the individual trainees quite well over three days.
- Having trainees from Malawi and Zimbabwe, and one from DRC, provided valuable variety in discussion of CC facilities and service delivery. The four trainees from Malawi spontaneously allocated themselves to different groups which showed great maturity.
- Visiting Faculty were well prepared, knew each other well and are now very familiar with the course content, having modified it after the 2011 MSE Pilot course and trying it again in Ethiopia in December 2012.
- The MSE CC Module faculty handbook.
- The introduction allowing students to say something about themselves and indicating their village/town of origin on a map, worked very well to break the ice and relax everybody. It also led well into the introduction on critical care.
- The content was relevant to learning needs and trainers clinical practice. A full set of topics in critical care was covered, not unlike that in UK based critical care courses, but topics and scenarios had been adapted to an African context as much as possible.
- The programme ran well on time and did not finish late.
- Excellent lunch was served both days. The venue worked well.
- Feedback on course contents was very positive with one topic that needs revision of delivery style.

- Faculty enjoyed teaching these trainees and had enough time over lunch and tea breaks for some informal interaction.
- Assessment showed good reliability and validity with new innovation which reiterated the value of teamwork and communication when dealing with complex problems but still needed final individual decision making. We think this is groundbreaking work which can be taken to other courses.

### ***What could have been better?***

- Trainees should have been advised to read the *www.ptolemy.ca* review articles a month in advance, as requested.
- To justify financial and intellectual expenses more effort should have been made to ensure that there was a full complement of 18 trainees.
- Some tutorials are not yet relevant enough to an African context and need further refinement (but individual faculty members will address this).
- The assessment process needs further refinement to improve feasibility.

### ***Essential points for future courses***

- Keep the two day format for teaching the CC module with registration and any pre-course testing on the previous day (during TTT).
- The course curriculum teaching a systematic approach to assessment and management through a mix of lectures, tutorials, demonstrations and practical stations should be kept.
- Minimum core faculty must be four to reduce individual workload and to always have at least one faculty member floating for timekeeping and to have an overview of progress and lastly to provide contingency in case of illness.
- A maximum 6 participants per mentor and per practical station allows personal interaction and tuition.
- Regular curriculum review based on feedback and new developments in critical care internationally.

- Review of stations that had poor feedback. Redesign or rewrite presentations and format of stations.
- More scenario based teaching, especially for tutorials. Make short stations as practical as possible.
- Make sure that all trainees access recommended reading material (www.ptolemy.ca CC series) at least four weeks pre-course.
- Reliable, validated, feasible assessment, mainly through continuous in-course assessment.
- Retain learner-centred feedback forms.
- Provide faculty handbooks in advance to all CC tutors. Update the MSE CC faculty handbook at least once per year.

### **Feedback scores**

All scores have a maximum of **5 points** and are in reply to the question "How satisfied are you with what you learned on...?"

<b><i>Introduction to CC</i></b>	<b>4.46</b>
<b><i>Patient assessment</i></b>	<b>4.85</b>
<b><i>ALS &amp; CPR changes</i></b>	<b>4.46</b>
<b><i>Paediatric ALS</i></b>	<b>3.08</b>
<b><i>Advanced airway management</i></b>	<b>4.31</b>
<b><i>Post-operative hypoxia</i></b>	<b>4.77</b>
<b><i>Trauma causes of breathlessness</i></b>	<b>4.85</b>
<b><i>Shock and management of haemorrhage</i></b>	<b>4.69</b>
<b><i>Fluid therapy and management of oliguria</i></b>	<b>4.38</b>
<b><i>Cardiac complications in surgical patients</i></b>	<b>4.46</b>
<b><i>Confusion in surgical patients</i></b>	<b>4.54</b>
<b><i>Emergency management of head injuries</i></b>	<b>4.62</b>

<i>Spinal injuries and transfer of patients</i>	<b>4.46</b>
<i>Log roll/patient transfer practical</i>	<b>4.85</b>
<i>Surgical sepsis</i>	<b>4.69</b>
<i>Obstetric CC for surgeons</i>	<b>4.50</b>
<i>Emergency care of burns patients</i>	<b>4.69</b>
<i>Anaesthesia for surgeons</i>	<b>4.54</b>
<i>Pain management</i>	<b>4.38</b>
<i>Monitoring in CC</i>	<b>4.85</b>
<i>SBAR communication system and scenarios</i>	<b>4.77</b>
<i>Quality control and patient safety in CC</i>	<b>4.38</b>
<i>End-of-life care in critical illness</i>	<b>4.62</b>
<i>Quality of MCQs</i>	<b>3.92/5</b>
<i>General Organisation and Faculty Participation</i>	<b>4.69/5</b>

## **Comments by trainees**

### **What went well?**

*Lectures were organised and prepared/structured and at appropriate level (x2).*

*Good timekeeping.*

*Course was practical, based on real experience and daily situations.*

*SBAR (x2).*

*Faculty were friendly and helpful and knew what they were talking about.*

*Things were simplified and easy to understand.*

*Small group learning (x3).*

*Variety of teaching styles (2).*

*Enough breaks and nice lunch.*

*Practical sessions and scenario solving exercises.*

*Communication by all tutors was excellent.*

*Tutorials were good.*

*The incorporation of trainees into discussions.*

### ***What could have been better?***

*Poor communication on pre-course reading material (x2).*

*Hard or electronic copy of course material would be useful (x2).*

*More time for tutorials, especially on second day (x2).*

*Absence of airway equipment and manikin for the airway tutorial and CPR (x3).*

*Paediatric ALS.*

*If every tutorial had a few practical scenarios.*

*Increase time in group learning.*

*Grouping trainees so that different specialties are together (to have balanced groups).*

### ***Other comments***

*Thanks for organising this course that helped to consolidate my knowledge.*

*You are good people. Thank you.*

*Tea could have been better, with more variety; lunch was good though.*

*Well organised--Bravo!!*

*Well organised and informative.*

*All tutors have been fantastic at delivering teaching. Very exemplary. Very commendable work.*

***We need more training to improve our skills.***

***The whole course needs more time.***

***Very helpful and practical learning sessions. Thank you very much.***

***Thank you for the mix of refresher course as well as new things we learnt.***

## **Requirements**

### **Equipment: Basic life support, CPR**

2 x Resus Annie Torso Basic with soft pack. *Laerdal* (31000640)

1 x Ambu Spur II adult breathing system. *Ambu*

### **Equipment: airway management**

1 x intubating manikin, adult. Deluxe Difficult Airway Trainer\*. *Laerdal*

1 x Ambu Spur II adult breathing system. *Ambu*

**Air Easy™ Guedel airways.** color-coded. *Smiths Medical*

(Green 80 mm 2018) and (Yellow 90mm 2019) and (Red 20mm 2020)

Each in box of 10.

**Nasopharyngeal airways.** *Smiths Medical*

(6.0mm 100/210/060) and (7.0mm) (100/210/070) Each in box of 10.

**Classic Laryngeal Mask Airways, cLMA Basic™.** *Intavent Direct*

1 x (Size3 1113090) and 1x (Size4 1114100) and 1 x (Size 5 1115120)

**Laryngoscope, MAC 4 and 5 (curved blade) with batteries(2C type).** *Proact Medical*

1 x Proact Mac 4 Metal Max 90 laryngoscope blade and handle set. (HMM 90MAC4)

1 x Proact Mac 5 Metal Max 90 laryngoscope blade and handle set. (HMM 90MAC5)

**Tracheal tubes, standard cuffed, sizes 6.0, 7.0, 8.0mm** *Smiths Medical*

Endotracheal tubes, clear PVC/oral/nasal, soft seal, cuffed.

2 x 6.0mm (100/199/060) NB can be used for cricothyroidotomy training Box of 10

2 x 7.0mm (100/199/070) Box of 10

2 x 8.0mm (100/199/080) Box of 10

**Tracheal introducer, (“bougie”)** *Cook Medical* Box of 10

Frova Intubating Introducer, without stiffener, without rapi-fit adapter. (C-CAE-14.0-65-FIC)

**Syringe** 10 x 10cc., sourced easily

**Lubricant** *Laerdal* (250-21050)

The sizes of some of the airway tubes listed are chosen to fit the dimensions of the manikins. (bigger sizes jam)

**Scalpel Handles** (small) 1 x No 3

**Size 11 Blades** x 3

**Tracheal Retractors** (Large curved blunt) x 2.

# ***General Surgery Module Report***

## **Visiting Faculty**

Paul Gartell (Lead)

Clive Quick

Jonathan Hannay

## **Local Faculty**

Matthew Wazara

Omega Chituwo

**Wednesday 27<sup>th</sup> February – Friday 1<sup>st</sup> March 2013**

**Venue: adjacent to Anatomy Dissecting Rooms**

**belonging to the Apex Medical School in LUTH**

## ***Programme***

<b>08.00 – 08.30</b>	Registration for the day
<b>08.30 – 08.45</b>	Welcome and introduction to the day
<b>08.45 – 09.30</b>	Scenario:  Blast injury - a mixture of blunt and penetrating trauma  ABC  Triage  Tension pneumothorax
<b>09.30 – 10.00</b>	Chest trauma blunt and sharp
<b>10.00 – 10.30</b>	Burr holes and Skin grafting
<b>10.30 – 11.00</b>	Refreshments
<b>11.00 – 13.00</b>	Indications for laparotomy  The 45 minute laparotomy  Liver packing and suturing  Splenectomy  Diaphragmatic hernia  Bowel injury management  Management of the grossly contaminated abdomen
<b>13.00 – 13.45</b>	Lunch

<b>13.45 – 14.45</b>	GI haemorrhage DU & Varices Underrunning Pyloroplasty Sengstaken tube
<b>14.45 – 15.45</b>	Bowel obstruction Adhesions Deflation of Sigmoid Volvulus Colostomy Ileostomy
<b>15.45 – 16.00</b>	Refreshments
<b>16.00 – 17.00</b>	Vascular injury
<b>17.00 – 17.15</b>	Management of post op complications
<b>17.15 – 17.30</b>	Summary & MCQ



***Small group teaching***

## ***What went well?***

- The planned course was delivered largely to the programme and on time with 2 full time faculty members together with Jonathan Hannay and help from the Course Convener when he was free. Faculty got on well with each other and no one was upset with the occasional interjection.
- The presentation material was good and the blast injury, chest trauma and vascular presentations were all mentioned in the post course assessment by the trainees as being very useful.
- The AV equipment worked well and all the PowerPoint presentations and demonstrations on the pig model were satisfactory. The human cadaver was extremely useful for the teaching of Burr holes and this session was well reviewed. On this occasion we had only a maximum of five trainees per day so it was very easy for them to see the demonstrations and encourage questions and be interactive. The pig demonstrations and practicals were particularly well received.



***Burr hole almost complete***

- Time keeping is critical and I think we managed to keep to time / adapt as necessary.

- The accommodation provided a room for lecturing and PowerPoint presentations adjacent to a room for the work using biological material. The wall was good for PowerPoint projection. The PowerPoint projector was high quality. We also had a flip chart and marker pen in case of computer or electrical failure and to illustrate certain points.
- We had all the necessary instruments, sutures and other equipment to run the course. The instruments were of high quality though some could be improved.
- The course content was very good and well received by the candidates. It was pitched well for the experience of the trainees we had.
- The 45 minute damage control laparotomy concept went down well.
- The pig model was good for showing most of the anatomy, split skin grafting, performing a colostomy, dealing with liver injury and pyloroplasty. It also provided good material (Fallopian tube and ureter) for the vascular model. These parts of the module all went well apart from Day 1. (see below).
- The venue was so far away from the outside that flies were not a problem. Mosquito nets etc. were not required.
- The morning and afternoon breaks worked well with the cold drinks and biscuits. The lunches from an outside caterer were excellent and delivered on time.
- The MCQ scores, all improved considerably over the course and the continuous assessment scores by faculty were largely reflected in the MCQs with a couple of exceptions.
- Feedback from the trainees was very complimentary and picked up on many of the points that faculty had already identified.
- The 2 local trainers (MW and OC) both enjoyed the course and Matthew, in particular, was extremely knowledgeable, helpful and demonstrated excellent training

skills. Both should be worthy members of General Surgery Faculty for the next Lusaka MSE course in October 2013.



***VY Pyloroplasty demonstration***

### ***What could have been better?***

- The human cadaver was unfortunately not prepared as we had requested and had been preserved in formalin. The tissues were not preserved in a condition that allowed any of the planned demonstrations or practical procedures apart from burr hole surgery. It also resulted in a caustic atmosphere which at one time was causing eye irritation when the extractor fans were switched off over lunch. We were not able to overcome these difficulties on the 1<sup>st</sup> day but organised a pig for the subsequent 2 days. The pig on the 2<sup>nd</sup> day was extremely bloated with gross colonic dilatation and I suspect had been slaughtered the night before. This resulted in an explosive

deflation when opening the abdomen covering 2 people. This episode shows the importance of having a freshly killed animal, effective aprons which must be worn at all times in the operating room and making sure that trainees are not in the line of potential fire.

- The room we used was far from the rest of the group and had poor acoustics. We relied on one electrical outlet and we need to find another in case it fails as the course would be difficult to run without projection facilities.



***Air conditioning driven by ? ex Zambian Airways jet engines!***

- There was no door between our 2 rooms and the partition was not complete so noise from the operating room carried and echoed into the room where the tutorials were going on making it difficult to hear.
- There was no operating light or access to a power supply in the operating area. There were also no washing facilities there, though we did have access to basins, soap and water in the dissecting room in an adjacent area. In future we should make sure that we have a powerful hand held LED light and at least antiseptic hand gel and paper towels.
- The aprons that we were using were short, very flimsy and effectively single use. Using better quality green long aprons would provide better protection and be reusable throughout the day.

- The management of head injury and burns was dealt with by the critical care team during their module. Because of time constraints we were not able to teach the practical aspects of burr holes and skin grafting with that module and had to fit it into our surgical module thus disconnecting the theory from the practical. These practical sessions were programmed in such a way that they disrupted our Blast Injury theme. It could be argued that skin grafting should not be included in a course dealing with surgical emergencies. However, although we include it in our BSSC, it is not part of the RCS DVD and would not be covered otherwise.
- For some reason the UGI haemorrhage PowerPoint presentation was not included in the package and, through oversight, was omitted on Day 1. The presentation was given using the manual notes on days 2 and 3.
- The colonic and bowel obstruction and strangulated hernia presentations were done off the cuff because we did not have good PP presentations for this. This needs to be addressed.
- The vascular practical, an end-to-side anastomosis, was complex and time limited.
- Time was an issue and we did not have enough to allow for as much hands-on practical work as the trainees would have liked. However the course was not designed or advertised as a practical workshop. We should make it much clearer in the pre-course literature what the course is (and is not), and what participants should expect; as well as giving them pre-course preparation material and stipulating the entry requirements for the course.

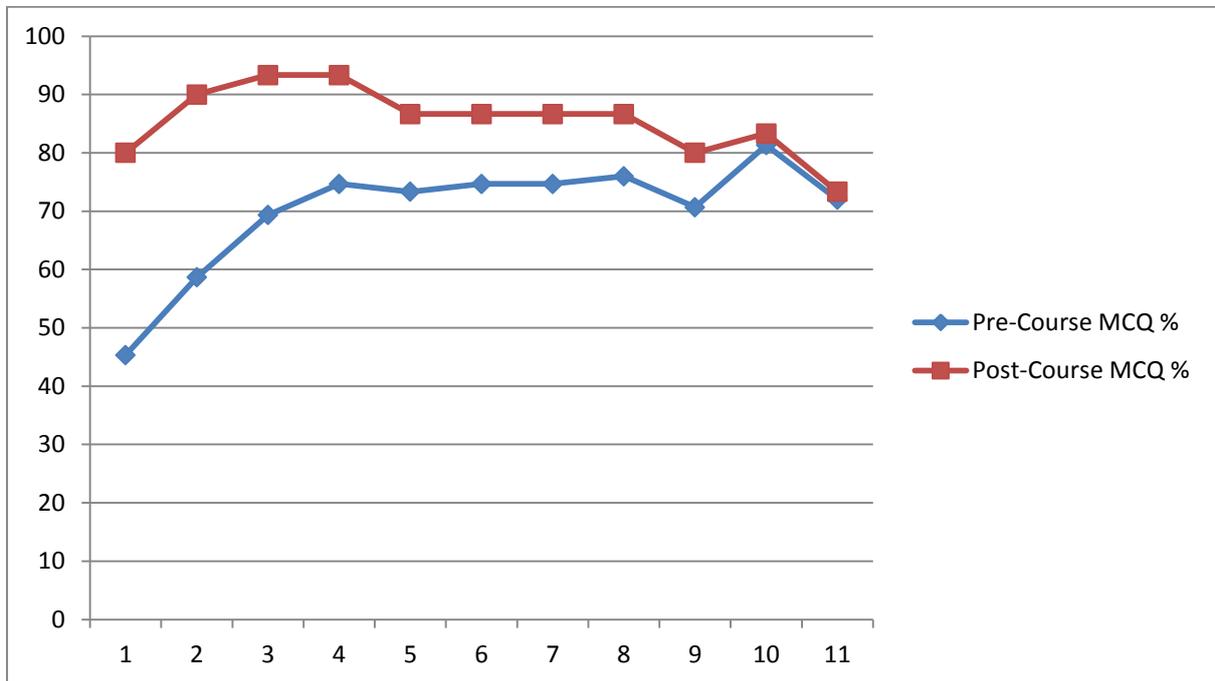
## ***Opportunities***

Training of junior medical staff in many parts of Africa is not a high priority for the senior staff and particularly so for management of surgical emergencies. The Course provides a great opportunity for us to give the trainees a good grounding in the management of these patients in a non-threatening and congenial environment. It also might help to change the attitude of some of the senior staff to the needs and methods of training their juniors. The training methods and course content will hopefully filter down as the current trainees become more senior and result in a considerable improvement in treatment and training. It is intended that the course will be run by local faculty in the future.

## ***Essential points for future courses***

- Although we have gone to great lengths to make sure that we are training local trainers, the future of the course depends very much on their continued support and enthusiasm for the concept.
- We need to identify more appropriate accommodation to run this aspect of the course in Zambia with better acoustics, an operating light, electric points and washing facilities. In future we should make sure that we have a powerful hand held LED light, and at least antiseptic hand gel and paper towels.
- Ideally it should be closer to the other facilities used for the course.
- The module should run with a minimum of three faculty where all faculty are familiar with the whole module and can 'step in' to cover components even when it's not 'their turn'. This approach works well in that it allows other faculty to carry out wet-lab prep while one of the tutors is leading a lecture / tutorial session. We should endeavour to make sure everyone 'has a go' at each practical, though time constraints make that very difficult.
- The vascular anastomosis should be an end-to-end rather than end-to-side and more time allotted to the practical aspect of the session.
- The PowerPoint presentations need to be revised to remove idiosyncrasies and make them clearer so that any of the future trainers can use them.
- We need to hone our multiple choice questions.

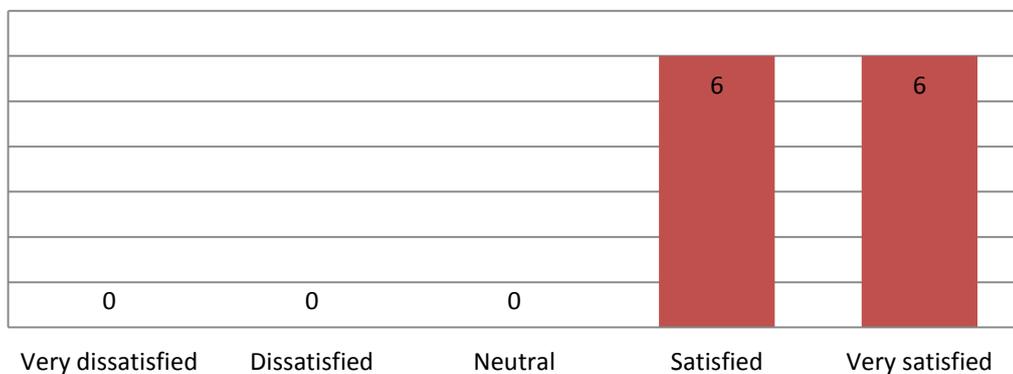
## **Pre & Post Course MCQ's (%)**



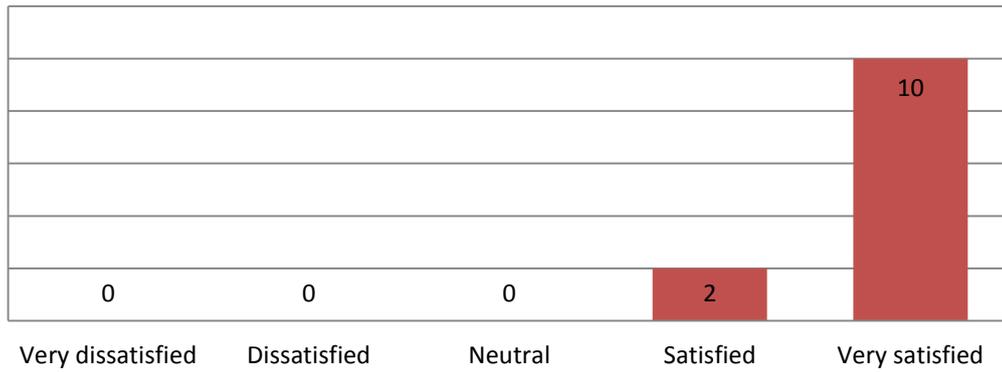
**Candidates**

## **Trainee Feedback**

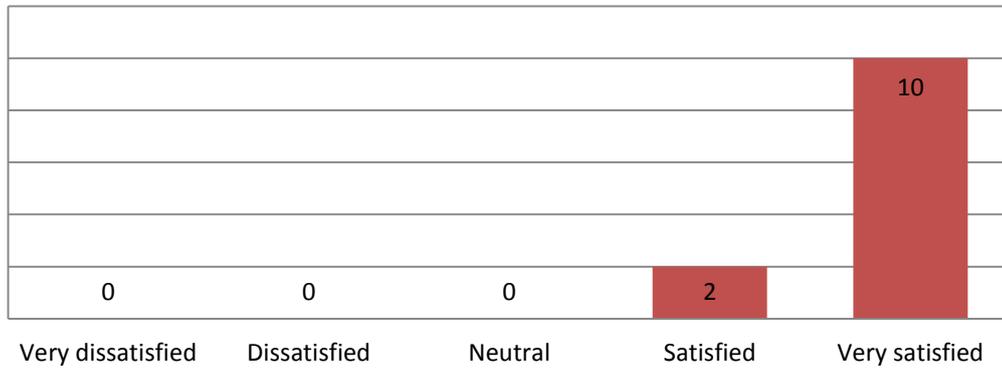
### **Blast injury**



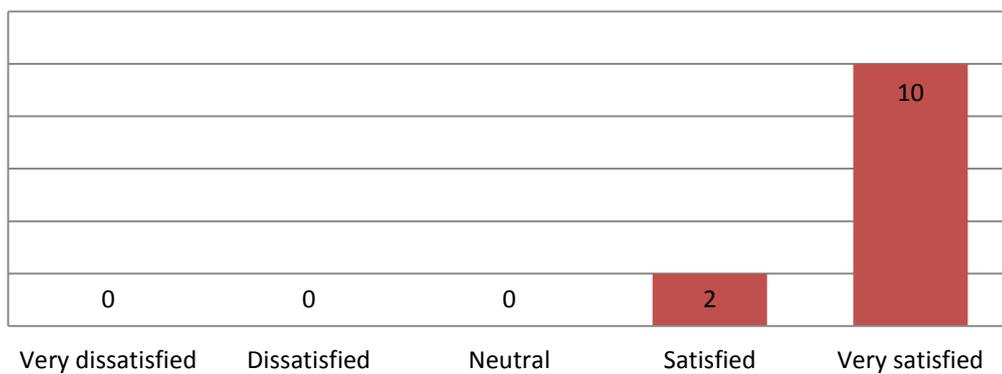
## Triage



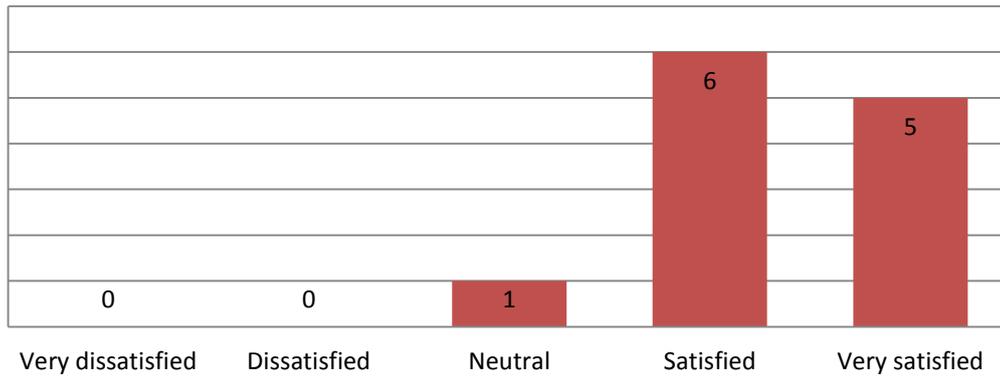
## Chest trauma



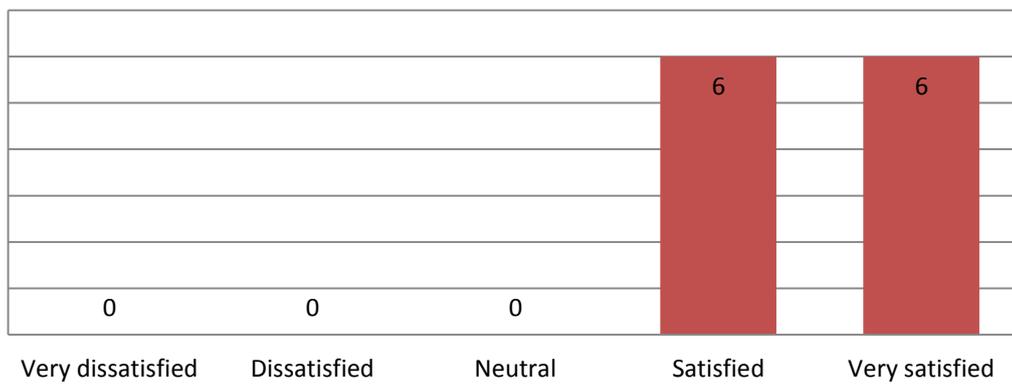
## Surgery for head trauma



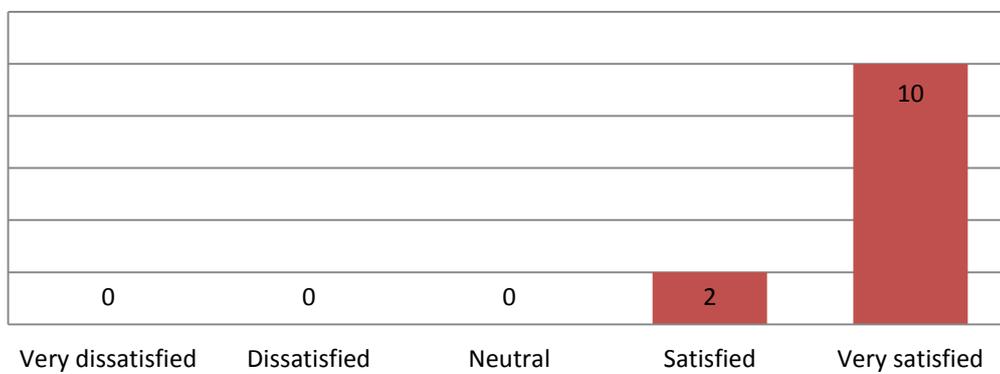
## Skin grafting



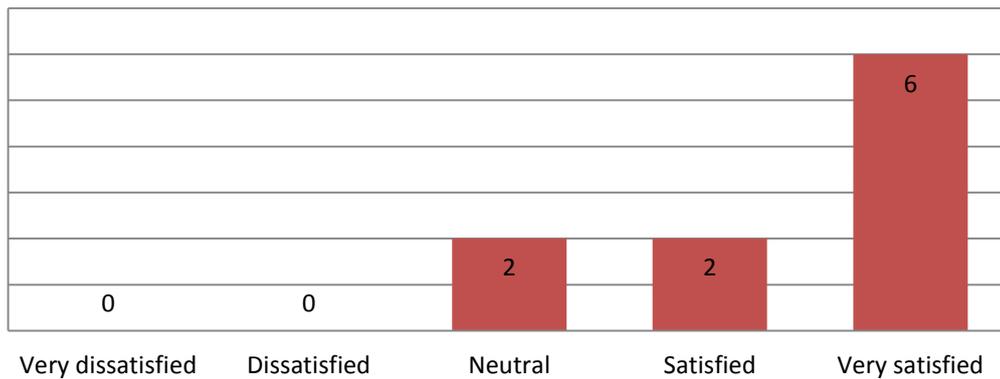
## Abdominal trauma



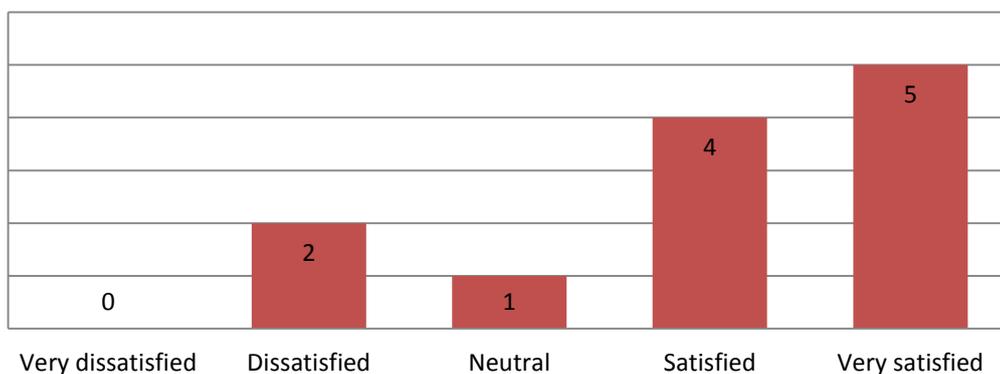
## Intestinal obstruction



## UGI bleeding



## Vascular repair



## Comments by trainees

### **What was very good?**

***Had willing teachers to teach who were very friendly and helpful.***

***Blast injury and triage were very useful for me. The practical sessions were brilliant despite some logistical issues***

***Practical sessions on burrhole and vascular surgery. Clear and adequate for my level of training.***

***Lecture on triage, chest trauma, and vascular repair.***

***Both the tutorials and the practical sessions.***

***Small group learning. Prior lessons / discussions before practicals.***

***Communication was very good though the room used was echoing.***

***All was very good. Need more training to improve our skills.***

***The practical aspects of the course.***

***Chest trauma.***

***The practical aspects on the pig and cadaver were excellent.***

***Vascular repair and colostomy practical. The simplicity with which difficult concepts were put across.***

### ***What could have been better?***

***Having actual models to demonstrate skills will be helpful. It was not a well-ventilated room and was smelly.***

***More scenarios. Include upper GI teaching. Practical sessions for skin grafting.***

***It could have been better if we had used a real cadaver for vascular practicals.***

***The time in which things are done - sometimes it really felt like a crash course.***

***More hands on on burrhole drilling and vascular repair and anastomosis.***

***Practicing time should be increased.***

***Some of the topics were not well explained.***

***How to do a crico-thyroidotomy (practical)***

***Better venue. A few basic surgical skills, suture selection, tying knots, bowel anastomosis.***

## **Other comments**

*The tutors were very good in delivery of the teachings. Well done.*

*Better confectionaries (biscuits were over-rated!!). Well organized overall!!*

*I would recommend the course to other surgical trainees whether COSECESA or not.*

*Very practical, appropriate, and beneficial to my practice.*

*Thank you for the course.*

## **Requirements**

<b>Instruments for General Surgery</b>	
<b>Item</b>	<b>No</b>
<b>NEEDLE HOLDERS</b>	
Mayo Hegar	2
Crile Wood	4
<b>FORCEPS</b>	
Waugh's Fine Toothed	6
Adson Fine Non Toothed	5
Lane Dissecting	1
Spencer Wells Curved Normal	6
Mosquito (Halstead)	26
Lahey (Sweet)	2
Roberts (Artery Curves)	2
Babcocks	2
<b>SCALPEL HANDLES</b>	
No 3 (Small)	1
No 4 (Large)	2
<b>SCISSORS</b>	
Mayo	8
Angled Flat Dural (Scheiden Taylor)	1
Potts De Martell	4
Metzenbaum	6
<b>KNIVES</b>	
Humby Knife	1
Blades (10)	1
<b>NEUROSURGICAL INSTRUMENTS</b>	
Hudson Drill Brace (+2 Bits)	1
Hudson Spherical burr	1
Cushing Flat drill	1
Nibbler - Northfield	1
Sewall Elevator	1
Adson - Baby self retaining clamp	1
<b>SMALL BOWEL CLAMPS</b>	
Kocher Straight	2
Kocher Curved	2

<b>Sutures for General Surgery</b>			
<b>CHEST DRAIN</b>			
<b>W6327</b>	<b>1 BOX</b>	12 Sutures	2/0 Mersilk, reverse cutting, taper (CS-245)
<b>LIVER INJURY</b>			
<b>W3709</b>	<b>2 BOXES</b>	24 Sutures	1 Ethiguard blunt point Monocryl Suture
<b>SPLENECTOMY</b>			
<b>W9026</b>	<b>1 BOX</b>	12 Sutures	0 Vicryl (150cm) Ligs
<b>W9025</b>	<b>1 BOX</b>	12 Sutures	2/0 Vicryl (150cm) Ligs
<b>W9136</b>	<b>1 BOX</b>	12 Sutures	2/0 Vicryl – (½ c) R.B.
<b>COLOSTOMY</b>			
<b>W328H</b>	<b>2 BOXES</b>	72 sutures	3/0 Mersilk reverse cutting
<b>VASCULAR REPAIR</b>			
<b>W8845</b>	<b>2 BOXES</b>	24 Sutures	4/0 Prolene
<b>W8830</b>	<b>2 BOXES</b>	24 Sutures	5/0 Prolene
<b>GI HAEMORRHAGE</b>			
<b>W9136</b>	<b>2 BOXES</b>	24 Sutures	2/0 Vicryl (½ c)
<b>W9130</b>	<b>2 BOXES</b>	24 Sutures	3/0 Vicryl (½ c)
<b>W9025</b>	<b>1 BOX</b>		2/0 Vicryl Ties
<b>PYLOROPLASTY</b>			
<b>W9130</b>	<b>2 BOXES</b>	24 Sutures	3/0 Vicryl (½ c)

<b>Re-usable items for General Surgery</b>	
<b>Item</b>	<b>No.</b>
Cork Tiles, size 300mm x 300mm x 4mm thick	3
Push Pins IV stationary ltd.sales@ivstationary.com	24
2.5 litre Plastic Paint Kettle	3
0.5 litre approx adjustable nozzle, trigger flower spray	1
Oxygen Tubing 2 metres	1

<b>Disposable items for General Surgery</b>	
<b>Item</b>	<b>No. (per course)</b>
<b>SURGICAL BLADES</b>	
No 10	48
No 22	15
No 11	9
<b>GENERAL</b>	
Pauls tubing 12cm	10
Sleek	1 Roll
Sharp's Bins 1/2 litre	3
Gloves - latex free, Small, Medium & Large	1 Box of each
Aprons - white roll of 200 per roll	30
Black disposable bags	3
Milton Tabs query quantity, need about 60	6
Marker Pen - (Burr Hole + Escharotomy)	1

# ***Orthopaedics & Trauma Module Report***

## **Visiting Faculty**

Yogesh Nathdwarawala (Lead)  
Naidu Maripuri

## **Local Trainers**

Muhumpu Kafwamfwa  
Michael Mbdenga  
Joseph Musowoya

**Wednesday 27<sup>th</sup> February – Friday 1<sup>st</sup> March**  
**Venue: Conference Room, Department of Surgery**

## ***Programme***

<b>08.30-8.35</b>	<b>Introduction</b>
<b>08.35</b>	Compartment syndrome work shop Septic arthritis, osteomyelitis Pelvic fracture and binder practical
<b>09.55</b>	<b>Closed reduction work shop</b> <b>Distal radius</b> <b>Ankle</b> <b>Supracondylar</b> <b>Tibial</b> <b>Shoulder, elbow, hip reductions</b>
<b>10.30</b>	Refreshments
<b>10.50</b>	<b># reduction &amp; plaster talk</b>
<b>11.00</b>	Plastering exercise B/E back slab B/E POP cast Demo B/K POP,A/K POP and wedging
<b>12.10</b>	<b>Traction talk</b>
<b>12.20</b>	Skin traction, Thomas splint work shop
<b>13-13.45</b>	Lunch
<b>13.45</b>	<b>Skeletal traction (Tibial, calcaneal, femoral pin)</b> Exercise
<b>14.15</b>	<b>Ex fix talk, Ext fix exercise (including open fracture)</b>
<b>15.35</b>	Internal fixation talk
<b>15.45 – 16.00</b>	Refreshments

<b>16.00</b>	<b>Internal fixation exercise</b>
	<b>Lag screw</b>
	<b>DCP</b>
	<b>Ankle</b>
<b>17.00-17.30</b>	<b>MCQ</b>

### ***Background and Planning***

After a very successful Pilot course in October 2011, feedback for the module received from the trainees at the end of the course, as well as at six month follow up, was carefully taken into consideration to modify the module. Although it was thought that it would be desirable for the trainees to have attended a basic surgical skills course prior to this course, tendon repair was included on specific request of the trainees and local co-ordinator Dr Zulu.

- All the reusable equipment for traction, internal and external fixation were brought from India.
- Equipment was of good quality and at a fraction of the price compared to the United Kingdom.
- The power drills were purchased in the United Kingdom.
- The plastic dry bones were kindly donated by Biomet DePuy Ltd..

### ***The Course***

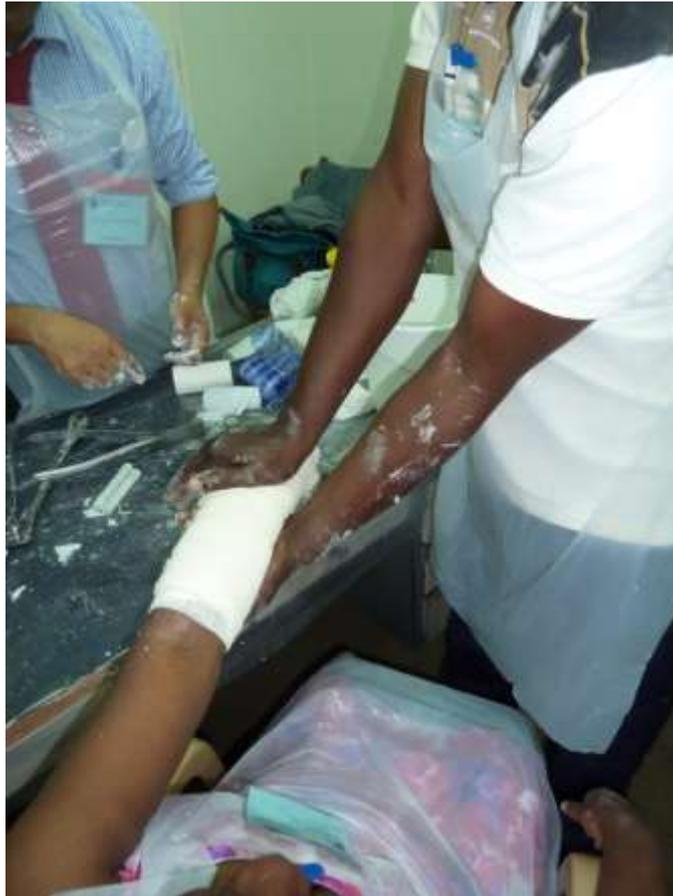
- The module was conducted in the Conference Room. On the first day of the course the projector that was promised to us was being used for another lecture till 9 o'clock and that delayed the start of the course for about an hour. After discussions with the participants it was decided to cut down the break times enabling us not to rush through the practical.
- Responding to the feedback and request of the participants, new topics of septic arthritis, osteomyelitis and pelvic fractures were added. The pelvic fracture practical included application of pelvic binder and demonstration of application of external fixation of the pelvis.
- Modules ran very smoothly for the three days without any unexpected problems

### ***What went well?***

- The ration of two trainers and four trainees worked very well and allowed us to give adequate personal supervision to each trainee.
- Practical aspect of the course has been highly valued by the trainees and has been retained.
- Providing the cold drink instead of tea and coffee at break times worked very well.
- Equipment brought from India was quite satisfactory.
- All three local trainers provided valuable assistance, especially with the practicals. All three would be suitable as future faculty.
- Material obtained locally; a splint and plaster worked very well.
- Mr Robert Lane has quite diligently prepared the list of requirements. The materials sent from the United Kingdom and provided by him were perfect.
- In order to allow more time for the practicals the talks were trimmed. However required information was provided to the trainees in the Manual.



***Forearm POP application***



***Completing forearm POP application***

### ***What could have been better?***

- The practicals involved the use of animal material as well as plaster. A wash basin in the room would be extremely useful.
- The variable level of training of the participants caused some problems; for example, a group consisting of orthopaedic trainees along with senior trainees in anaesthesia and urology caused some difficulty.
- Pre and post course MCQ's worked well, however, a uniformity of format between the various specialities would be desirable. The DVD regarding the tendon repair did not work on the one laptop. It has been decided to replace the DVD with a short practical demonstration/slides to make life easier.
- We need to have a focused discussion regarding interaction of the critical care component to the other components of the course. Some participants were

struggling to grasp the overall concept. I understand similar sentiments were felt by other specialty module leads as well.

- As we have trimmed the talks down, the time available to tidy up after one practical and set up for second practical has become shorter. It was felt that if there are only 2 trainers this could be a struggle especially if there is an unexpected difficulty. For the foreseeable future we will have the local trainers joining us and they could provide additional manpower. However in the future, if there are only going to be two trainers, an idea of having a non-qualified helper for the day can be explored.
- Debriefing meeting for all the module trainers particularly to discuss the common aspects regarding uniformity of assessment, as well as comparing each module to others giving this course a comprehensive outlook, would be useful.

### ***Meeting the Vice President of Zambia and the Health Minister***

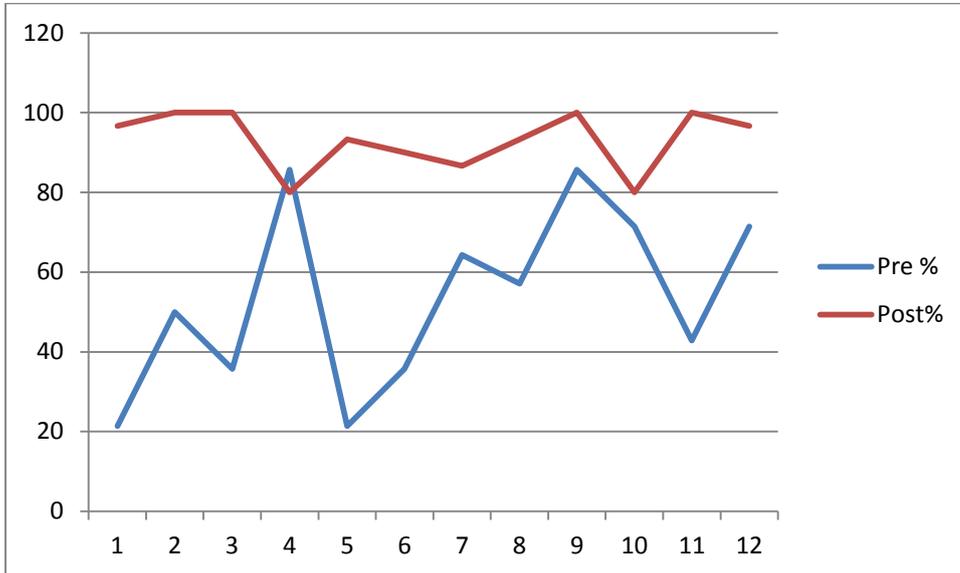
We met an Indian gentleman called Mr Jay Patel in the gym. We had a casual talk. On our request he kindly took us to the local temple where we prayed for the success of the course and wellbeing of all the participants. After knowing the details about our course Mr. Patel was quite impressed and arranged a meeting with the Vice President and Health Minister of Zambia on Friday evening. It was a wonderful opportunity to exchange the views and meet people in power looking after health of the country.

Many thanks to Mr Patel for his help and hospitality.

### ***Conclusion***

Overall the course was well organised and was delivered smoothly. The feedback from the candidates suggested a high level of satisfaction. Very successful and satisfying course indeed!

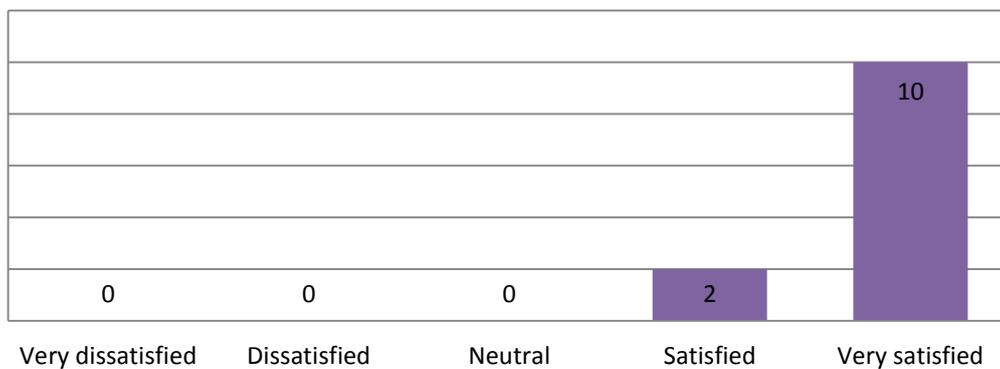
## **Pre & Post Course MCQ's (%)**



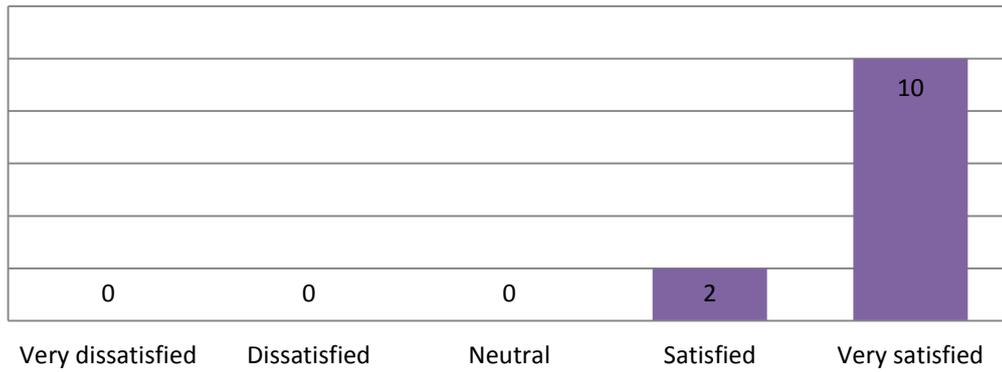
**Candidates**

## **Trainee Feedback**

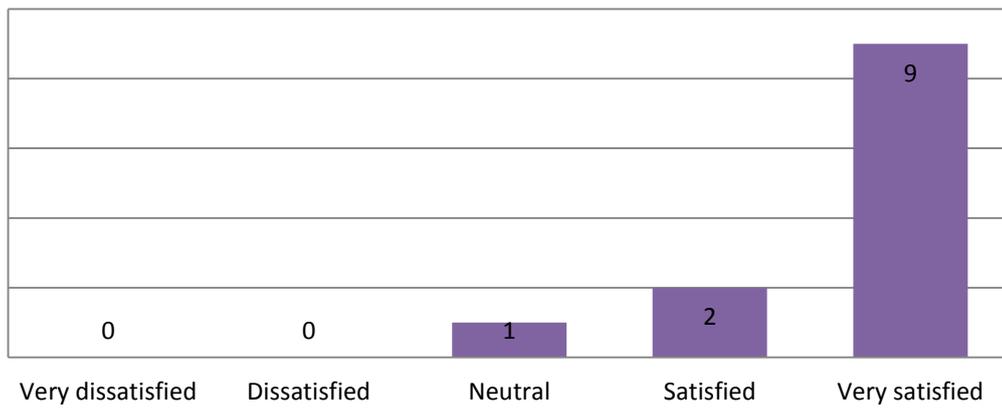
### **Applying POP**



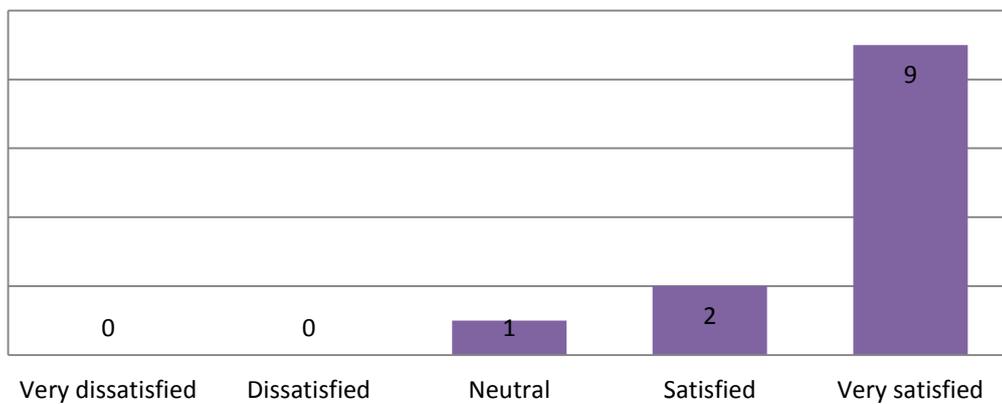
### Use of traction



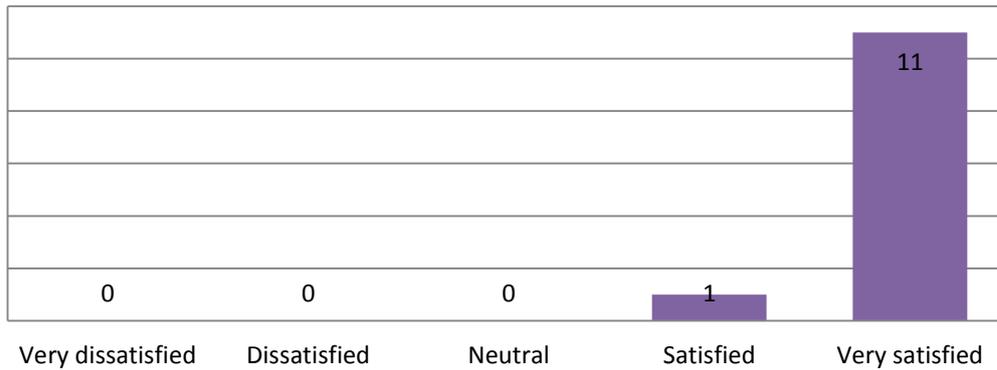
### External fixation



### Internal fixation



## Tendon repair



## Comments by Trainees

### **What went well?**

*Lectures and in-between practicals - good combination to keep us attentive.*

*A lot of practicals*

*Practical sessions were interactive and appropriate for my level of training. Things covered daily, surgical emergencies or procedures done so useful*

*The practical aspects of the course were very helpful.*

*Very good training. Wish to have another one.*

*The best was the practical part of the course. Most especially internal fixation.*

*Hands-on learning.*

*The practical sessions – hands-on-helps remember procedures much easier and quicker*

*Very accommodation and pleasant presenters with good knowledge of the subjects there presented.*

*Every lecture had a practical aspect to it. The required instruments were available.*

*Internal Fixation*

*I can now confidently repair a tendon. The practicals were excellent.*

## **What could have been better?**

**Orthopaedic reading prior to the course for year 1 residents that have not yet done orthopaedics.**

*Timing – we rushed through a lot of stuff through minimal time. Allocate more time next time.*

**Need more time to grasp new concepts. Better ventilated room and not dusty.**

*The theory should have more information e.g. the pathophysiology of some conditions . Reasons for doing some measures.*

**Include a component on burrhole drilling for patients with head injury and subdural haemorrhage.**

*The tutorials were too quick at times to understand.*

**A bigger venue.**

*Send handbook much earlier: a week before seminar.*

## **Other Comments**

**Please keep up the good work. This course would also benefit other doctors as well.**

*Thanks for the chocolates*

**Having reading material before coming for the course would be very helpful – not just orthopaedic module but course as a whole.**

*The course was exciting and motivating.*

**Very practical, precise and relevant to my profession,**

*Overall the course was good but too much to be covered in one day, loss of concentration occurs.*

**Would also be good to learn the principles of doing – or how to do – traumatic amputations. Thank you for the useful knowledge.**

## **Requirements**

<b>Instruments for Orthopaedics /Trauma</b>	
<b>Item</b>	<b>No</b>
<b>NEEDLE HOLDERS</b>	
Mayo Hegar	4
Crile Wood	4
<b>FORCEPS</b>	
Waugh's Fine Toothed	4
Lane Dissecting	4
Spencer Wells Curved	4
Mosquito (Halstead)	8
<b>SCALPEL HANDLES</b>	
No 4 (Large)	8
<b>SCISSORS</b>	
Mayo	4
Bergmann Plaster Scissors	1
<b>OTHER</b>	
Plaster Shears Stille-Aesculap	1
Hennig Plaster Spreader	1

<b>Sutures for Orthopaedics /Trauma</b>			
<b>DEBRIDEMENT</b>			
<b>W328H</b>	<b>1 BOX</b>	36 Sutures	3/0 Mersilk braided, 3/8 reverse cutting
<b>TENDON REPAIR</b>			
<b>W8845</b>	<b>2 BOXES</b>	24 Sutures	4/0 Prolene (1/2 c) double needle

<b>Re-usable items for Orthopaedics /Trauma</b>	
<b>Item</b>	<b>No</b>
Cork Tiles, size 300mm x 300mm x 4mm thick	3
Push Pins IV stationary ltd.sales@ivstationary.com	24
2.5 litre Plastic Paint Kettle	3
0.5 litre approx adjustable nozzle, trigger flower spray	1

<b>Disposable items for Orthopaedics / Trauma</b>	
<b>Item</b>	<b>No</b>
<b>SURGICAL BLADES</b>	
No 22	<b>18</b>
Pauls tubing 12cm	<b>9</b>
Sharp's Bins 1/2 litre	<b>3</b>
Gloves - latex free, Small, Medium & Large	<b>1 Box of each</b>
Aprons - white roll of 200 per roll	<b>30</b>
Scrubbing brushes small for debridement	<b>3</b>
Non Sterile gauze swabs (packets)	<b>6</b>
Black disposable bags	<b>3</b>
large white/green IV 16G needles	<b>20</b>
Rolls plastic sheeting	<b>To be issued</b>
Velband/cotton wool roll padding, 60 x 4" 2.7mt rolls	<b>60 Rolls</b>
Velband/cotton wool roll padding, 6 x 6"	<b>6 rolls</b>
Elastoplast /Adhesive plaster, 6 x 4", 4.5mt rolls	<b>6</b>
Crepe Bandage 10 x 4"	<b>10 Rolls</b>
Milton Tabs query quantity, need about 60	<b>6</b>

# ***Urology Module Report***

## **Visiting Faculty**

Chandra Shekhar Biyani (Lead)

Jaimin Bhatt

## **Local Faculty**

Nenad Spasojevic

Chadwick Ngwisha

Victor Mapulanga

**Wednesday 27<sup>th</sup> – Friday 1<sup>st</sup> March**

**Venue: Tissue Lab, Department of Surgery**

## ***Background***

Mr Bob Lane, Convener & Programme Director for International Affairs at the ASGBI submitted an application for a grant to the Department of International Development to deliver Multi-level Training for Healthcare Workers to improve emergency surgical care in COSECSA region and was successful. The Pilot Management of Surgical Emergencies (MSE) course delivered in October 2011 consisted of five clinical teaching modules, these being: critical care; general surgery; orthopaedics and trauma; urology and obstetrics. The plan is to deliver 6 courses in the COSECSA region in next two and half years.

After going through the feedback from the Pilot course, literature search and discussion with Dr Nenad Spasojevic, Urologist, University Teaching Hospital, Lusaka, I modified the contents for the urology module. I also consulted Mr Jaimin Bhatt prior to amendment. Management of renal colic was removed and genitourinary trauma replaced it. Jaimin agreed to prepare a module guide and MCQs for the course. I mailed course material to Mr Lane in January 2013.

Mr Lane's office coordinated with all UK faculty members and the 1<sup>st</sup> course was organised for the end of February 2013.

## ***Introduction and Preparation***

### ***22<sup>nd</sup> February 2013***

We all met at Heathrow on the evening and travelled together to Lusaka apart from Mr Fanus Dreyer.

### ***23<sup>rd</sup> February 2013***

On Saturday morning we arrived an hour late at Lusaka airport. Dr Robert Zulu and Dr Nenad were at the airport to greet us. All members of the group travelled together to the hotel. Mr Bob Lane organised for us all to meet at 3 pm with Dr Robert Zulu. Dr Zulu informed us that there are going to be 12 to 16 trainers; from overseas (**3** from Malawi and **2** from Zimbabwe) and the rest are local trainers from Zambia. In addition he also informed us that he had registered approximately 18 trainees and couple of them are from outside (Zimbabwe). Mr Lane went through the details of Training the Trainer Workshop to be delivered on Sunday 24<sup>th</sup> February 2013. I met with Dr Nenad to discuss the urology module

around 5 pm in the evening. We all decided to have dinner at the hotel as we all were exhausted.

### ***24<sup>th</sup> February 2013***

We all left for the University Teaching Hospital (UTH) at 8 o'clock. Dr Nenad came to the hotel to pick us up along with Dr Zulu. We all gathered inside the lecture theatre around 9 am. There were 12 trainers. Mr Lane outlined the objectives and content of the Training the Trainer course. He then gave a very interesting talk on the art of lecturing. Mr Fanus Dreyer followed him and presented his thoughts on the need for assessment during the course. After lunch there was a practical session conducted by Mr Fanus Dreyer, Dr David Ball, Mr Paul Gartell and Mr Clive Quick on assessment and feedback.

In the afternoon, each module Lead presented the content and delivery method of their module. At the end, local trainers were allocated to different modules. Prior to our visit, I approached Dr Nenad and requested him to join the module as a faculty member. Dr Nenad managed to organise local faculty for the urology module. I was lucky to have 2 very enthusiastic local faculty members (Dr Nenad Spasojevic and Dr Victor Mapulanga) on board. Dr Chadwick Ngwisha, Honorary Lecturer, Department of Surgery, Zambia also agreed to support the urology module. Jaimin and I prepared a pre-course MCQ paper and for the post-course paper we included 5 questions from pre-course paper and 5 new questions. We used different sets of questions in the post-course paper on each day.

Trainees from various parts of the COSECSA regions arrived at 3 pm. All trainees were registered on the database (demographics and contact details). Mr Peter Armstrong and Mr Jonathan Hannay did a great job getting all information on their Macbook. A total of 12 trainees registered for the course. Following registration, trainees undertook pre-course MCQs on each module (Critical care, general surgery, orthopaedics, obstetrics & gynaecology and urology). For the urology module, they were given 10 questions with a single best answer. Trainees were divided in to 3 groups (Red, Green, and Yellow). We came back to the hotel around 4 pm.

### ***25<sup>th</sup> February 2013***

I left the hotel at 9 am with Dr Nenad. Mr Dreyer had started his critical care module. I went down to the lab to check our manikin and other equipment. I was very impressed to see the catheterisation manikin from Limbs and Things. I had a discussion with Dr Robert Zulu

regarding animal material and was assured that we shall get enough bladders and scrotums for the urology modules. After that, I had a discussion with Dr Nenad regarding activities within the department of urology. He informed me that he has become Head of Unit 2 since departure of Prof. Labib and, along with Dr Victor Mapulanga, he is making progress. He has developed a link with IVU Med and they visited UTH in October. Nearly 30 children with urological conditions were operated upon. He has also introduced an on-call rota system for the consultant urologist within the department. This has improved access to the on call consultant for emergencies. I understood from him that residents used to struggle during emergencies as there were no agreed on call systems. In addition he plans to send one of the trainees to America with support from IVU Med for an observership. I came back to the hotel in the afternoon.

### ***26<sup>th</sup> February 2013***

Jaimin arrived at around 11 am from Nairobi. We went to UTH to check our equipment, models and room for our module. Jaimin, Dr Nenad and I, agreed to meet up at 6 pm to discuss our module content and delivery methods. I also suggested to Dr Nenad to request Dr Victor Mapulanga to join us at 6 pm. We came back to our hotel around 1.30pm. Mr Clive Quick had a video from the Cambridge anastomosis workshop. This included ureteral end-to-end anastomosis and ureteric reimplantation techniques. I looked at the video in the afternoon. The video showed a Cohen ureteric reimplantation and a second method to re-implant the ureter. At 6 pm Victor and Nenad came to the hotel. We discussed in detail the content and delivery of the module. I also suggested that on Friday, Victor and Nenad should try to do a talk each. After the evening meal, I sat with Jaimin to finalise the slides and assessment methods. Jaimin again went through the pre-course MCQs answers and reviewed the results. He made a list of topics where trainees have shown suboptimal results and we decided to focus on those parts during our session.

## ***Urology Module***

### ***27<sup>th</sup> February 2013***

Jaimin and I left the hotel at 07:20 am to set up the Tissue Lab and skills lab for our session. Dr Nenad & Dr Victor joined us around 8 am. Dr Zulu managed to provide us with pigs' testicles and bladder. We used a manikin from Limbs and Things for suprapubic cystostomy. We arranged a table to teach suprapubic cystostomy on a manikin. A second table was

prepared for testicular fixation skills. Dr Chadwick Ngwisha also joined us as a local faculty member.



***Suprapubic cystostomy manikin***



***Pig's testis for fixation***

A total of 4 trainees attended our module on the first day. Fortunately we managed to start on time and I gave a short introduction about the module. After initial introduction, Jaimin distributed laptop bags from the BAUS office to trainees and urology faculty members and in addition they were given a flash disc, again courtesy of BAUS, containing all module material and extra presentations. A follow up survey on uptake and use of the flash disc will be undertaken after a few months by email. All trainees appreciated this. I started with a talk on trouble shooting with urethral catheterisation and this was followed by Jaimin's presentation on acute scrotal surgical emergencies.



***Mr Bhatt giving his presentation on acute scrotum***

We restricted lectures to 15 to 20 minutes to have more time for skills sessions. Trainees were divided into 2 groups. One group practiced scrotal exploration and 3-point fixation whilst another group tried to do a suprapubic cystostomy on a manikin. After 25 minutes both groups swapped over. We modified the manikin in order to perform a suprapubic cystostomy by using some synthetic material to simulate the skin and bladder. Similarly, a lack of scrotal skin on the testicle was rectified by using simulated skin. In the second half of our module we concentrated on genitourinary trauma. I started with a presentation on renal and ureteric trauma. This was followed a talk by Jaimin on bladder and urethral injury. He also included a short presentation on priapism. During the skills session trainees performed extravascular ureteric reimplantation, intravesical ureteric reimplantation and repair of bladder injury. They use simulated ureter for re-implantation on a pig bladder. They also performed end-to-end ureteric anastomosis.



***Transvesical ureteric reimplantation***

***Extravesical ureteric reimplantation***

This practical session lasted for roughly an hour. Dr Chadwick's support was exemplary. After the practical session candidates undertook the post-course MCQs. They also filled in a feedback form and in general this was quite encouraging. After the session I sat down with Jaimin, Victor, Nenad and Chadwick. We went through the results and did global scoring on all the 4 trainees. Dr Nenad kindly agreed to drop us back to the hotel in the afternoon.

### **28<sup>th</sup> February 2013**

Dr Nenad came early morning to pick us up and we reached hospital around 8 am. Victor and Chadwick joined us as well. Our session started on time. Lectures and skills sessions went well without any hiccups. Again at the end of the session I, with Jaimin, Victor and Nenad, sat down to mark the candidates. I proposed that on Friday Dr Nenad and Victor should give a talk. In this way we can split 4 presentations amongst 4 members. Victor agreed to do a talk on acute scrotal emergencies and Nenad decided to do a presentation on catheters.



***Dr Nenad, Dr Chadwick & Dr Victor teaching testicular fixation***

### **1<sup>st</sup> March 2013**

We all arrived early. Jaimin and I felt that Dr Victor Mapulanga and Dr Nenad should organise the skills room for the session and both did an excellent job. Dr Nenad did his presentation on trouble shooting during urethral catheterisation and this was followed by Victor's talk on acute scrotum. Both presentations were clear and were done in a relaxed and interactive style. The rest of the teaching session went well. Dr Chadwick supported our

module with ideas and suggestions to adapt to local policies. All trainees undertook post-course MCQs. I suggested that Dr Nenad, Dr Victor & Dr Chadwick should do a similar module in June/July 2013 before the October 2013 Course. I am pleased to say that they have agreed to do this.



***Dr Nenad***



***Dr Victor***

After lunch time a group photograph was taken. In the afternoon we decided to meet other members of the urology department. Unfortunately, Dr Manda could not join us but Dr Bassim from unit 1 did. Dr Bassim has recently joined UTH and he outlined his plans to improve urology care. Dr Chadwick decided to give us a guided tour of the out-patient clinic, endoscopy unit and fee paying ward (private ward). We had a good discussion regarding various ways to support further development in urology. Jaimin Bhatt and Nenad also conducted a short survey on Hepatitis B immunisation among the course trainees and trainers and found that majority of Zambian surgical trainees or trainers were **not** immunised against this disease. All knew that Hep B is more infectious than HIV. All expressed a desire to be immunised. The trainees from Malawi and Zimbabwe, in contrast, were all immunised.



*From L to R, Dr Victor, Mr Bhatt, Dr Nenad, Dr Chadwick, myself, Dr Bassim*

At the end Mr Bob Lane presented a certificate of attendance to all trainers and trainees. It is a matter of great pride that Mr Lane has accepted an invitation to address the British Urological fraternity at the BAUS UROLINK session in Manchester this June, talking mainly about the MSE workshops.

Yogesh, through Mr Jay Patel, had arranged a meeting in the evening with **Dr. Guy Scott**, Vice President of Zambia; we, therefore, all came back to the hotel early. Dr Scott along with **Dr Joseph Mwenya Kasonde**, Health Minister arrived at the hotel to meet the group. Mr Lane outlined aims of the ASGBI/COSECSA project to the Vice President and the Health Minister. Our meeting lasted for an hour and we were assured that during our next visit Dr Scott may visit one of the teaching sessions.

**2<sup>nd</sup> March 2013**

We all left the hotel early in the morning apart from Jaimin. On this occasion we came back to UK without any hiccups.

## **What went well?**

### **Urology module**

- Support from the Department of Urology was admirable. The efforts of Dr. Nenad were greatly aided by key stakeholders in the Urology Department, including Drs. Victor Mapulanga and Chadwick Ngwisha.
- Outstanding partnership and involvement from local faculty.
- Facilities to deliver the module were excellent (lecture room and skills room)
- Part of the module was delivered by the local faculty and this may allow early handover of the programme.
- Local urology trainers attended the training the trainer course and actively participated during module delivery on 3 consecutive days.
- Equipment for module delivery was satisfactory.
- A repeat module has been planned by local faculty for June/July 2013.

### **Course**

- Very well organised. Mr Lane once again provided strong leadership, commitment and sound judgement in everything. His encouragement, patience and support to faculty members were exceptional.
- TTT session went well and was good in first part.
- Catering was good
- Dr Zulu, who is clearly a committed person, gets all the credit for the success of this venture.
- Once again, the fantastic comradeship between the entire faculty team made this yet another memorable project.
- Meeting the Vice President & the Health Minister may improve future support from local administration.

## ***What could have been better?***

### ***Urology module***

- To organise animal tissue material in correct fashion as scrotal skin was missing. We did not have ureters with bladder specimen and had to use balloons.
- We changed our talk after the feedback on first day and renal trauma lecture was omitted on next 2 days.

### ***Course***

- To advertise the course more widely (COSECSA website, UTH internal mails, COSECSA meeting) to get optimum numbers of trainees & trainers.
- Dr Zulu should delegate local faculty members in supporting him with organisation of the course (e.g. module leads, Catering & Facilities lead, Animal material & AV equipment lead, Media and Advertisement lead).
- TTT session – second half can be improved by reducing repetitions, providing better facilities for scenario teaching and presentation by the local lead outlining local practices.
- There should be frequent communication between UK module lead and local lead for smooth delivery of the module.
- To encourage local trainers to participate in delivering under-represented specialities, e.g. O&G.

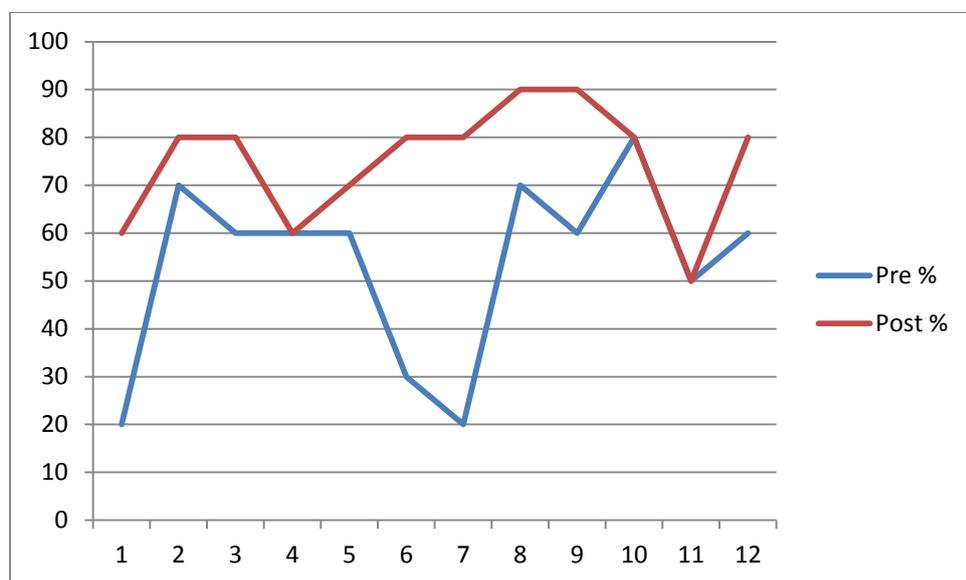
## ***Acknowledgements***

I am thankful to Mr Bob Lane, Convener & Programme Director for International Affairs of ASGBI for his continued guidance and to Dr Robert Zulu for tireless efforts in facilitating this visit. I could not have done without the excellent support from Mr Jaimin Bhatt, who organised pre-course reading materials and invaluable suggestions.

I would like to express my sincere appreciation to Dr Nenad Spasojevic, Dr Victor Mapulanga and Dr Chadwick Ngwisha, Honorary Lecturer, Department of Surgery, Zambia. I wish to extend a special thanks to Mr Jay Patel from Lusaka for organising a meeting with Dr Scott and Dr Kasonde.

I am grateful to Mr Ru MacDonagh Chairman, UROLINK, as well as BAUS for their continued support.

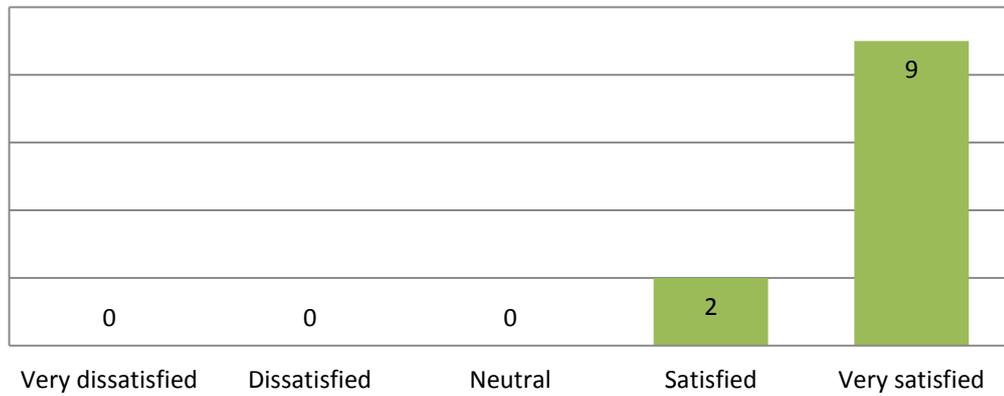
### ***Pre & Post Course MCQ's (%)***



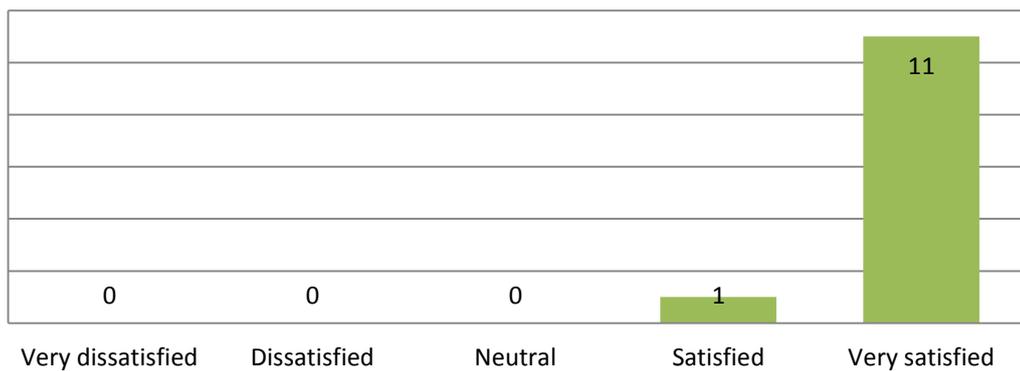
***Candidates***

## ***Trainee Feedback***

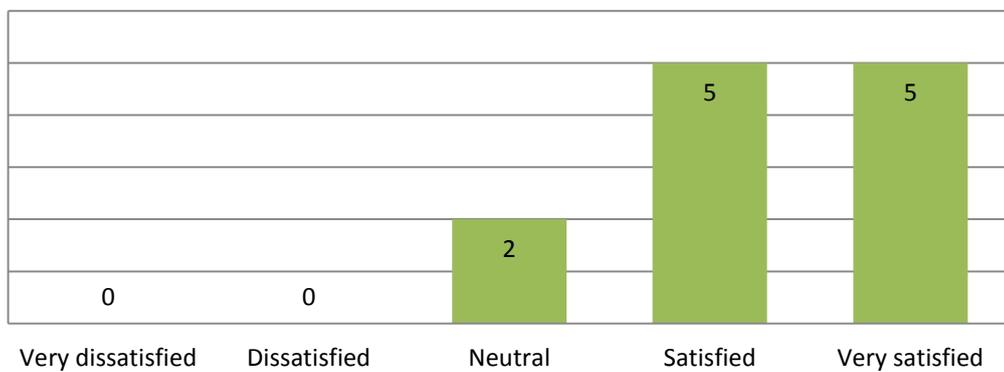
### **Urethral catheter**



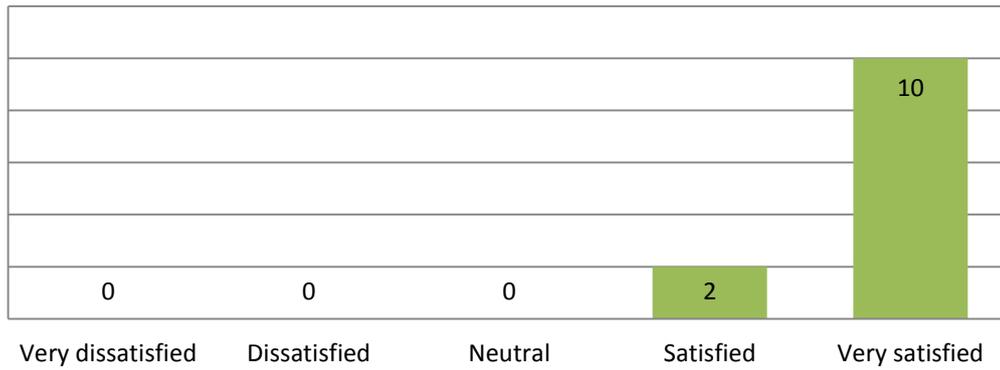
### **Suprapubic catheter**



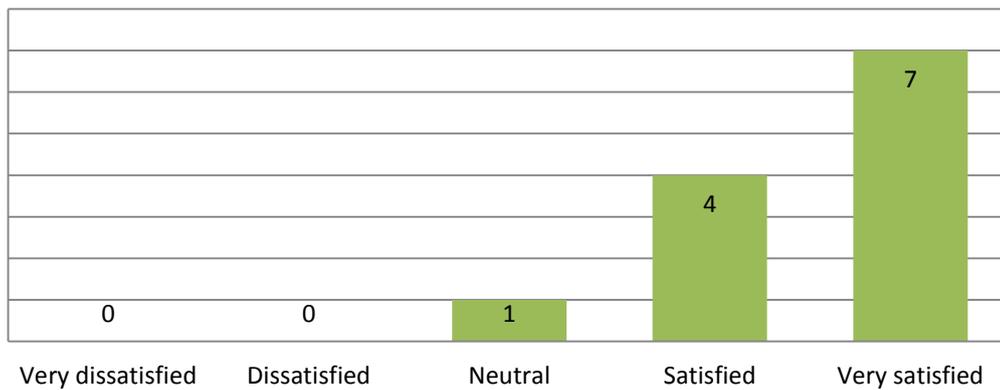
### **GU trauma**



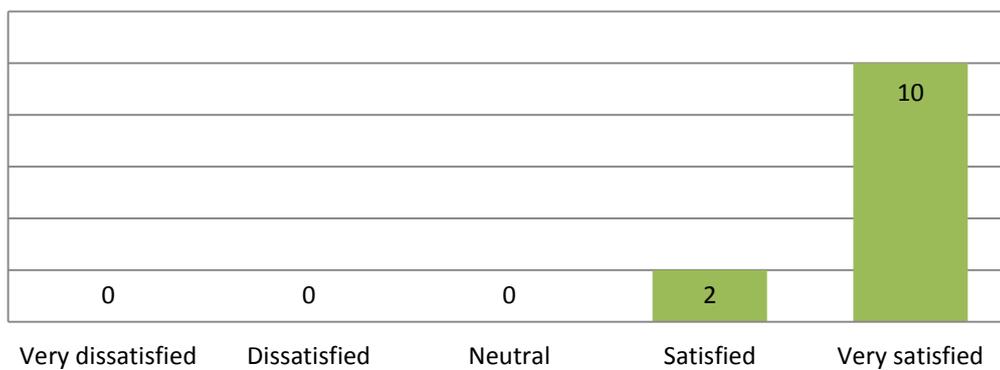
## Scrotal emergencies



## Priapism



## Bladder injury



## Comments by Trainees

### **What went well?**

*The presenters were organised and showed great knowledge of the topics. They were also very kind.*

*The practical aspects were very good.*

*Lectures and practicals.*

*The demonstrations were helpful and information was given in a clear and precise manner.*

*Longer time for practicals, brilliant delivery of tutorials, extra material on flash-discs.*

*Practical sessions were quite in-depth and interactive and were adequate for my level of training. The lectures given (powerpoint) were well summarised and clear.*

*Very good training.*

*Practical and very simplified. Very easy to follow through as each step explained step-by-step.*

*The procedures were excellent: the practical sessions as 'hands on' helps to remember things better. Working in small groups helps as everyone has a turn to try.*

### **What could have been better?**

*Course needs more time.*

*There was a lot of theoretical part that the lecturers did not teach because of time.*

*More practical's.*

*Have longer demonstrations.*

*More pictures on the tutorial and more cases to discuss on the topics covered.*

### **Other comments**

*Very helpful and practical sessions. Thank you.*

*Well taught.*

*Overall it was a good learning experience.*

*Keep it up. This was great!!!*

*Well organised!! Thanks for the bag/pen/flash-disc.*

*Excellent, practical and relevant training. Competent facilitators who were easy to follow in their explanations.*

## **Requirements**

<b>Instruments for Urology</b>	
<b>Item</b>	<b>No</b>
<b>NEEDLE HOLDERS</b>	
Mayo Hegar	8
<b>FORCEPS</b>	
Waughs Fine Toothed	6
Adson Fine Non Toothed	6
Spencer Wells Curved Normal	12
Spencer Wells Straight	12
Babcocks	12
<b>SCALPEL HANDLES</b>	
No 3 (Small)	6
<b>SCISSORS</b>	
Mayo	6
Metzenbaum	6

<b>Sutures for Urology</b>			
<b>W9136</b>	<b>3 BOXES</b>	36 sutures	2/0 Vicryl (1/2 c) RB
<b>W193</b>	<b>3 BOXES</b>	36 sutures	2/0 Silk Ligatures
<b>W9970</b>	<b>4 BOXES</b>	36 sutures	4/0 Vicryl (1/2 c) RB

<b>Re-usable items for Urology</b>	
<b>Item</b>	<b>No</b>
Cork Tiles, size 300mm x 300mm x 4mm thick	6
Push Pins IV stationary ltd.sales@ivstationary.com	48
2.5 litre Plastic Paint Kettle	1
0.5 litre approx adjustable nozzle, trigger flower spray	1

<b>Disposable Items for Urology</b>	
<b>Item</b>	<b>No</b>
<b>SURGICAL BLADES</b>	
No 11	<b>24</b>
<b>SYRINGES</b>	
50 ml syringes to wash out bladder	<b>2</b>
Sharp's Bins 1/2 litre	<b>3</b>
Gloves - latex free, Small, Medium & Large	<b>1 Box of each</b>
Aprons	<b>30</b>
Black disposable bags	<b>3</b>
Rolls plastic sheeting	<b>To be issued</b>
Milton Tabs	<b>6</b>

# ***Obstetrics & Gynaecology Module Report***

## **Visiting Faculty**

Shirin Iran (Lead)

Mani Malarselvi

## **Local Faculty**

Jacqueline Mulundika

Gricelea Mkumba

**Wednesday 27<sup>th</sup> – Friday 1<sup>st</sup> March**

**Venue: Tissue Lab, Department of Surgery**

## ***Programme***

<b>Introduction</b>	5 minutes
<b>13.20 -14.00</b>	<b>Lectures</b> (20 mins x 2)  Obstetric emergencies (cord prolapse / dystocia/breech) PPH (atonic / traumatic)
<b>14.00-15.00</b>	<b>Stations</b> Shoulder dystocia +breech  PPH (B Lynch,packing,inversion)
<b>15.00-15.30</b>	Refreshments
<b>15.30 -16.00</b>	<b>Stations</b>  Symphysiotomy / gynae surgery
<b>16.00 -16.30</b>	Caesarean section (video/discussion)
<b>16:30 -17.00</b>	MCQs
<b>17.00 -17.20</b>	General Q&A 'mop up'
	<b>Last 10 minutes:</b> Debrief/summary

### ***Introduction***

The Obstetric and Gynaecology module ran for 3 days every afternoon following the morning urology session.

### ***Venue***

The room was adequate for the O&G module and much better than the Dean's Foyer utilised during the Pilot Course in October 2011.

## ***Trainees***

The trainees were good. They were keen, engaged and wanted to learn.

The revised session now includes common Gynaecological emergencies and a video on Caesarean Section in response to feedback from the previous course. Therefore, in this restricted time, we have had to remove neonatal resuscitation as a hands on session but have included it in the manual. What became apparent was the lack of linkage between the algorithms learnt for resuscitation taught in the critical care module with the practicality of a clinical situation. Most could say the alphabet 'A B C 'when asked about a situation but were unable to extrapolate further and be practical about what exactly went with those letters. This for me (SI) has been of concern and will be discussed with the Critical Care team. Verbal questions relating to a collapsed obstetric patient were met with silence and even after we went over maternal resuscitation (as covered on days 1, 2 of critical care), many got that MCQ wrong.

## ***Trainers***

2 trainers joined us, Jacqueline Mulundika who has a surgical background but currently works in the ICU and Gricelia Mkumba, a senior obstetrician at UTH, who has an interest in teaching and joined us on Thursday and Friday, not having attended the TTT initial session. It was most useful to have Jacqueline run one station and Gricelia gave a lecture on the last day. One hopes, given enough notice, the trainers will be better placed to attend the sessions fully.

## ***Midwives***

There were **no** midwives in attendance, which in retrospect was not such a bad thing as they ought to be taught separately. The group of trainee Doctors were surgeons; some new to this field who should be taught in a non-threatening environment.

## ***Summary***

What we offer in the O&G session, in the time allocated, is practical and ought to be beneficial for a surgical trainee. The 6 month feedback from trainees will be helpful. With regard to emergencies, the link between a clinical situation of collapse and management of the precipitating causes needs to be more firmly emphasized. It became fairly evident that

teaching techniques differ (UK/Africa) and it appeared that there was no link made by the trainees with regard to the above. This will be discussed with the CC team.

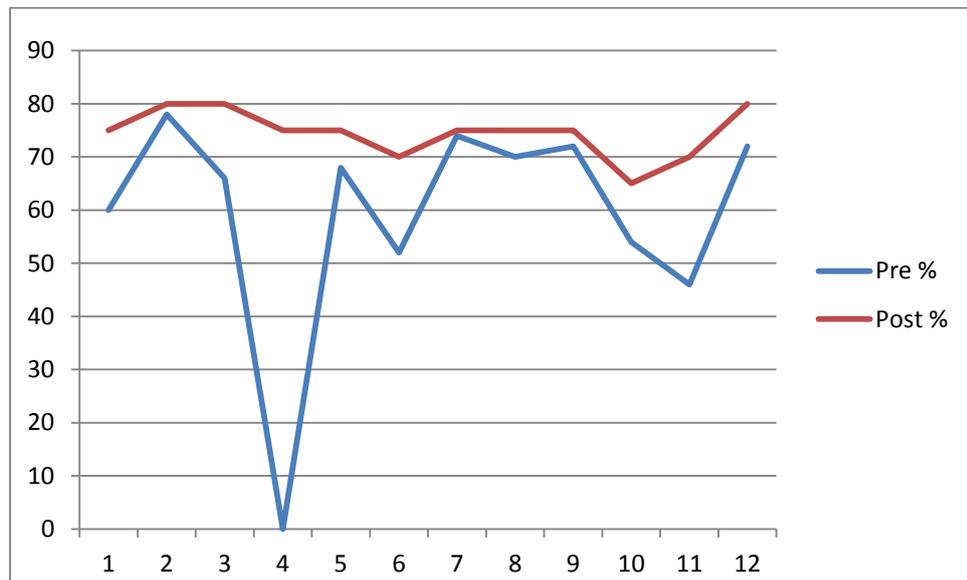
I should like to thank Mani Malarselvi for her commitment and unstinting support with regard to the development, running and assessment aspects of the O&G Module.



***Birthing to order!***

***Excellent manikin from Limbs & Things, UK.***

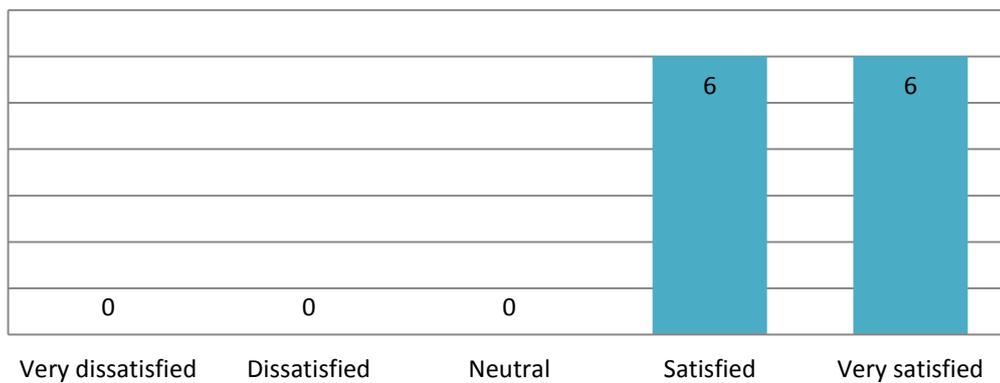
## Pre & Post Course MCQ's (%)



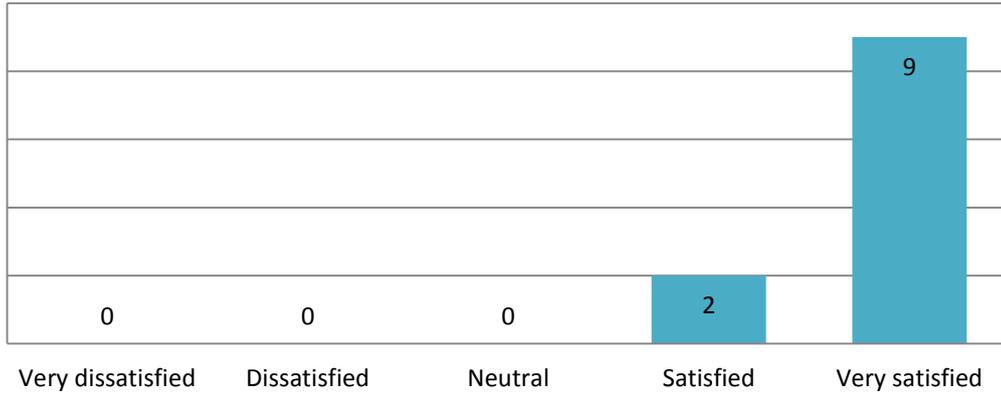
Candidates

## Trainee Feedback

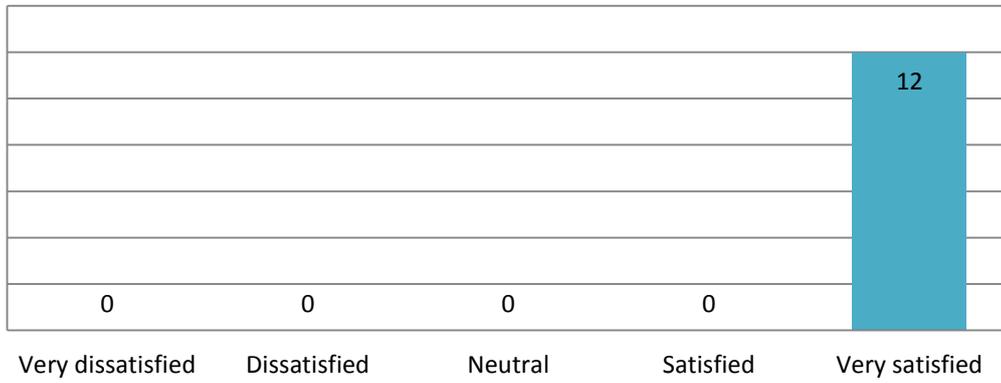
### Ante-partum haemorrhage



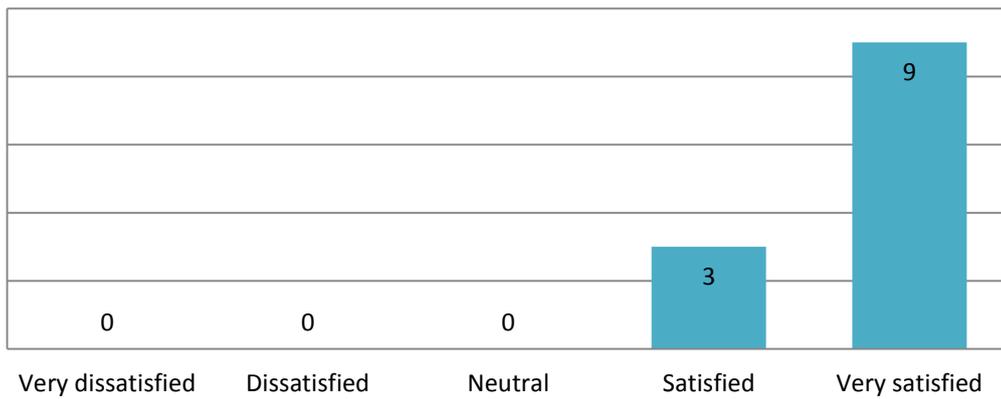
### Post-partum haemorrhage



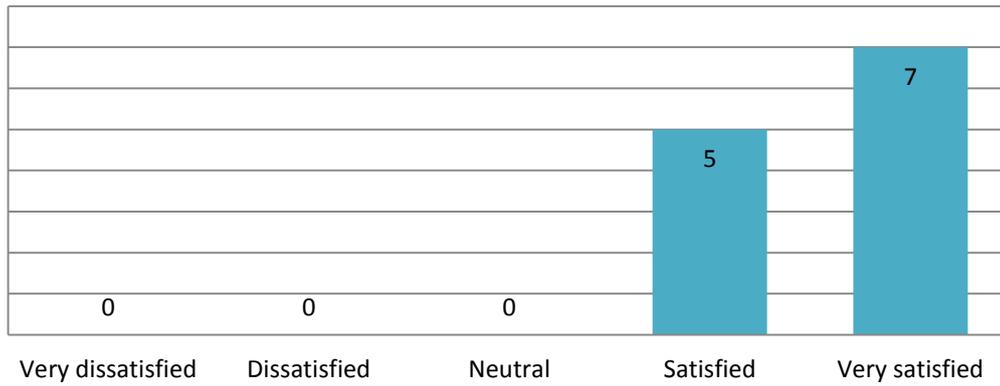
### Caesarian section



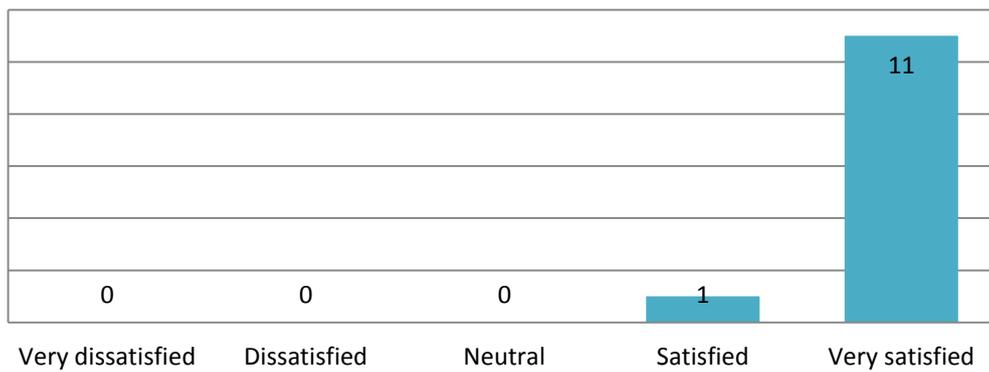
### Shoulder dystocia



## Breech presentation



## Symphysiotomy



## Trainee Comments

### **What went well?**

*All very good.*

*The practical sessions*

*All subject matter was well presented.*

*Experienced trainers who simplified the presentations.*

*Demonstrations were very beneficial and lectures not too long.*

*Practical sessions were quite interactive and adequate for my level of knowledge.*

*Lectures clear and concise. Practicals helped to make lectures easier to understand.*

*Succint teachings very well delivered and very relevant practical sessions.*

*Presentations were organised and to the point.*

*The models during practicals were excellent.*

*Ceasarian section.*

### ***What could have been better?***

*Need more training to improve our skills.*

*More practical sessions so that each person has a go at participating.*

*Allocate more time to the course.*

*More time to do additional demonstrations.*

*Distribute course material early.*

### ***Other comments***

*Thank you.*

*I would recommend this course to other trainees.*

*Very practical and helpful. Thank you.*

*Interns may benefit very much from this training.*

*Thanks for the sweets!! Good sense of humour!!*

*Well done.*

*Very good teaching. Thank you.*

## Requirements

Instruments for Obstetrics & Gynaecology	
Item	No
<b>NEEDLE HOLDERS</b>	
Mayo Hegar	4
<b>FORCEPS</b>	
Spencer Wells curved Long	2
<b>SCISSORS</b>	
Mayo	4
Blades (10)	
<b>SPONGE HOLDER</b>	
Rampléy	2

Sutures for Obstetrics & Gynaecology			
<b>W9377</b>	<b>2 BOXES</b>	24 Sutures	1 Vicryl (½ cc) Taper cut RB

Re-usable items for Obstetrics & Gynaecology	
Item	No
Rusch Balloon	1

Disposable items for Obstetrics & Gynaecology	
Item	No
Roller Gauze pack	2
Sharp's Bins 1/2 litre	1
Gloves - latex free, Small, Medium & Large	<b>1 Box of each</b>
Black disposable bags	1

# ***Report of trainee and course assessment***

***Fanus Dreyer***

## ***Principles of assessment in MSE***

This was a Pass or Fail course. Trainees were expected to meet certain minimum criteria to successfully complete the course and receive a certificate. After some discussion amongst module leads it was decided that these criteria would include attendance at all sessions, active participation in discussions and skills sessions, proficiency in cardio-pulmonary resuscitation (CPR) skills, satisfactory scores in continuous assessment and acceptable scores in written tests.

This was primarily a skills course. Trainees were assessed in the educational domains of knowledge, judgement and decision making, technical skills and communication and teamwork. Different teaching stations focused on different skills and assessment was adjusted accordingly. Daily assessment scores were collated from performance in these different domains of learning.

Where necessary trainee's performance was discussed amongst tutors of all modules to ensure that final assessment scores were fair, open and transparent. All trainees were of such a high standard that only informal discussion was necessary on a minimum number of candidates and only to discuss exceptional performance. The opinions of faculty observers (new trainers) were also sought informally on occasion.

## ***Aims of Assessment***

This had not changed since the Pilot course and remained:

1. To measure trainee's learning of essential principles.
2. To assess effective course delivery.
3. To measure individual trainee's abilities.
4. To gain feedback for future course development.

## **Domains assessed**

This was modified since the Pilot course and now consisted of:

1. Knowledge.
2. Decision making and judgement.
3. Technical skills.
4. Communication and teamwork

## ***Methods of Assessment***

### ***Written tests***

These consisted of a mixture of multiple choice questions (MCQs), extended matching questions (EMQs) and best answer questions. The structure and style of questions were different for different modules, modified to best fit the teaching methods and contents in each specialty. In critical care the total value of MCQ points was 40, in general surgery and orthopaedics 30 each, and in urology and obstetrics 20 each.

Tests were planned so that 1/2 of questions would be easy, a 1/4 of moderate difficulty and a 1/4 complex. Trainees who prepared well, concentrated and participated in each teaching station could all pass written tests without difficulty.

### ***Critical Care***

The plan was for twenty (20) points to come from MCQs on the *ptolemy.ca* articles because there is a potential pool of 100 such MCQs linked to them. Unfortunately participants were not informed that they had to read the *Ptolemy.ca articles* in advance and, although they performed satisfactorily in the pre-course tests, it was decided that these could not be used to help decide whether a trainee passes or fails a course.

In the post-course written test participants were asked four complex questions (one from each faculty member), addressing a series of complex problems in critical care; they were asked to sit in their respective teams and allowed to discuss the questions and potential answers within certain time constraints but then marked their answer sheets individually.

These written answer scores correlated well with continuous marking scores for each individual trainee.

### ***General Surgery, Orthopaedics, Urology and Obstetrics***

One hundred points were available from a variety of MCQs, 30 each from General Surgery and Orthopaedics, 20 each from Urology and Obstetrics. Questions were asked in a pre-course test on the Sunday afternoon and a selection from the same questions were asked again every day after each module; the post-course questions changed each day.

### ***Continuous assessment***

In critical care outcome was decided mainly by continuous assessment of all course trainees in practical stations and all tutorials (not in lectures). Trainees received a score of 0-4 per station where 0=absent, 1=clear fail, 2=borderline, 3=safe pass and 4=excellent. From all these scores an overall continuous assessment score of 0-10 was calculated for each trainee which contributed to the overall collated assessment score, where a score of  $\leq 3$  means fail, 4 or 5 = borderline, 6 or 7 = a safe pass, 8, 9 or 10 = excellent.

In the surgical specialties of General Surgery, Orthopaedics, Urology and Obstetrics a single score sheet was completed at each module for each trainee. Trainees were given a global rating of 0-4 in each of the four educational domains for that module. These domain assessment scores guided tutors to give a single final assessment score out of 10 for the day.

### ***CPR proficiency***

All trainees had to demonstrate that they can do CPR according to current protocol. This is an essential skill in managing emergencies in Medicine. CPR proficiency was scored out of 10 potential points for all candidates.

### ***Final Scores***

A total maximum score of 200 was possible. These were compiled from written tests 140 points (critical care 40, general surgery 30, orthopaedics 30, urology 20 and obstetrics 20); CPR proficiency 10 points and continuous assessment 50 points (10 per module).

This meant that each module's contributions to the final score was: Obstetrics 15%, Urology 15%, Orthopaedics 20%, General Surgery 20% and Critical Care 30% (including 5% from CPR proficiency assessment).

Trainees were expected to attain a score of 60% to pass the course (you have to be better than 50-50). This should have been attainable without too much difficulty as 30% of the final score came from continuous assessment, and ½ of written tests were relatively easy.

## **Outcomes**

All course trainees passed all modules and the course overall without any difficulty.

Overall scores ranged from 74.5 to 87.5%, with an mean of 81%. For four trainees the final test score in Obstetrics was not available and therefore their overall scores were calculated out of a total of 180, not 200.

## **Feedback**

Trainees were given the opportunity for course feedback similar to previously. The essence of feedback scores were unchanged and remain learner-centred but the topics for feedback were changed slightly as the course contents evolved.

Overall feedback was very good with trainees being "satisfied" or "very satisfied" with their learning in almost all topics. In critical care "Paediatric ALS" scored only 3.08/5 compared with 4.52/5 overall. This was due to trialling a different teaching method and not to the contents as the same contents had scored highly in two previous courses. For future courses this will again be taught as a tutorial.

An interesting shift in feedback scores was that all modules now scored equally in feedback. Most satisfactory was that the feedback on learning obstetric emergencies is now equivalent to other modules. The levelling out of feedback scores is probably due to two reasons: course content had been adapted in response to previous feedback and trainees in this course were more senior and came from a wider range of training centres than during the Pilot and were therefore probably more aware of what surgical trainees have to manage as surgical emergencies.

Positive comments referred mainly to the practical value of the teaching and the approachability and experience of the tutors. Improvements that trainees would want to see

were almost all about having more time for the course and for individual topics as well as for sufficient reading material.

### ***Recommendations for Future Courses***

- Calculating a total score per trainee based on written tests and continuous scoring in different domains of learning worked well and gave a representative impression of individual trainees strengths and weaknesses. The weighting for different modules also seemed to work well. Some trainees performed slightly worse in continuous assessment than in their written test for that specialty (where continuous assessment was 6/10 and test scores were >80%) but such variation provides good checks and balances within the assessment framework.
- It is therefore recommended that the assessment framework during the course and the scoring system remains unchanged.
- The continuous assessment sheet and scoring system for critical care worked well and should remain unchanged. The continuous assessment sheet for surgical specialties needs some refinement to make it more user friendly, especially to transfer the scores in each domain to an overall score for the day.
- Pre-course MCQs were of little benefit in this course. For critical care it was of no value as trainees had not been informed of available online reading material in advance. General surgery paid attention to and recorded pre-course scores but it did not seem to have been used by other modules. It is therefore recommended that we do away with pre-course MCQs. It is an extra onerous task after a busy day of Training the Trainers. It was all handed over to a few faculty members who were doing trainees registration and it is of no value in deciding who passes or fails a practical skills course. Pre-course testing has other value when compared to post-course tests, e.g. to assess teaching, but in this course the effort was not justified.
- Feedback opportunity should be provided in similar way in future and results analysed in detail per topic to keep on improving the course.

- In future courses "Paediatric ALS" will be taught in a way that Africa trainees are more familiar with.
- All modules should continuously review their contents to prevent the programme becoming too full. It is important that trainees feel they have enough time to ask questions. At the level of training that MSE is aimed at it is probably better to cover fewer topics in more depth than to rush and try and cover everything. That has certainly been the experience in critical care; after the Pilot course we have taken a number of topics out of the syllabus and now have a slower course which is more thorough on covering basic principles.

## ***Summary***

Overall the assessment framework worked well for this MSE course; it allowed identification of outstanding and less strong trainees. There was little variation between modules overall which is encouraging. For individual trainees a wide enough variation in scores did show up, which reflected individual strengths and weaknesses. With further modification the assessment methods can be further refined and simplified, which is important to achieve before the course is handed over to COSECSA.

Lastly I wish to thank Mr Bob Lane, the other module leads and faculty for placing their trust in me to develop the assessment framework, sometimes through trial-and-error. It has been an interesting journey, but immensely satisfying, and impossible to do without everyone's input and feedback from both faculty and course participants. I am very thankful that I have the opportunity to contribute in this way to MSE specifically, and to surgical training in Africa in general.



***Group photograph***

***Evaluation of the MSE Course from Monday 25 February to Friday 1 March by 9 Trainers on the TTT Course who were present throughout.***

Mean score 8.66 out of 10 with the mode and median being 8.

Five trainers participated in the CC module; 2 of whom then participated in the GS module, 1 in the orthopaedic module and 1 in the Obs/Gynae module. The fifth trainer went off sick. 2 further trainers attended the orthopaedic module, 3 the urology module and 1 the Obs/Gynae module who was not present on the TTT course on Sunday 24<sup>th</sup> February.

The trainers felt the MSE Course was well organised with good content relevant to every day practice and that the course involved much hands on training which was particularly welcomed by the trainees.

***What went well?***

All the content of the modules was deemed relevant and the attendance was 100% throughout.

***What could have been better?***

Feedback to trainees on their weaknesses in both MCQ's and course interaction should be reviewed and this we shall do. Several comments were made as to whether the Course could be extended but for many reasons this is not possible at the present time.

***Essential points for future courses***

There was unanimous agreement that better communication to trainees should be undertaken especially with regard to pre course reading material and the specialty manuals.

## ***Conclusion***

This was the first TTT course we had undertaken and when Faculty discussed the outcome it was generally agreed that it had been a success, although there are a number of issues to address and these mainly relating to better communication and the module presentations.

### ***Evaluation on the overall impression of the MSE Course by 12 trainees who were present throughout.***

All 12 participants returned evaluation forms. The average rating for the course was 8.9 out of 10 with a mode of 8 and a median of 9.

### ***Have you found the course useful?***

All found the course useful with 11 reporting that the Critical Care module had been the **most** useful, 4 Orthopaedics, 3 all of it and 2 each reporting Urology, Obstetrics and General Surgery.

When preferences were broken down by which specialty the trainee was in, it was found that the popularity of the Critical Care module was across the board and not just related to one or two specialties. With regard to the Orthopaedic module three general surgical trainees and one orthopaedic trainee found it to be the most useful. This trend was generally seen.

### ***Which part of the course did you find least helpful?***

Seven trainees found that none were least helpful; 2 found the Obs/Gynae module (both Orthopaedic Trainees) and 2 the Orthopaedic module who were a urological trainee and an anaesthetic trainee.

### ***How would you improve the course - what would you like added or removed?***

Most replies centred on a request for more time, a better venue for General Surgery (this has been addressed) and better communication especially in terms of pre course reading material. There were other suggestions which included exercises which are undertaken in

the BSS course. In future we shall be making it a recommendation that for trainees to apply for a place on the MSE course they should have undertaken a BSS course beforehand.

### **Other comments**

***Appropriate for my level of training***

***Helpful in my day to day pt management***

***Excellent course which will improve my clinical skills***

***Have course regularly, + interns***

***Tutors have great way of delivering tutorials. Well done! Keep it up!***

***Trainers were all experienced, friendly and simplified the topics. Thank you very much.***

***More time***

***Post Grad formal teaching NOT VERY common, having something like this has been very helpful and the procedures that I have been taught I can go and perform confidently and even teach my juniors.***

***We had a great time, we'll improve our skills and manage PG accordingly***

***Course was practical and relevant. Now confident to carry out life saving interventions in Emergency Surgery***

***Very helpful and important course. It would be essential that it continues and is open to all COSECSA trainees***

***Knowledge is very valuable and enriching. It will go a long way to helping our nations.***



***All trainees on the MSE Course were awarded Certificates***

# **Convener's Report**

**Robert Lane**

This was the first of three Training the Trainers (TTT) and Management of Surgical Emergencies (MSE) courses to be held in Lusaka having been awarded a Large Paired Institutional Partnership Grant by the Department of International Development, UK Aid and managed by the Tropical Health and Education Trust (THET) over a two and a half year period. The application was based upon the success of the Pilot course held in Lusaka in October 2011. ([www.internationalsurgery.org.uk](http://www.internationalsurgery.org.uk)).

## **TTT Course**

The lessons that we had learned as a result of running the Pilot were incorporated into this course with a new feature being the TTT element.

Sustainability of the MSE course after the grant terminates is a concern and hence the reason for the TTT course. The plan is to have a day devoted to training the trainers immediately before the MSE course. The trainers would then allocate themselves to a particular module and attend those module sessions during the MSE course.

Communication could have been slightly better in the sense that one or two of the trainers turned up late which is never a good thing on a one day course!.

The content was specifically aimed at teaching the trainers how to run the MSE course. There are many pitfalls that can occur out of the blue and, without having adequate contingency plans, they can cause major problems. The TTT course is practical and not aimed at teaching the theory of education or learning. This can be obtained on general Training the Trainers courses which are run throughout the Region.

The lectures and the role playing exercises were well received which was very gratifying for the Faculty.

We shall also include an additional lecture on Safe Surgery based on the WHO guidance as the information does not seem to have been implemented across the Region.

Criticism of the module presentations has been taken on board and changes will be made for the future.

We need to emphasize more the fact the course is designed to teach *one* way of performing procedures safely but not the *only* way. Time keeping and attendance at modules must also be highlighted. The MSE course is **not** a workshop although it must have a practical dimension.

All trainers who attended the course on the Sunday and their modules on subsequent days satisfied Faculty as to their knowledge and competence and will be recommended to COSECSA for consideration of being accredited as an MSE Trainer.

### ***MSE Course***

Unfortunately all the equipment for the MSE course was held up in customs when we arrived and it was not released until half way through the CC module. This did not seem to detract from the course but clearly the CC Faculty had to adjust their timetable accordingly. Now that the equipment has arrived, been logged in and handed over to Dr. Robert Zulu, this will not happen again. The equipment will remain in Lusaka.

The MSE course was again undertaken within the Department of Surgery apart from the General Surgery module which was based adjacent to the anatomy dissecting rooms of the Apex Medical School which are approached by subterranean tunnels accompanied by air-conditioning which sounds as if one is standing next to two jet engines!

The number of trainees was 12 (1 became ill after the Critical Care module – not related!) and the maximum we can accommodate is 18. This was good for small group training but a less efficient use of our grant. The trainees came not only from Zambia but adjacent countries which allowed for good discussion of facilities and service provision across the Region. The content of the course remained similar to the Pilot with some minor changes mainly with respect to content and this based on evaluation following the Pilot. Feedback from the Trainees and the Trainers was very positive. Newer methods of assessing the course were introduced and proved to be more reliable. There was excellent support from Dr. Robert Zulu and also the Department of Urology.

There are certain aspects that we must improve upon. The Trainees did not have the list of reading material, the manual or the log books prior to the course and this must be remedied. The venue for the General Surgery module was too far away from the Department of Surgery with poor acoustics and poor lighting. We tried using a human cadaver but unfortunately it was embalmed with formalin and thus was no good for our purposes apart from the skull which was used for the burr hole exercise. We therefore reverted to using pigs. The first one was very bloated and had obviously been sacrificed many hours before. However, for the future we must make sure that the pigs are freshly sacrificed. The pig is

also used for providing material for the Urology and Orthopaedic modules. It must be remembered that the Urologists require testicles covered with scrotal skin and a bladder with two ureters. We shall not use human cadavers in Lusaka; at least not in the near future.

The other modules had no problems with their allocated accommodation apart from Orthopaedics who lacked a wash basin which is particularly important for the POP exercise. Orthopaedics also felt that an additional assistant would have been beneficial and this could be a plaster technician, a local student or whomever. They need some help in clearing up after one exercise has finished and before the next one starts.

There was some concern by the Orthopaedic and O&G leads that there appeared to be problems of linkage between a clinical situation of circulatory collapse and the management of precipitating causes. This is especially so for Obstetrics. This matter will be discussed for future courses.

The refreshments provided by a local restaurant were excellent. The mid-morning and mid-afternoon breaks were successful in that cold drinks and biscuits were provided which meant that the breaks could be flexible.

In future we must redesign the flyers and also provide posters which should be delivered at least three months beforehand. This so that participants can be signed up in plenty of time and are sent the manual, reading material and log books well in advance. We need to have a full complement of 18 trainees to make the effort worthwhile. It was also felt that trainees should have undertaken a Basic Surgical Skills (BSS) course beforehand. If a few or none do so this hampers the smooth running of the GS module and also affects timekeeping. Four faculty for critical care and three for general surgery worked very well and gave better flexibility. Timing is always a problem and this due to trying to pack too much into the programme. It is better to have fewer topics covered well than a lot covered badly. What items are not included on the day can be included in the manual. The manuals for all the modules need regular review in preparation for final publication when we hand over the course in a year's time. The course curriculum is very much work in progress which allows us time to perfect every single aspect.

Debate continues with regard to the validity of pre course MCQ's. Some believe that they give an indication of pre course knowledge and this is useful for module leads in order to decide how to pitch their content. They also give an indication as to whether the trainee has read any of the suggested material and also the manual. In addition if in General Surgery none of the trainees had undertaken a BSS course then this would have hampered the smooth running of the programme and also affected time keeping. Post course MCQ's

provide evidence of attainment and nobody dissents from that view. However, there needs to be uniformity of structure and this will be discussed for the future.

I should like to thank The Department of Surgery for their hospitality and Dr. Robert Zulu, once again, for his tremendous support and finally to the UK Faculty who worked extremely hard, yet again, to make this course such a success.

It was a great privilege to have had the opportunity of meeting the Vice President of Zambia, Dr. Guy Scott and the Minister of Health, Dr Joseph Mwenya Kasonde who were both very interested in our contribution to surgical training which will assist, in a small way, the Government's aims of increasing quality and universality of healthcare. I thank them both for spending their valuable time with us and to Jay Patel for arranging the event.



***Convener explaining our programme to the Vice President of Zambia.***



***Briefing the Minister of Health***