REPORT

ON

THE PILOT COURSE FOR

THE

MANAGEMENT OF SURGICAL EMERGENCIES

A course for Surgical Residents

hosted by

The Surgical Society of Zambia

17 – 21 OCTOBER 2011

at

LUSAKA UNIVERSITY TEACHING HOSPITAL

Convenor

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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) have been undertaking surgical training courses in sub-Saharan Africa (s-SA) for over 12 years and have so far visited 14 countries; 5 at the request of the West African College of Surgeons (WACS) and 9 at the request of the College of Surgeons of East, Central and Southern Africa (COSECSA). Over 30 Courses have been completed satisfactorily and many have been tailor made to suit local needs. An important factor has been the assessment and evaluation exercise and as a result the courses have evolved considerably over the years. The advantage of these courses is that a large number of participants can be trained at the same time and to the same standard despite their previous level of training and experience.

During my many visits to s-SA it has become very obvious that the need for emergency surgery, especially in the rural first referral hospitals, has now become critical. The facts speak for themselves. Injury, whether due to road traffic incidents, domestic violence, civil disturbances, industrial accidents or burns, accounts for 12% of all disability adjusted life years (DALYs) lost worldwide and more than 90% is born by low and middle income countries (LMICs). 1 DALY represents the loss of one year of equivalent full health. Africa has the highest road traffic injury mortality in the world almost reaching epidemic proportions at 28 per 100,000 population and has 50 deaths per 10,000 vehicles compared to 1.7 in high income countries. Non communicable diseases such as malignancy are rapidly rising. Obstructed labour is one of the leading causes of maternal illness and death in s-SA and is often the immediate cause of obstetric fistula that leads to untold suffering in a large number of women. The Maternal Mortality Ratio for s-SA is the highest in the world at 920 maternal deaths per 100,000 live births (2008).

Provision of surgical care and anaesthesia is a critical aspect of integrated healthcare delivery. Mortality can be lowered, disability reduced and adverse health outcomes prevented. 11% of the global burden of disease can be treated by surgery and 80% of deaths from these conditions occur in LMICs but who is going to deliver surgery for these patients? In Africa 46/53 countries are faced with a critical shortage of health workers. Africa has 24% of the global burden of disease but only 3% of the global health workforce. Furthermore, it has been estimated that there are 234 million surgical procedures performed worldwide each year with approximately 30% of the world's population receiving 75% of the procedures and the poorest third receiving only 3.5%. Such data suggests an enormous unmet need for surgical care in developing countries.

This is the background to which we approached the problem of lack of emergency surgery in s-SA. What could we do? Our experience has been in designing and running surgical training courses in Africa and so it was that a group of like minded individuals met to discuss designing a course on the management of surgical emergencies at the ASGBI offices in London on 15th October 2010. We met again on 6th April 2011 after much work and many emails had sallied back and forth. The configuration of the course was agreed. It would be held over 5 days and include two days devoted to critical care, one to general surgery, one to orthopaedics and trauma, half a day to urology and half a day to obstetrics. In addition, a theatre and nurse training course would be held at the same time. The Lead for each specialty

was tasked with obtaining a colleague(s) to assist in the delivery of their module, with providing a list of instruments, sutures etc and a means of assessment including MCQs.

I decided that we must run a pilot course in Africa as opposed to in the UK to make absolutely sure it was fit for purpose and chose the Lusaka University Teaching Hospital (LUTH) as I knew the surgeons and the layout of the Department of Surgery. They were very happy to accommodate us. We agreed the dates for the course, October 17th to 21st 2011, and final preparations were made**.**

Acknowledgements

I should like to thank Dr. Kate Grady for her inspirational support at the outset of designing this course, without which it may never have transpired, Michael Cotton, Philip Barker and Surnimal Ghosh for their advice and encouragement, Key Travel, and in particular Ms. Angela Garrity, Mrs Bhavnita Patel (International Manager, ASGBI) and Mrs Jane Gilbert, my PA, for their assistance, patience and support, Johnson and Johnson Professional Export for awarding an Educational Grant in order to purchase the sutures for the course, the Surgical Foundation (ASGBI) for supporting this programme, The Royal College of Obstetrics and Gynaecology, Urolink and the Association of Anaesthetists of Great Britain and Ireland for awarding travel grants/fellowships to their members who taught on the course.

A special thank you to Dr James Munthali, Head of Department of Surgery and Dr Robert Zulu for his considerable support, without which the Course would not have been such an outstanding success.

Finally, I owe immense thanks to the Faculty who worked extremely hard to make this course an undoubted success and had to endure great hardship on the return journey. Their loyalty, commitment and friendship know no bounds.

Faculty

Mr Robert Lane	Convenor
Mr Paul Gartell	General Surgery
Mr Russell Lock	General Surgery
Mr Fanus Dreyer	Critical Care
Mr Jonathan Hannay*	Critical Care
Dr David Ball	Critical Care
Mr Yogesh Nathdwarawalla	Orthopaedics / Trauma
Mr Naidu Maripuri*	Orthopaedics / Trauma
Mr Shekhar Biyani	Urology
Mr Jaimin Bhatt*	Urology
Miss Shirin Irani	Obstetrics/Gynaecology
Mr Michael Wyldes	Obsetrics/Gynaecology
Sister Judy Mewburn	Theatre, ICU and Nurse Training Course

**** Trainees***

Travel Itinerary and accommodation

Key Travel (Angela Garrity) arranged group and charity tickets with BA and our accommodation at the Taj Pamodzi hotel in Lusaka with great efficiency. It was important that we all stayed in the same hotel for ease of transport back and forth to LUTH and for evening briefings. Angela had negotiated a very favourable rate which was much appreciated.

Friday 14th October 2011. The outbound journey went smoothly departing LHR T5 on the overnight BA flight arriving in Lusaka at 06:20 the following morning. There were 14 of us including two wives (who paid their own way). Jaimin Bhatt travelled from Nairobi.

Saturday 15th October 2011. At Lusaka airport we were met by Dr. Robert Zulu and his colleagues who transported us to the Taj Pamodzi hotel.

Summary of delayed trip home

Saturday 22nd October 2011. The Faculty, apart from Mr Jaimin Bhatt and Mr Russell Lock, were scheduled to catch the BA flight departing Lusaka airport at 08:35. The plane arrived from London two hours late and was chased down the runway by four fire engines. The return flight was cancelled and all the passengers were put up at the Hotel InterContinental. We eventually arrived home, via Johannesburg, on Tuesday 25th October 2011 at 05:10. For details of this saga, for those interested, see Appendix.

Meeting local Faculty and setting up the Course

A brief meeting took place after lunch at the hotel and this to finalise the assessment process and allocate instruments and sutures to Specialty Leads. We then went to LUTH to meet Dr. James Munthali, Head of Department of Surgery, to arrange accommodation for the course and refreshments etc. After discussion the critical care and general surgery modules were allocated the Tissue Lab and a small adjoining room, the orthopaedic module, the Conference Room and the urology and OG modules, the Dean's foyer. Thereafter, the three general surgeons, including myself, went with Robert Zulu to a farm outside Lusaka to inspect the pigs to be sacrificed for the course whilst the remainder of the Faculty went back to the hotel.

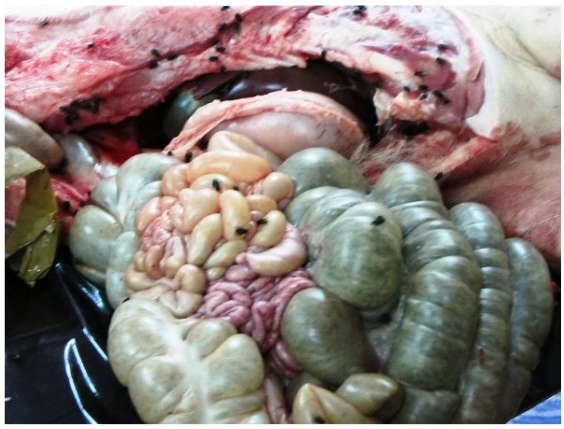
Now you are quite sure these pigs are the genuine article?

Sunday 16th October 2011

The general surgeons and Shekhar Biyani went to LUTH to dissect a pig to make sure that the process could be undertaken in relatively quick time and would be fit for purpose. All this took about two and a half hours but we had learned some important facts such as how to secure a 50 kg pig to the table lying on its back! Problems were also encountered with a very gassy large bowel and an influx of flies through the windows and door. We were able to counteract the latter by putting muslin over the windows and spraying the lab with fly killer.

Sunday 16th October 2011, continued

Securing the pig



The flies descending!

Thereafter, we met up with the remainder of the Faculty and members of the Department of Surgery and were taken by Robert Zulu to the Protea Hotel Lusaka Safari Lodge at the invitation of Clement Mulenga Andala, distributor for Ethicon products in Zambia. We had a very pleasant lunch and returned to the hotel in the late afternoon.

MANAGEMENT OF SURGICAL EMERGENCIES

Programme

A course for Surgical Residents

To be hosted by

The Surgical Society of Zambia

17 – 21 OCTOBER 2011

at

LUSAKA UNIVERSITY TEACHING HOSPITAL

This is a new course designed by the Association of Surgeons of Great Britain and Ireland as part of their commitment to support COSECSA with their Educational and Training Programme.

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 will begin promptly at 08:30 each morning. Monday and Tuesday will be devoted to the management of the critically ill surgical patient and will involve lectures, demonstrations, DVD's and practice of procedures, discussion of images and case studies, role play and, finally, critiquing each other's performance.

All participants will be together for these two days but will be 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 will be run in a different manner. The participants will be divided into three groups of 8 each which will allow for more supervised tuition.

On Wednesday, one group will spend all day devoted to general surgical emergencies whilst another will spend all day devoted to orthopaedics and trauma. Finally the last group will be divided into two, with one half spending the morning devoted to urological emergencies and the other to obstetric emergencies, with each swopping over in the afternoon.

The groups will switch over on Thursday and Friday such that they will rotate through all the specialties during the three days. Mini lectures, DVD's, demonstrations, case scenario discussions and much "hands on" practical tuition will be the essence of these Specialty modules.

Assessment

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

During the critical care block, students will be 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 participants will also be assessed on their technical skills.

Each participant will receive individual feedback on his/her strong and weak points.

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

Participants will be asked to complete an evaluation form at the end of the course.

CRITICAL CARE MODULE 17-18 October 2011

Faculty

Fanus Dreyer (FD) – Module Lead
David Ball (DB)
Jonathan Hannay (JH)
Judy Mewburn (JM)
Craig Orinmore-Brown (CB)
Paul Gartell (PG)
Russell Lock (RL)

Programme

Welcome & Introduction 08:30

1. General Introduction to course by **Mr Bob Lane**
2. Introduction of students and faculty **(ALL)**
3. Allocation of groups (3 of 8) and mentors for critical care **(FD, DB, JH)**

1.1 Introduction to Critical Care: **FD** 08:50
Lecture (15min)

1.2 Assessment of Critically ill surgical patient 09:05

Practical demonstrations by faculty (20 min) **FD, DB, JH, Judy**
Lecture (15 min) **FD**

1.3 AIRWAY Practical Skills Stations 09:40 – 10:50

1.3.1 CPR:

1.3.1.1 *ALS tutorial* **DB** 09:40 – 09:55

TEA 09:55 – 10:10

1.3.1.2 Practice CPR in 8 groups of 3(5 min/group)DB,CB 10:00 – 10:50

1.3.2 AIRWAY ADJUNCTS **Tutorials** 10:50 – 11:50
Rotate in 3 groups of 8 (20 minutes each) **A→ B→ C...**

A: Airway management skills ***JH***

ALL Students must demonstrate individually that they can do this

B: Surgical airway ***FD***

Indications; Technical points; risks; videos of crico, trache

C: Paediatric +Obstetric resuscitation/special requirements DB

1.4 BREATHING 11:50 – 12:50

Tutorials: Respiratory problems in Surgery

1.4.1: Chest Trauma: life threatening respiratory injuries 11:50

Lecture: Trauma related causes of breathlessness: (40 min) **JH**

1.4.2: Hypoxic post-op patient 12:30

Tutorial physiology and pathophysiology (20 min).**FD**

LUNCH 12:50 – 13:30

1.5 CIRCULATION 13:30 – 15:30

1.5.1: Shock & Haemorrhage lecture FD 13:30 – 14:00

Scenario based Q&A lecture to illustrate critical points.

1.5.1.1: Shock in Obstetrics and Paediatrics DB 14:00 – 14:10

1.5.2 Cardiovascular Practical scenario's: 14:10 – 15:10

Rotate in 3 groups of 8 (20 minutes each) **D→ E→ F...**

D: Fluid therapy ***JH***

Requirements (normal post-op; special situations), fluid types, etc

E: Monitoring in critical care ***DB***

F: Cardiac complications ***C O-B***

Acute cardiac failure and Inotropes; post-op MI; arrhythmias [AF, VT]

1.5.3 Tutorial: Oliguria in Surgery **FD** 15:10 –15:30

TEA 15:30 – 15:45

1.6: DISABILITY 15:45 – 17:00

1.6.1 Tutorial: Confusion in Surgical patients FD 15:45 – 16:00

1.6.2: Head Injuries: Tutorials 16:00 – 17:00

1.6.2.1 Mechanisms of injury, imaging, pathophysiology; physiological support and prevention of secondary brain injury. ***JH*** 16:00 – 16:35

1.6.2.2 Paediatric aspects of head injuries ***DB*** 16:35 – 16:45

1.6.2.3 Burr holes: indications, risks ***PG*** 16:45 – 17:00

FEEDBACK DAY 1 17:00 – 17:20

DAY 2 – Programme for Critical Care Module

DISABILITY (continued) 08:00 – 12:30

1.6.3: Spinal cord injuries: 08:00 – 09:00

G: Lecture (30 min)

Assessment of spinal cord injuries, risks, complications & safe transfer of patients with serious head or spinal injury. ***FD***

H: Practical (30 min)

Handling of patients with potential spinal injuries: ***JH, DB, FD***

Practice Log roll, transfer to and from trauma board; scull traction for neck fractures (**Ortho**).

5 MINUTE BREAK

1.7: SURGICAL SEPSIS 09:05 – 10:35

1.7.1 Lecture: ***FD*** 09:05 – 09:35

Scenario-based: pathophysiology, SIRS, principles of organ support and management of septic focus

1.7.1 Tutorials: Potential triggers of SIRS 09:35 – 10:35

Rotate in 3 groups of 8 (20 minutes each) **K→ L→ M...**

K: Musculoskeletal trauma complications: ***FD***

Fat embolism, compartment syndrome, myoglobinuria

L: Surgical wounds & stoma complications **RL**

M: Pancreatitis **JH**

TEA 10:35 – 10:50

1.7.2 Snakebite: Lecture ***FD*** 10:50 – 11:15

1.8 BURNS 11:15 – 12:30

1.8.1 Burns Lecture ***JH*** 11:15 – 11:45

Mechanisms of injury, pathophysiology, severity assessment (calculations of depth and surface area), Resuscitation, especially fluid requirements

1.8.2 Tutorials 11:45 – 12:30

Rotate in 3 groups of 8 (15 minutes each) **N → P → Q...**

N: Burns in Children ***DB***

P: Extras: infection, nutrition, contractures, rehabilitation JH

Q: Skin grafting, escharotomy ***FD***

LUNCH 12:30 – 13:10

1.9 Practical Stations 13:10 – 14:40

Rotate in 3 groups of 8 (30 minutes each) **R→ S→ T...**

R: Burr Holes <u>Practical</u> ***PG***

S: Skin grafting <u>Practical</u> ***RL***

T: Anaesthesia <u>Tutorial</u> ***DB***

Ketamine; Local and Regional anaesthesia

TEA 14:40 – 15:00

1.10 Anaesthesia related topics: <u>Tutorials</u> 15:00 – 15:45

Rotate in 3 groups of 8 (15 minutes each) **U→ V→ W...**

U: Pre-operative patient preparation ***JH***

V: Pain relief ***DB***

W: Communication [SBAR-scenario's] ***FD***

1.10 Patient Safety in Surgery <u>(Lecture)</u> **FD** 15:45 – 16:25

Covers WHO checklist, Non-Technical Skills, Audit of Outcomes

5 MINUTE BREAK

TEST **ALL** 16:30 – 16:50

FINAL SUMMARY **FD** 16:50 – 17:05

FEEDBACK **ALL** 17:05 – 17:30

Critical Care Module Report

Fanus Dreyer

The critical care course component for surgeons in training was well received by all 24 participants (students), with consistently high rankings for the course components. All students successfully completed the course and passed their MCQs.

The inclusion of nurse observers added to the educational reach. Their participation was especially welcome during the session on communication skills (SBAR).

All three core faculty members for critical care are honoured to have been part of this course. We are indebted to ASGBI and Mr Bob Lane for placing trust in us. In spite of some hitches and stressful events it has been a real pleasure to teach on this course.

What went well?

- All students turned up for the course on time.
- Students were enthusiastic and keen to learn.
- Faculty were well prepared, knew each other well and were familiar with the course content.
- 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 students' clinical practice.
- A full set of topics in critical care was covered, not unlike that covered in UK based critical care courses. The content (topics and scenarios) had been adapted to an African context as much as possible.
- A systematic system following ABCD worked well for the course syllabus.
- The programme ran reasonably on time and did not finish too late.
- Excellent lunch was served both days.
- Martha, Dr Munthali's secretary, and her assistants were of tremendous help in managing last-minute administrative matters.
- Feedback on course contents was very positive, with one or two pockets that need to be reviewed.
- The ALS practical station was highly rated.
- The SBAR communication station with real-life scenarios to practice was very much valued. The concept of assertive but non-aggressive communication was an eye-opener for many students. They discussed respect and stopping humiliation in the workplace.

Some felt that they could take these concepts forward to create a different way of talking to each other and colleagues, i.e. bring behavioural change. Students felt that the scenarios selected were very real for their working environment.

- Students were very helpful in completing feedback forms and non-technical assessment forms on each other.
- Faculty enjoyed teaching these students.

What did not go well enough?

- The programme was too full. This was in large part due to adding topics or stations linked to practical surgery e.g. burr holes, skin grafting, traction for spinal fractures.
- Some of the critical care focus was lost for sections of the course due to this.
- The course content was too much for 3 core Faculty.
- The distance between practical station rotations was too far and these sessions all overran. Students then felt that the teaching to every group at each station was not equivalent.
- The lecture room was very crowded and very hot. During interactive lectures it was also too difficult for the lecturer to get close to some students due to the room layout.
- There were not enough Faculty for 24 students; mentored groups of 8 were too large and the tutors never got to know the students well enough.
- Some tutorials were actually mini-lectures.
- For me (JSD) all the work to prepare for assessment in the surgical specialties interfered with my interaction with the students; I was never able to talk to them during tea or lunch time. Some MCQs for surgical specialties were only received after the CC course had started which made it impossible to prepare the specialties' test in advance.
- At the end of day one the CC Faculty arrived tired, hot and sweaty at the hotel. We were asked to provide feedback immediately which was not considerate enough. It would have been more productive to wait 30 minutes, allowing us to change clothes, have a quick shower or swim, get a cold drink and gather our thoughts. At the end of day 2 there was no time for a feedback meeting (when it would have been more valuable).
- Due to the student-tutor ratio and other time pressures faculty did not leave with a clear global view of each student's knowledge and insight.

To retain in future courses

- The two day format.
- The core course curriculum.

- The systematic approach to assessment and management.
- The mix of lectures, tutorials, demonstrations and practical stations.
- The option of a stand-alone course or one integrated with surgical specialties.
- The opportunity for ICU/HDU/Admissions unit nurses to attend as observers.
- The option to modify course content and delivery for surgical trainees, nurses or health/clinical officers.
- A validated form of student assessment.
- Student feedback forms.

Changes for future courses

- Minimum core Faculty must be four: to reduce individual workload; to always have at least one Faculty member floating for timekeeping and to have an overview of progress; to provide contingency in case of illness.
- Students will then be maximum 6 per mentor and per practical station which will allow more personal interaction and tuition.
- Slow down the whole two days through curriculum review.
- Keep contents to critical care core, i.e. teach students how to look after ill surgical patients without getting into the detail of surgical management. Examples from clinical surgery e.g. pancreatitis, wounds and stomas exist to illustrate principles of critical care support and are not for discussion of surgical management.
- This means probably taking out burr holes, skin grafting, some aspects of burns management, possibly snakebite.
- Review of stations that had poor feedback, e.g. cardiac complications, monitoring. Redesign or rewrite presentations and format of stations.
- More scenario based teaching, especially for tutorials. Make short stations as practical as possible.
- More time to practice communication scenarios and other non-technical skills.
- Try to provide pre-course reading material, coupled to a pre-course MCQ.
- Then change to continuous formative in-course assessment only.
- Involve potential “host faculty” as observers and guest tutors to progress to full faculty members in future.
- If course runs with surgical specialties, give at least a one-day break in between, e.g. run critical care Thursday-Friday or Friday-Saturday, with specialties starting on Monday.

The Tissue Lab

Fanus Dreyer lecturing to the students on Critical Care

CPR practice. On this occasion successful!

Anaesthesia Report – Critical Care Module (Additional observations)

David Ball, Consultant Anaesthetist

Three faculty members delivered this course: Fanus Dreyer (course director) Jonathan Hannay and David Ball. The critical care course is based on two delivered in Awassa, Ethiopia by Faculty members. It was primarily developed by Fanus Dreyer and subsequently adapted and revised by Faculty. This is the 8th version.

The educational strategy for the course is based on two core principles:

First: systematic management of critically ill and injured patients derived from assessment and treatment based on the "Airway-Breathing-Circulation-Disability" strategy.

Second: the application of non-technical skills to improve decision making, teamwork and communication in complex, risky and time-sensitive situations.

The Critical Care Course consists of a mix of lectures, demonstrations, scenario teaching, tutorials and practical work for students. Nurse observers were given access to all educational opportunities. All met together for lectures and in three groups for the other components. The syllabus was deliberately tailored for the working environment of the students with emphasis on pragmatic and practical responses based in context. Impractical, "high tech" solutions were not publicised.

Lectures covered assessment of the critically ill surgical patient, shock and haemorrhage, surgical sepsis and SIRS, spinal injury, burns, snakebite, shock in paediatrics and obstetrics, anaesthesia and pain relief. These were delivered by powerpoint presentations with laptop and projector supplied by Faculty.

Tutorials. These were delivered to small groups (8 students, 2 observers) and covered airway management, surgical airway, obstetric and paediatric resuscitation, chest trauma, hypoxia, fluid therapy, monitoring, cardiac complications, oliguria, confusion, adult and paediatric head injury, pancreatitis, wound management, musculoskeletal trauma, burns in children, nutrition, communication and patient preparation.

Practical, "hands on" stations included CPR (using manikins), handling of patients with spinal injury, burrholes (using coconuts), skin grafting and communication.

Non technical skill teaching was specifically addressed by a practical station and tutorial communication with emphasis on the "SBAR" system. (this is an acronym **S**ituation-**B**ackground-**A**ssessment-**R**ecommendation and is designed to enhance concise and clear communication). These principles were continually reinforced during the other components of the course.

Testing of the critical care component was done throughout the course and by MCQ at the end of the second day.

Results. All students successfully completed both the critical care and surgical components of the course, achieving a "Certificate of Satisfactory Completion"

Challenges

Some issues mentioned by Faculty included time pressures to deliver the course content, gaining time for leave from jobs in the UK and the risk of illness from food and water-borne disease (two Faculty were ill). Heat and fatigue was an issue. There were travel uncertainties and delay. The return flight was delayed by over two days and an unscheduled rescue flight took Faculty to South Africa to allow our journey home.

Future Plans

Subject to satisfactory review by the sponsors and hosts, we anticipate that this course will be revised and newer versions be delivered to the host countries of COSECSA. Revision of the Critical Care component would consider greater emphasis on non-technical skills (communication, teamwork and decision-making), reducing course content to account for student feedback, include more scenario-based teaching and training host country faculty.

A series of on-line, free review articles, based on the course curriculum has been commissioned by "Ptolemy", an educational foundation programme of the University of Toronto [1]. These are to be posted from December 2011 until early 2013.

I suggest we retain

- The two day format.
- The course curriculum.
- The systematic approach to management.
- The mix of lectures, demonstrations and tutorials.
- The option of nurse observers.
- The option of a stand alone course or one linked to the practical surgical course.
- The relevance of the course to either medical, nursing or allied students.
- The student feedback forms.

I suggest we consider these revisions

- Increase Faculty to four. This will reduce Faculty workload to a reasonable level and provides contingency in the event of illness.
- Reduce first day content – for example, remove or move "Monitoring" and "Burr holes".
- More scenario based teaching, especially for tutorials (many tutorials were lectures for a small group).
- Increase the "Non technical skill" components (eg SBAR, communication).
- Consider providing pre-course reading material and if so, provide a pre-course MCQ.
- If this course is linked to the practical surgery course, give students one day's rest in between.
- Consider "host observers" as potential faculty in the future.

Summary

Improving patient safety has three components: “a guiding set of principles, a body of knowledge and a collection of tools” [2]. This pilot five day course was well received by all 24 course members with consistently high rankings of the course components. All students successfully completed the course and passed their MCQs. The inclusion of 6 nurse observers added to the educational reach.

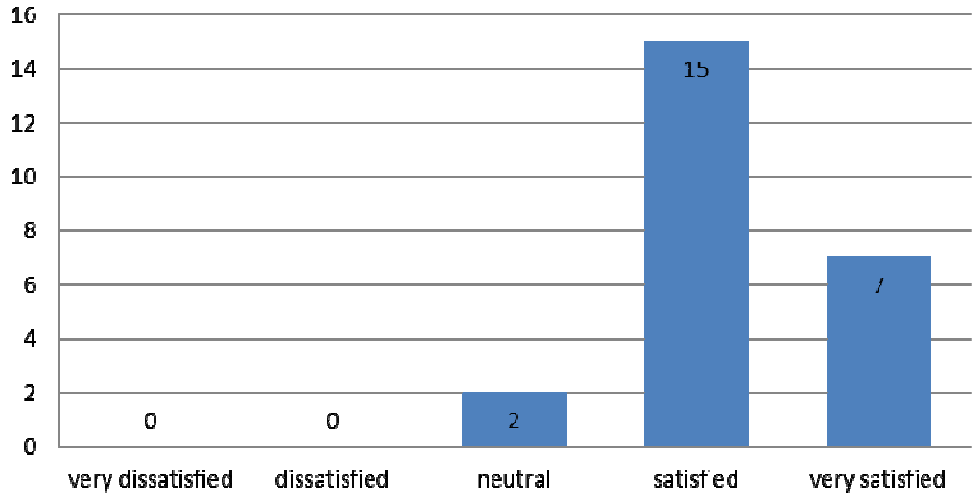
References

1 http://www.ptolemy.ca (accessed 10 /1 /11).

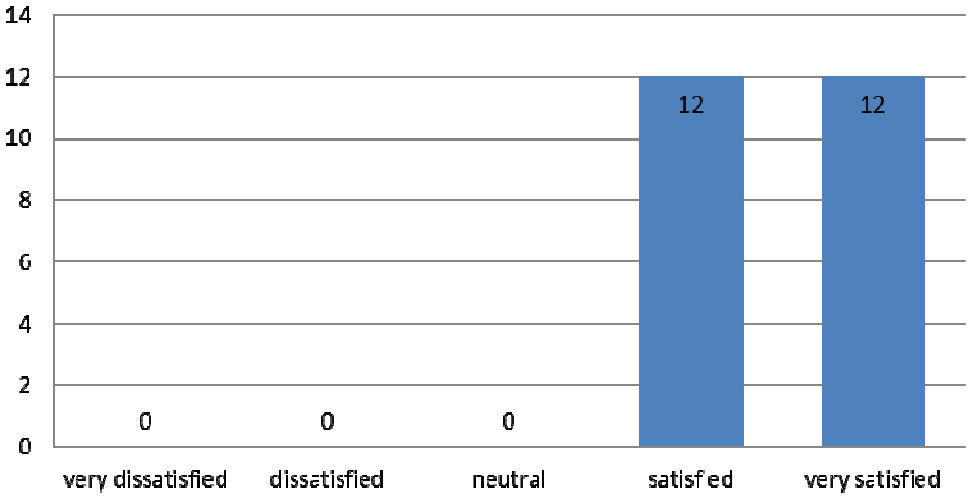
2 Smith AF. Patient safety: people, systems and techniques. *Acta Anaesthesiologica Scandanavica* 2007;**51(Suppl 1):**51-3.

Critical Care Student feedback

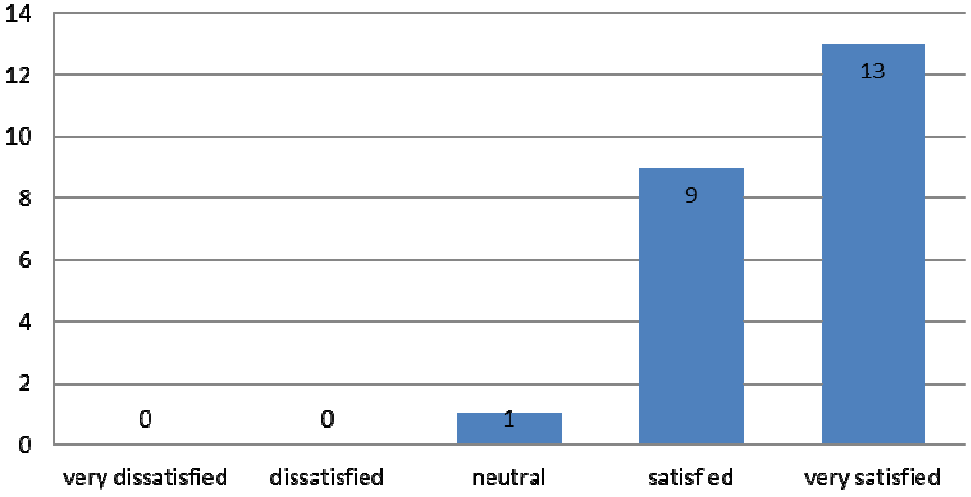
Introduction

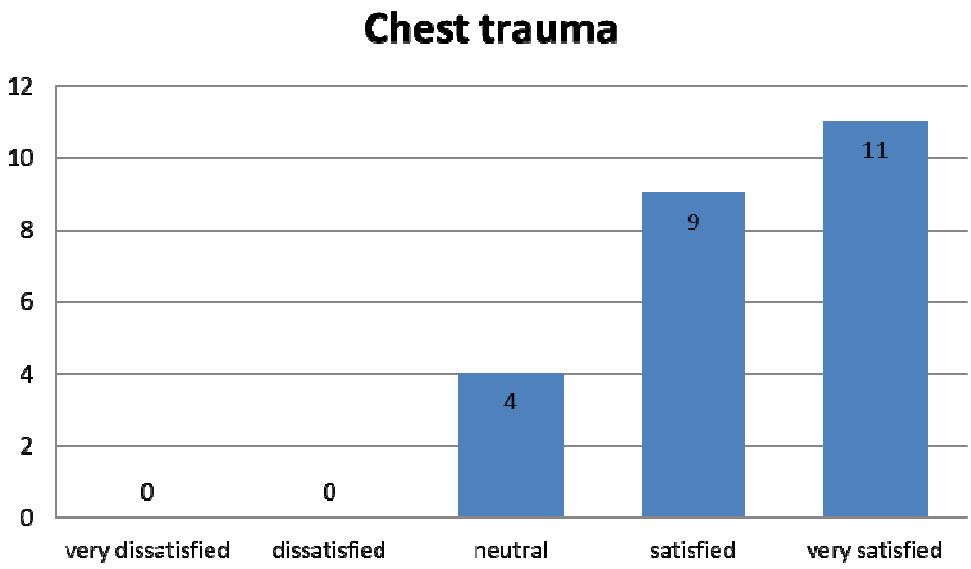


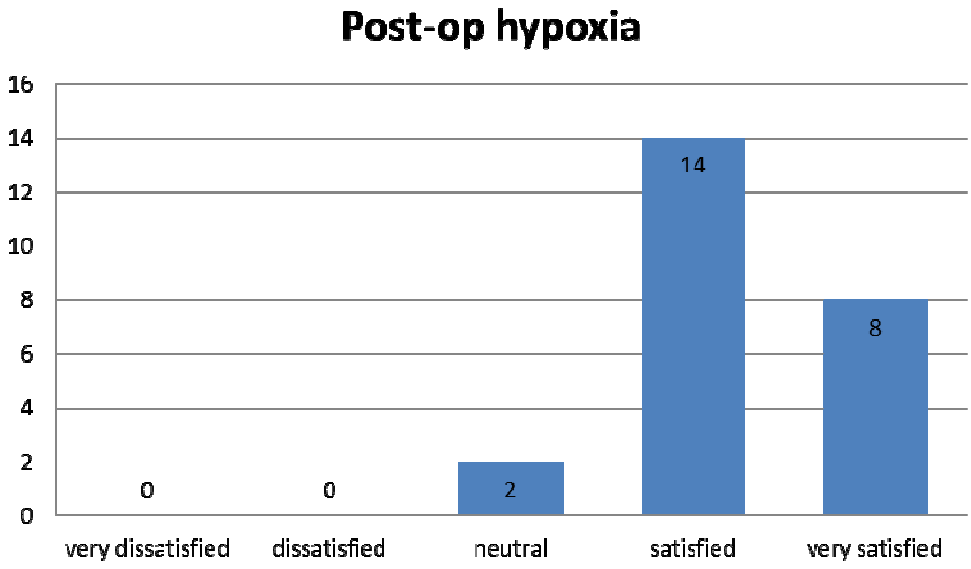
ALS & CPR

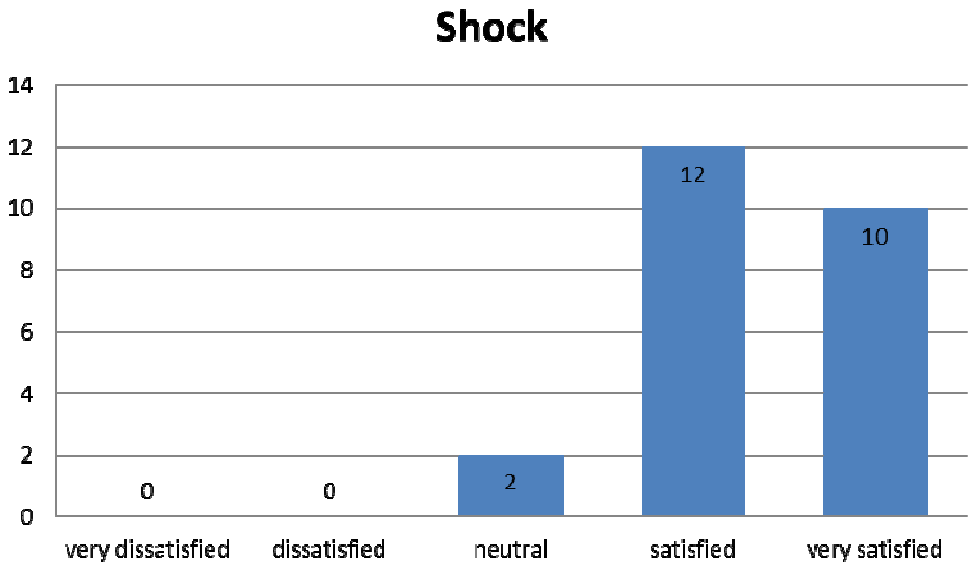


Airway tutorials




Chest trauma
12
10
8
6
4
2
0
0
0
4
9
11
very dissatisfied
dissatisfied
neutral
satisfied
very satisfied


Post-op hypoxia
16
14
12
10
8
6
4
2
0
0
0
2
14
8
very dissatisfied
dissatisfied
neutral
satisfied
very satisfied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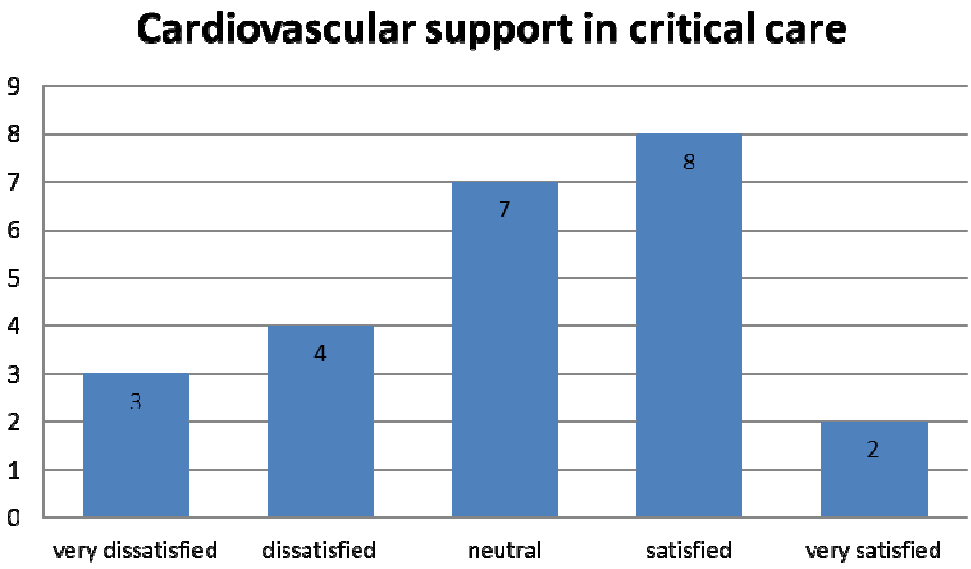
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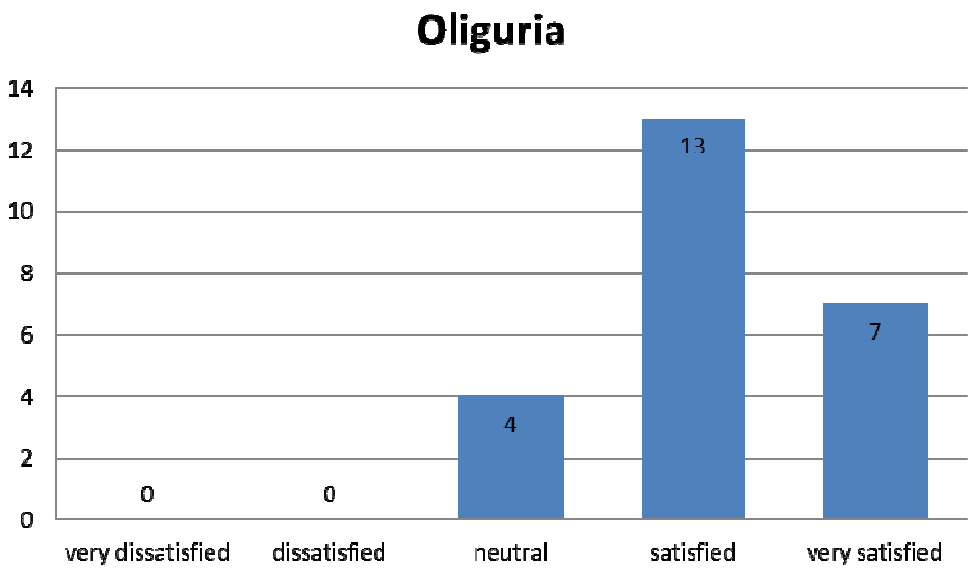
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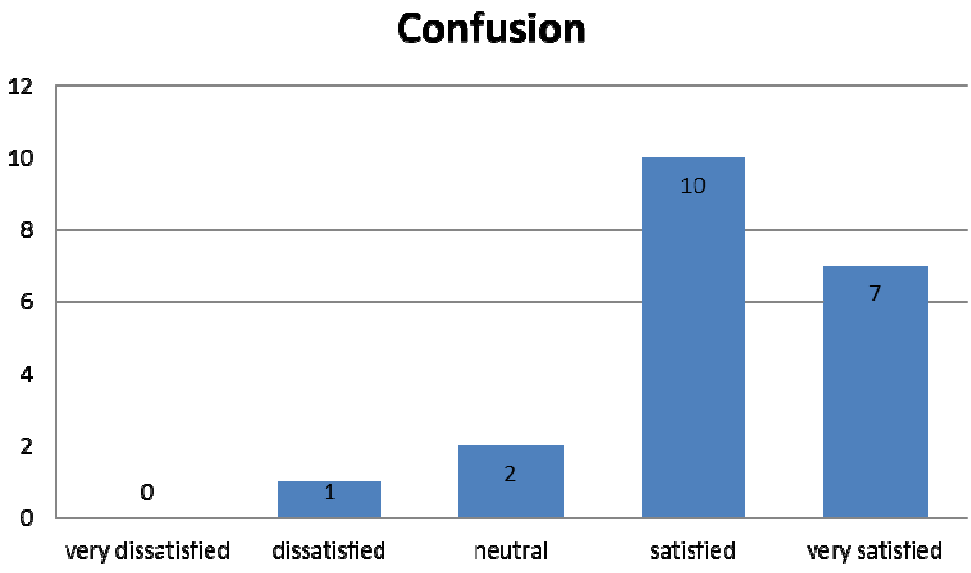
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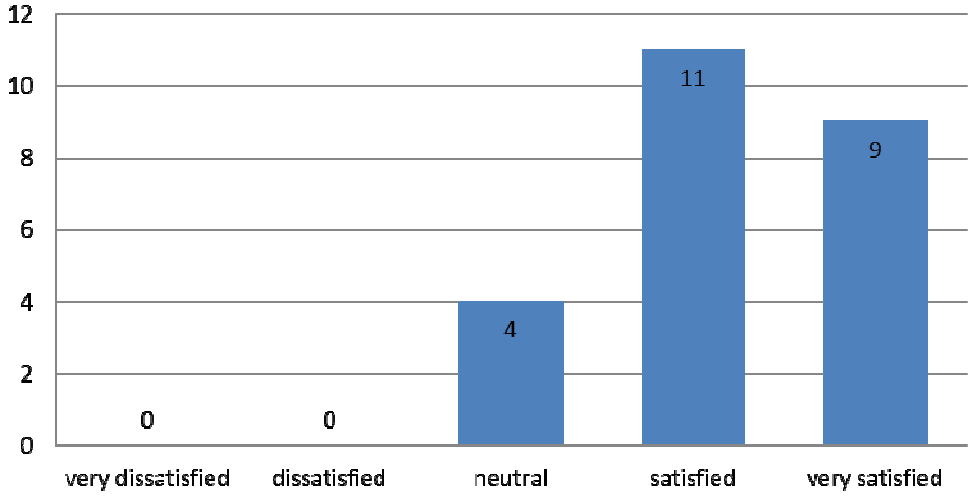
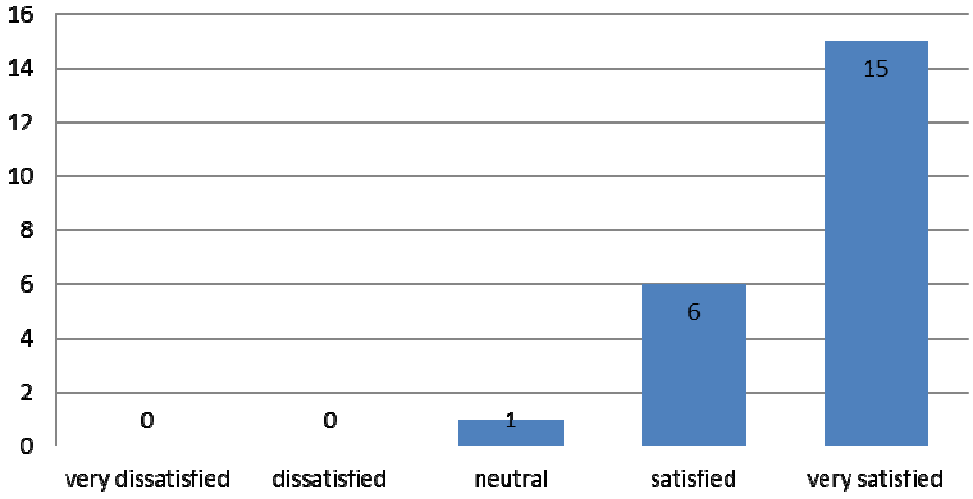
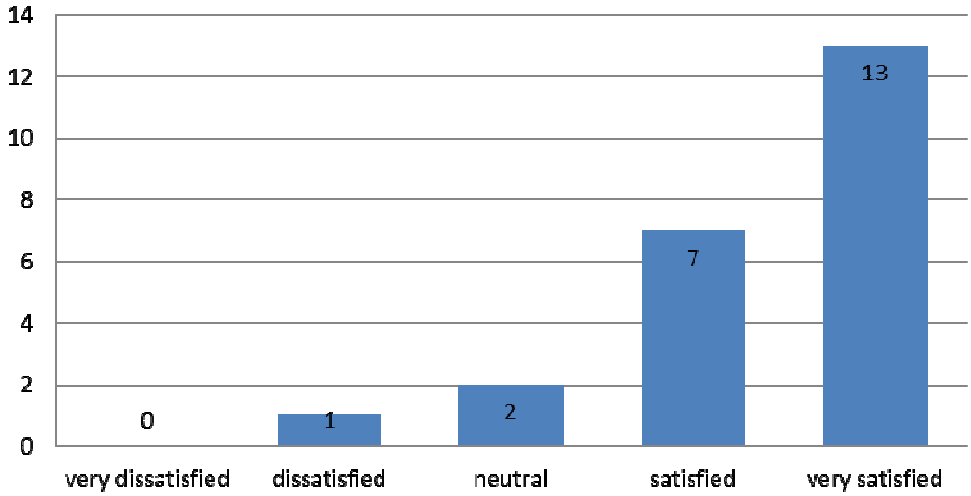
Head Injuries

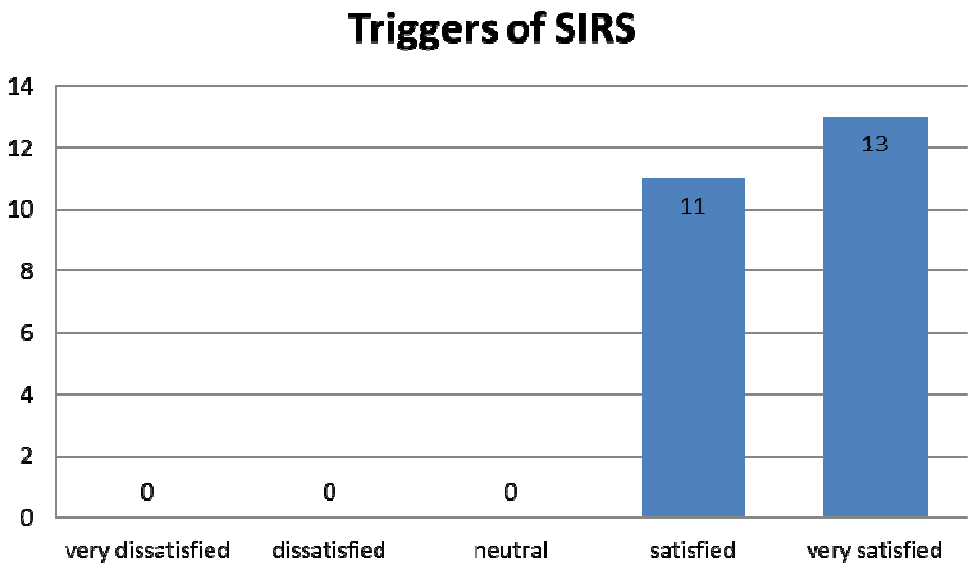


Spinal Cord



Surgical Sepsis

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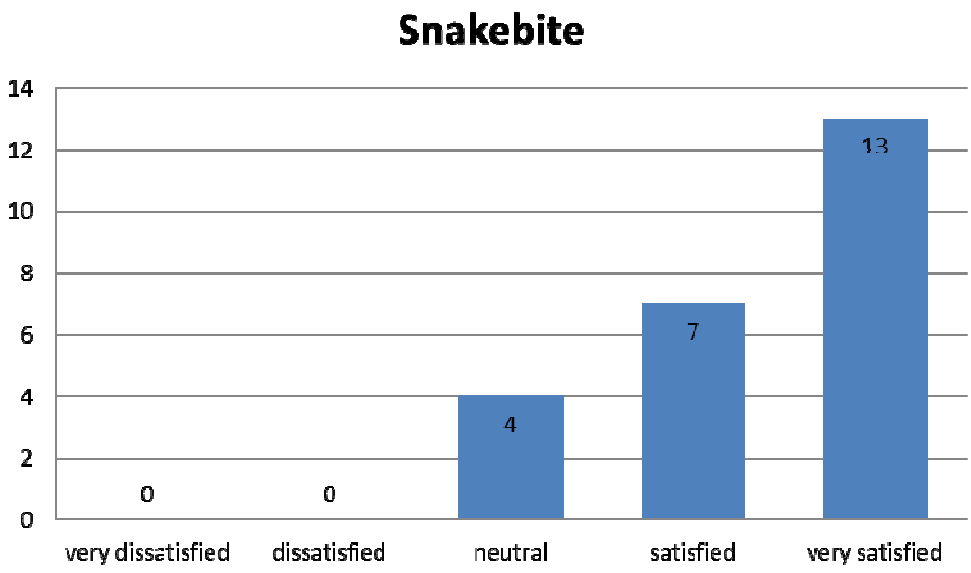
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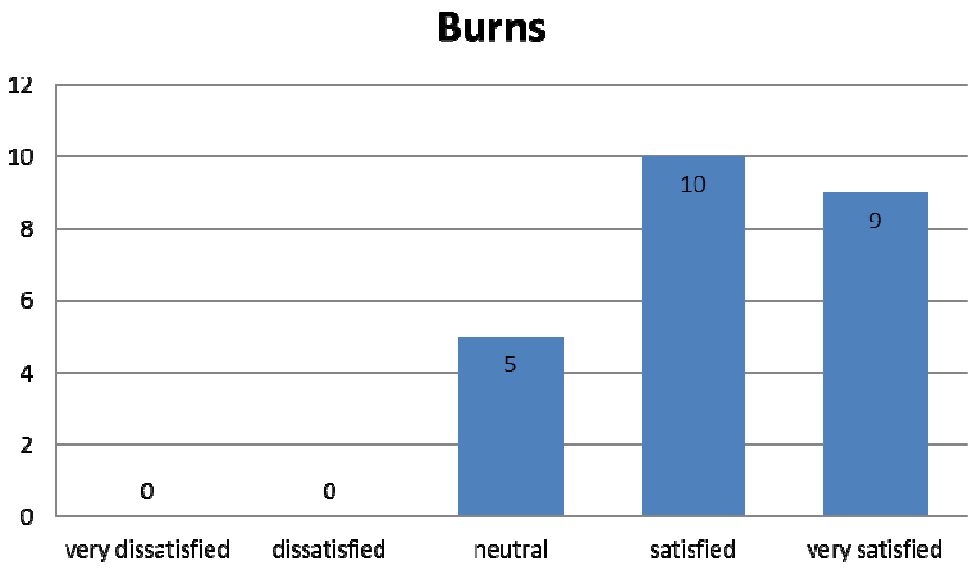
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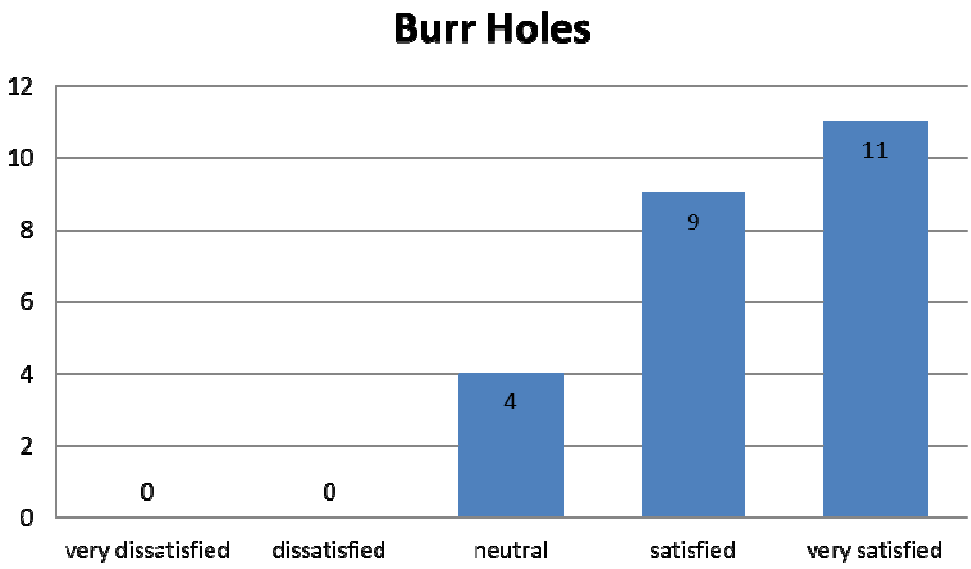
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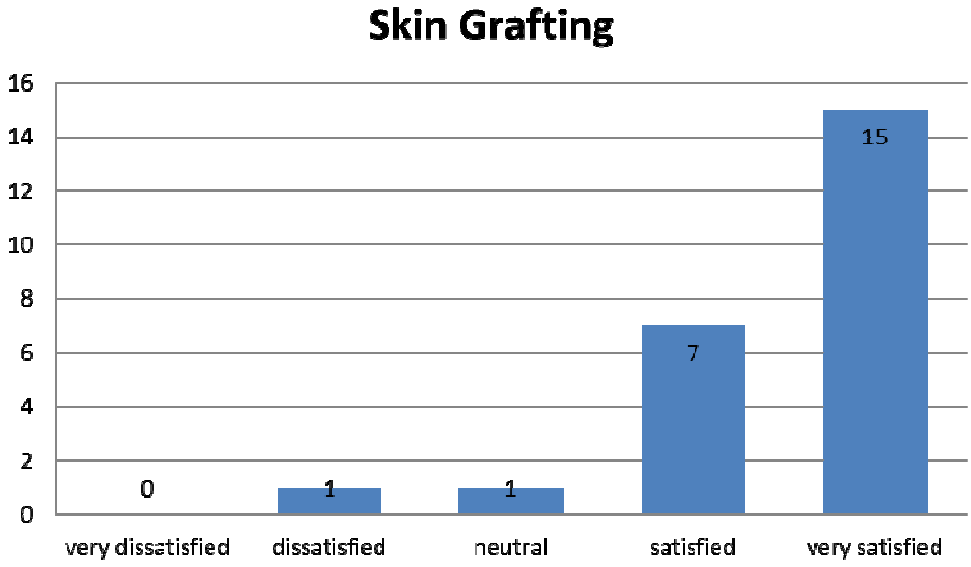
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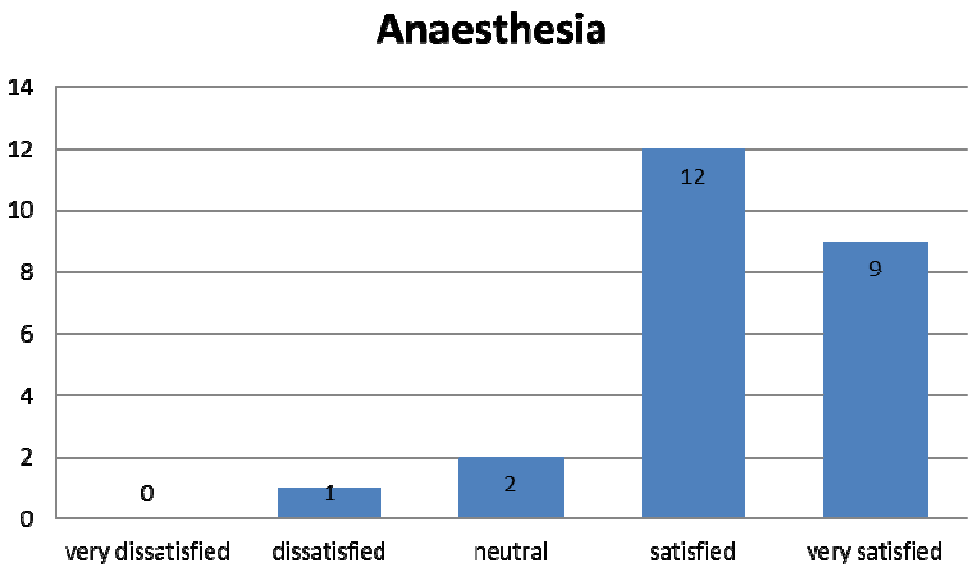
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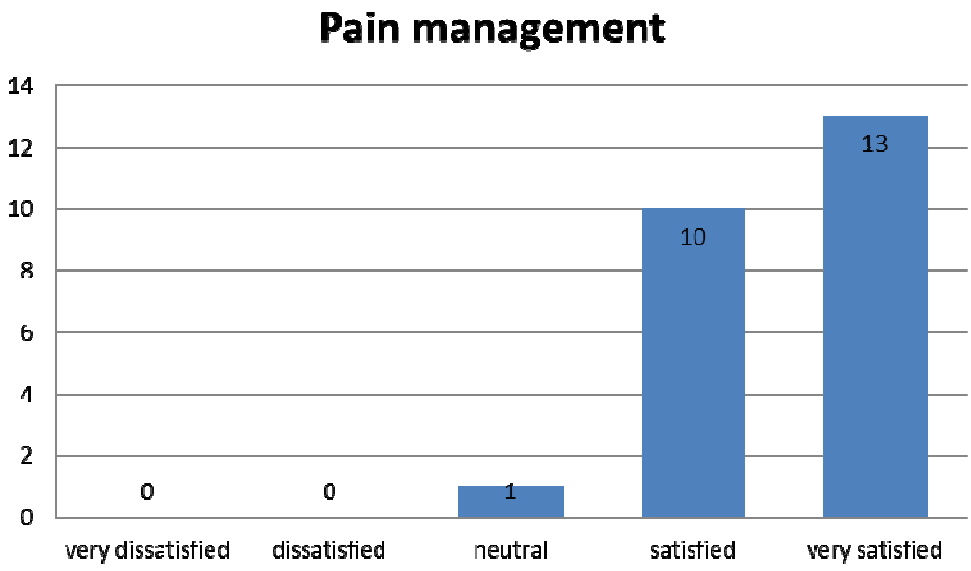
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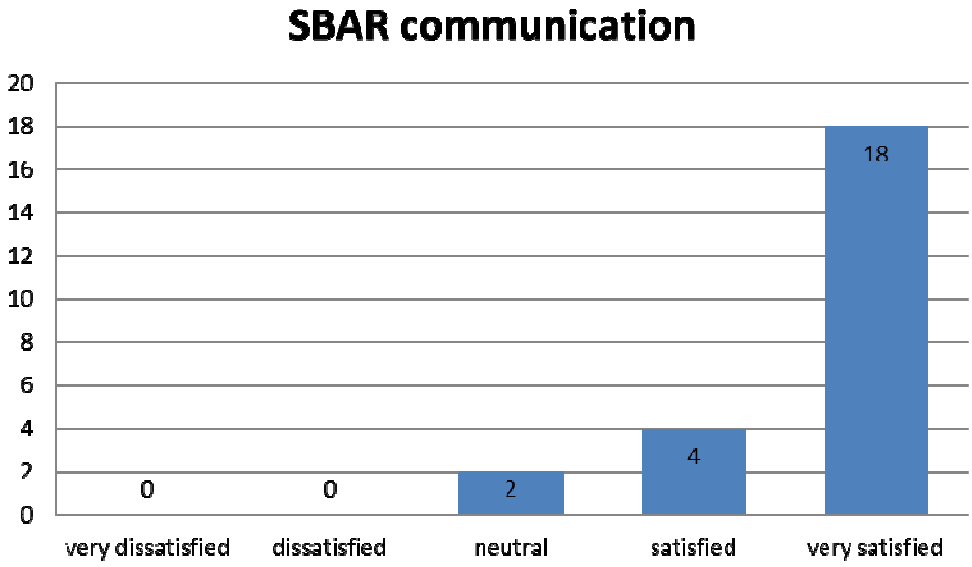
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dissatisfied
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very satisfied

General Surgery Module 19 – 21 October 2011

Faculty

Paul Gartell – Module Lead
Russell Lock
Bob Lane (when available)

Programme

08:30 – 08:45	Welcome and introduction to the day
08:45 – 09:30	Scenario: Blast injury - a mixture of blunt and penetrating trauma ABC Triage Tension pneumothorax
09:30 – 10:00	Chest trauma blunt and sharp
10:00 – 10:30	Refreshments
10:30 – 13:00	Indications for laparotomy Laparotomy Liver packing Splenectomy Diaphragmatic hernia Bowel injury management Management of the grossly contaminated abdomen
13:00 – 14:00	Lunch
14:00 – 15:00	GI haemorrhage DU & Varices Underrunning Pyloroplasty Sengstaken tube
15:00 – 16:00	Large bowel obstruction Colostomy Ileostomy
16:00 – 16:15	Refreshments
16:15 – 17:15	Vascular injury
17:15 – 17:45	Management of post op complications
17:45 – 18:00	Summary

General Surgery Module Report

Paul Gartell

Strengths

The entire module was delivered within time with 2 Faculty members and help from the Course Convenor when he was free. The AV equipment worked well and the PowerPoint presentations, together with the demonstrations on the pig model, were well received and reviewed. The participants were encouraged to ask questions and be interactive and their comments about the module were positive. Despite the differing level of experience of the participants, we were able to adapt the level of tuition to suit their needs. There was no part of the course that was not found to be valuable and most of the course was reviewed as being excellent. The pig demonstrations and practicals were particularly well received.

The accommodation was fit for purpose with the room for lecturing and PowerPoint presentations adjacent to a room with an operating light and wash basin for the pig work. We had all the necessary instruments, sutures and other equipment to run the course.

The pig model was good for showing most of the anatomy, performing a colostomy, dealing with liver injury, splenectomy and pyloroplasty. It also proved to be useful for the urologists who took the scrotum and contents. The hind trotters were used for tendon repair. It also had good arteries for the vascular model.

Mosquito nets across the windows and doors, fly spray and room deodorant, were effective.

Weaknesses

The whole Course takes 5 days and requires at least 12 Faculty. Thus it is expensive to run. We had not clearly stipulated the criteria for candidates attending the course, such as previous attendance at a Basic Surgical Skills course, nor had we stipulated a level of seniority. Fortunately the attendees naturally formed peer groups which resulted in little variation of experience within each group. We were thus able to tailor the teaching accordingly.

The General Surgeons ran demonstration sessions on the '*indications for the management of burr holes*' together with '*split skin grafting'* during the second day of the Critical Care Module. This was done to marry up the theory with the practical aspects of head Injury and burns respectively. Unfortunately time constraints during the first 2 days disconnected the theory from the practical. We shall need to find a better way of timetabling these topics.

We had stipulated a maximum of 24 participants which gave us 8 per day for the General Surgery sessions. This was satisfactory for the PowerPoint teaching but did cause some difficulties during the demonstrations and practicals. The main negative comments from the participants were that they were not able to see properly during the demonstrations and did not have enough opportunity for hands-on practical work. 6 participants per day (18 in total for the Course) would probably be better.

Time was an issue and we did not have enough to allow for as much hands-on practical work as the participants 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 about, and what attendees should expect as well as giving them pre-course preparation material and stipulating the entry requirements for the course.

Another request from a trainee was to include a presentation on indications for open thoracotomy in trauma. This would not take long and would be a useful addition to the management of thoracic trauma.

The pig model creates many logistic problems as well as being expensive. The animal needs to be killed, transported and delivered to the room before 9am for the 3 days of the course. Once opened it is malodorous and attracts flies and the colon fairly quickly expands as gases are formed within. We learned to resect and bag the colon fairly early on in the day. This also aids vision for the remaining dissections. However the dissections and demonstrations using the pig were highly valued by the trainees.

Co-ordination of drinks and lunch breaks for the 3 different courses running concurrently was difficult. Hot drinks at mid morning were invariably not delivered when expected and a considerable amount of time was wasted waiting for the drinks to arrive. Cold drinks and biscuits would be much easier to manage for the short breaks. We also need to think about the coordination of lunch breaks and whether we provide food or send candidates off to the local canteen.

Although we had plenty of support and help from the local Consultants, there was no involvement of the local team in the delivery of this module.

Opportunities

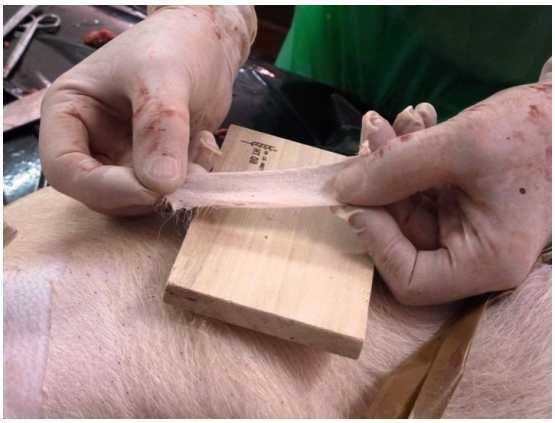
Training of junior medical staff in the management of surgical emergencies is not a high priority in many parts of Africa. This Course provides a great opportunity for us to give trainees, whether medically qualified or not, a good grounding in the management of these patients in a non-threatening and congenial environment. It also might help to change the attitude of some of the senior staff to the needs and methods of training their teams. Hopefully the training methods and course content will 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.

Threats

The biggest threat to further Courses is funding. They are much more expensive to run than the BSS Courses and without specific sponsorship it will not be easy to continue.

Inserting a chest drain.

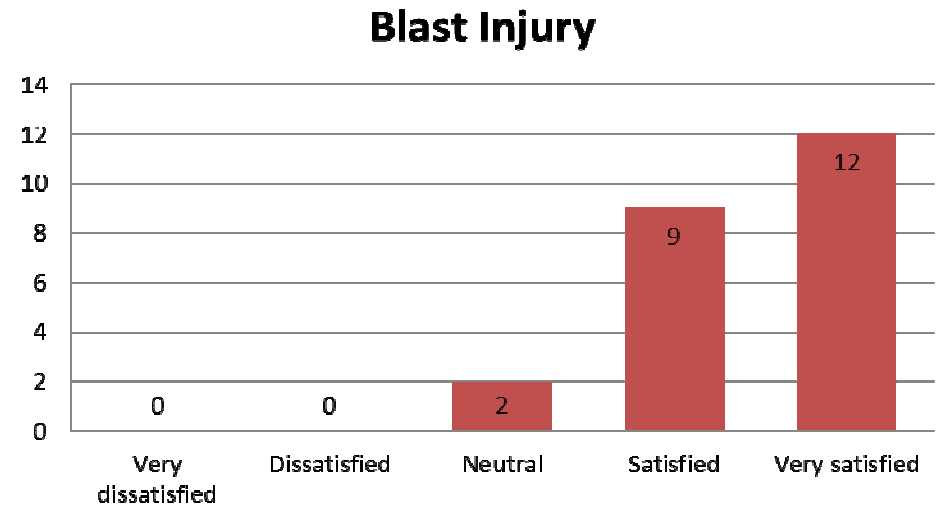
(the trotters had been removed by the orthopaedic faculty for the tendon repair exercise)

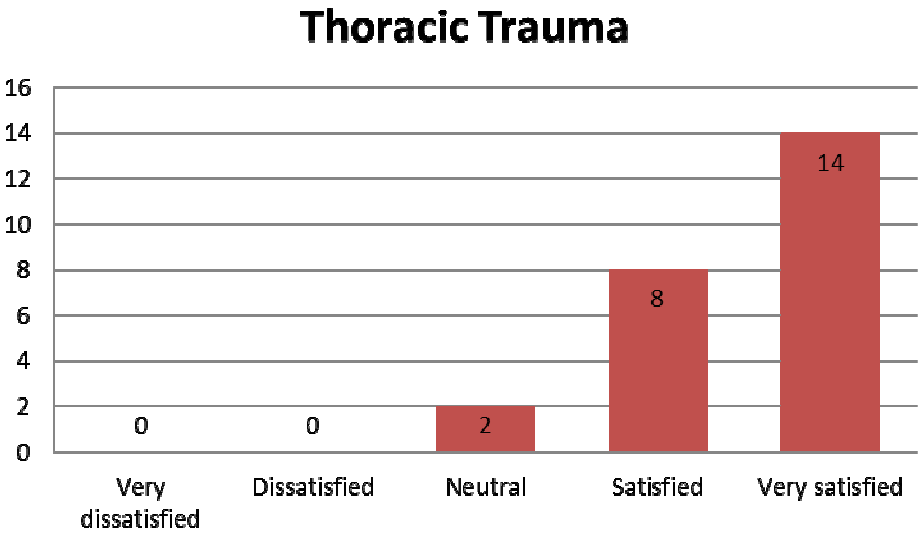


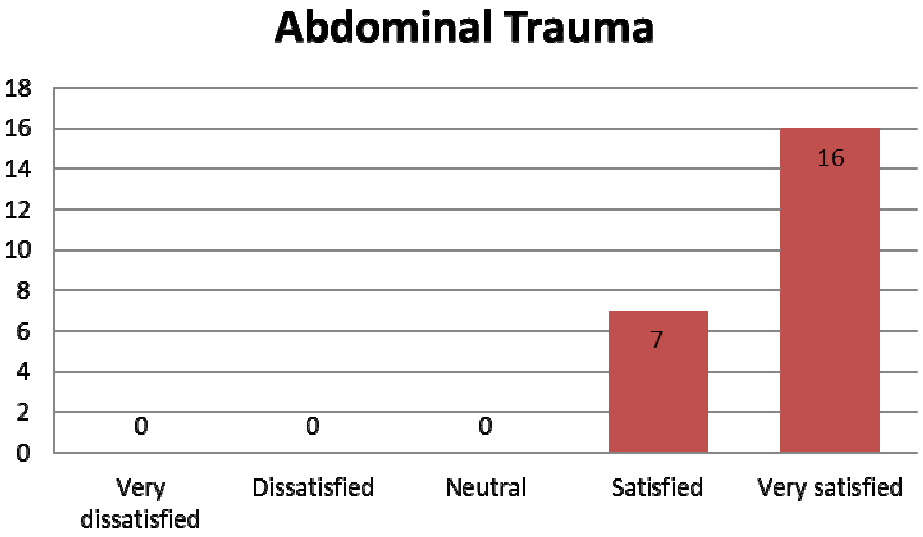
The pig is very good for illustrating how to take a split skin graft

A coconut is excellent for demonstrating the principles of making a burr hole

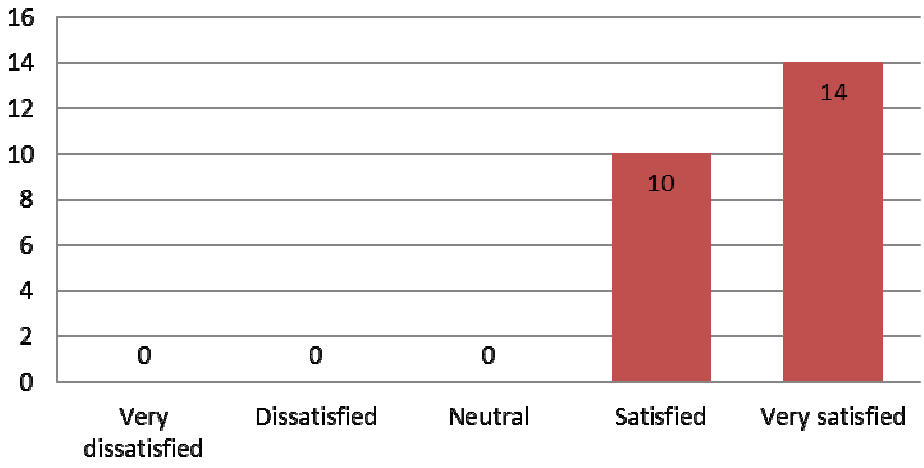
Student Feedback – General Surgery



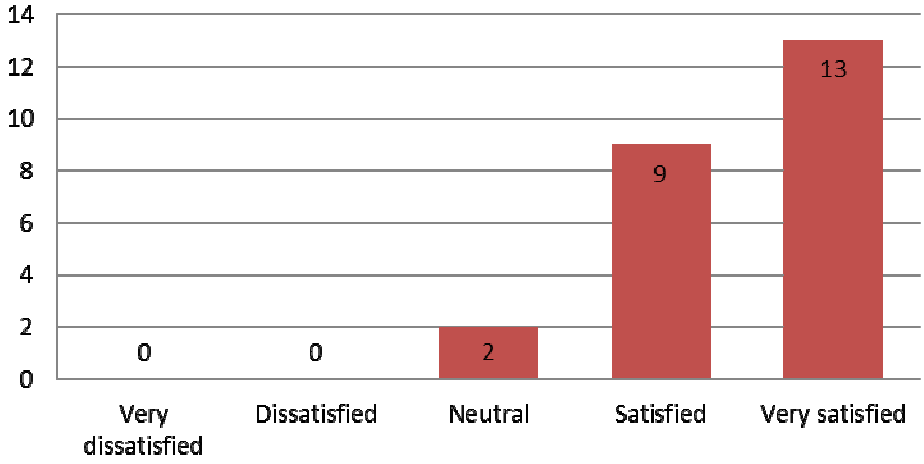




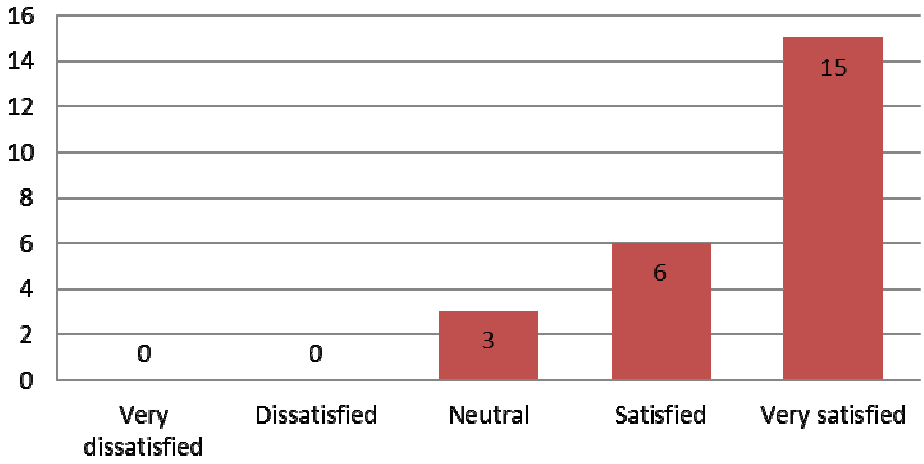
Intestinal Obstruction



Upper GI Bleeding



Vascular Repair



4 Cork Boards
4 Plastic buckets
2 H_2O spout syringe
1 Knife to dissect Pig.

NEEDLE DECOMPRESSION OF PTX

0_2 Tubing
ET Tube

CHEST DRAIN

1 Chest drain kit and under H_2O seal
1 Scalpel + Blade No. 10
1 Needle Holder (to fit above)
1 Large dissecting Forceps (Waugh)
1 Curved Spencer Wells Forcep
1 Strong ligature scissors
9 Sleek

9 Sutures (CS-245)

SKIN GRAFTING

1 Humby Knife
1 Scalpel + No.10 Blade x 3
1 Dissecting forceps (fine toothed)
1 Ligature scissors.
2 Mosquito forceps

BURR HOLE SET

1 Drill + 2 Bits
1 Nibbler
1 Angled flat dural scissors
1 Dural Elevator
2 Retractors
4 Mosquito's
1 Scissors McIndoe
1 Scissors Mayo
1 McIndoe forceps
1 Gillies forceps
1 Marker pen

LIVER INJURY

1 Large scalpel + No. 22 Blade x 4
1 Soft bowel clamp

24 Sutures – Monocryl Suture (W3709)

SPLENECTOMY

1 Large scalpel + No. 22 blade.
1 Fine toothed dissecting forceps
1 Fine non toothed dissecting forceps
1 Lahey forcep
1 Scissors McIndoe
8 Mosquito forceps
5 Spencer's curved forceps (+1 from chest drain set)
2 Roberts forceps
1 Scissors Mayo
1 Large needle holder

12 Sutures – Vicryl 0 (150cm) LIgs (W9026)
12 Sutures – Vicryl 2/0 (150cm) Ligs (W9025)
12 Sutures – Vicryl 2/0 – Transfix or underun (W9136)

COLOSTOMY

* Instruments as above.

3 Boxes - (108 sutures) 3/0 Mersilk, reverse cutting (W328H)

VASCULAR REPAIR

16 Mosquito's ("rubber shod")
4 Potts scissors
4 Scissors McIndoe
4 Scissors Mayo
4 Scalpel + No. 11 Blade
4 Crile Wood needle holders
4 Cork boards + 40 pins
4 Forceps – fine toothed dissecting
4 Forceps – fine non toothed disssecting
1 Embolectomy Catheter (demonstration only)
8 Diffenback

6 Boxes – 4/0 Prolene (W8845)
3 Boxes – 5/0 Prolene (W8830)

ESCHAROTOMY

1 Marker Pen

GI HAEMORRHAGE

*4 Scalpel No. 3 + No. 10 Blade x 12
*6 Mosquitos
*4 Scissors McIndoe
*4 Scissors ligature

24 2/0 Vicryl ½ c (W9136)
24 3/0 Vicryl ½ c (W9130)
12 2/0 Vicryl Ties (W9025)

PYLOROPLASTY

*8 Mosquitos
*4 Scissors ligature
*4 Crile Wood needle holders
*4 Cork boards + pins
*4 Scissors McIndoe
*4 Forceps fine toothed

24 3/0 Vicryl, ½ c, (W9130)

* **= SEE ABOVE, NOT DUPLICATED.**

Orthopaedic & Trauma Module

Faculty

Mr. Yogesh Nathdwarawala – Module Lead
Mr. Naidu Maripuri

Programme

8:30	**Introduction**
8:35	Debridement DVD and slides
8:45	Debridement exercise
9:05	Compartment syndrome workshop
9.25	Tendon repair DVD
9:35	Tendon repair exercise
10:00	# reduction & plaster talk
10:15	**Closed reduction workshop** Distal radius Ankle Supracondylar Tibial Shoulder, elbow, hip reductions
10:30	**Coffee**
10:45	**Plastering exercise** B/E back slab B/E POP cast Demo B/K - POP, A/K - POP and wedging
11:45	**Traction talk** Ex-fix talk
12:05	Skin traction, Thomas splint work shop
12:30	**Lunch**
13:30	**Skeletal traction (Tibial, calcaneal, femoral pin)** Exercise
13:55	Ext fix exercise
14:30	Internal fixation talk
14:45	**Coffee**
15:00	**Internal fixation exercise** Lag screw DCP Ankle
17:00	**Overview and feedback**

Orthopaedic & Trauma Module Report

Yogesh Nathdwarawala

Background

With the increasing number of vehicles and roads, trauma is becoming a major cause of death and disability in African countries. Most of the surgery practiced in these countries is related to obstetrics and general surgery. The expertise in Trauma and Orthopaedic surgery is still lagging behind. From the previous experience in Africa, it has become evident that a course related to practical skills in dealing with trauma would be highly rewarding. Therefore when Mr Robert Lane invited us to contribute to the 5 days course of ***Management of Surgical Emergencies*** we found this opportunity both exciting and challenging. Mr Lane's enthusiasm, dedication and meticulous planning are truly inspiring and we feel privileged to join his team.

Planning

In order to make this course adaptable to various countries, we have decided to design the course into 4 modules:-

1. Soft tissue
2. Plaster and closed reduction
3. Traction
4. Internal and External fixation

During a course like this, there is always a dilemma about the breadth versus depth of the topics to be covered. We decided to cover a wide number of areas in the lectures, but keep the practical sessions highly focused. Our aim was to teach the participants specific skills that could be easily put into their practice.

Mr Lane kindly provided us with the contact details of the link person in Lusaka, Dr James Munthali. Our initial communication helped us to gather information regarding the number of participants enrolled, their speciality and the seniority in order to pitch the content at a right level. We also identified the more common Orthopaedic emergencies and their management to include in the Course schedule. This communication helped us to refine the course content, for example, Thomas splint practical was included on a specific request from Dr Munthali.

The other part of the planning included identifying the required equipment and sourcing them. Mr Lane provided us with the suturing kit, instruments and disposables used in soft tissue module. Plastic bones, internal fixation set and drills were provided by Biomet UK.YN collected external fixation and pin traction kits from India during his trip in August. A number of other small items were given by Nevill Hall Hospital, Abergavenny, UK. A detailed list of the items that could be sourced locally was agreed with Dr Munthali (plasters, bandages). A detailed list of course requirements are attached.

Participants

The number of participants was 24. Communication from Dr. Munthali a few weeks prior to the course indicated that they were mostly postgraduate trainees and a couple of interns. However, exact information about their seniority and speciality was not available until the first day of the course. We found out during the introduction that most of them were general Surgical and Orthopaedic post graduate trainees with one O&G trainee and two interns. This variable group of candidates led to a dilemma about the level of course content. However, after discussing with the local team we decided to keep the standard high as planned initially.

After interacting with the participants we felt that they were keen and enthusiastic. In Lusaka the Orthopaedic emergencies are managed by the General Surgical teams initially and handed over to the Orthopaedic team for definitive management. As most of the participants were General Surgical and Orthopaedic trainees, we felt that the content was appropriate for them.

Trauma and Orthopaedics in Lusaka

Orthopaedics in Lusaka University Teaching Hospital is part of the Department of General Surgery.

On the first day we visited the wards with one of the consultants, Dr Ishat, and found that there was a vast amount of clinical material which included fractures of femur, tibia, humerus, and ankle etc. Most of the patients were found to be young and involved in high energy trauma.

On day two NM visited the theatre complex. Orthopaedic theatres included a major theatre and a minor theatre. The theatre runs from 8 am until 2 pm. Although the equipment was found to be basic, the efficiency of the theatre was excellent. The way they work as a team successfully with these limited resources is commendable.

This ward round and trip to theatres helped us to gain an insight into the types of emergencies they have in Zambia and the way they were managed.

Yogesh demonstrating external fixation

Tendon Repair


Naidu demonstrating plastering techniques

What went well?

- Equipment: - Mr Lane, Dr Munthali and Biomet UK delivered adequate equipment as promised. We had enough material that allowed each participant to perform every practical to their hearts content.
- Thanks to Mr. Dreyer for his brilliant idea of repeating the course over three days with a small group each day. Worked very well!!
- The support from the other members of the team especially the help from Mr Biyani on the morning when NM was unwell was invaluable. Thanks to the great pig dissecting skills of Mr Paul Gartell and Mr Lock, we had fresh trotters for the tendon repair every morning.
- Working in the same hospital and living in the same neighbourhood immensely helped YN and NM in communication and planning resulting in harmonious coordination.
- The ratio of two Faculty and 8 participants worked well
- The majority of the day was spent in practical exercises with none of the lectures longer than 7 minutes.
- The participants were punctual with full attendance. Local organisers charged a small course fee. It is likely that paying this small course fee may have helped in this regard.
- Excellent feedback from the participants suggests that the content and delivery of the course met their expectations.
- Room and audiovisual facilities were satisfactory.
- Food and drinks were satisfactory
- Excellent support from local organisers particularly Dr Robert Zulu.

- Elizabeth, plaster technician from the Hospital, helped us during the plaster module.

- Excellent transport arrangement thanks to Dr Zulu and his residents.

- The involvement of nurses was a good idea. Some of the nurse participants were very keen to learn practical skills and we are glad that we had sufficient material for them to practice. Nurses also acted as good assistants during number of practical procedures.

- A comprehensive collection of feedback and its analysis as well as detailed participants assessment including MCQs was unique aspect of this course. Thanks to Critical care boys!!

- The meticulous planning of all aspects of the trip by Mr Lane, including choosing excellent accommodation and a memorable course dinner, made this course highly enjoyable.

What could be better?

- A prior knowledge of experience and expectations of the participants would be very helpful in modifying the course to its value for the local setting

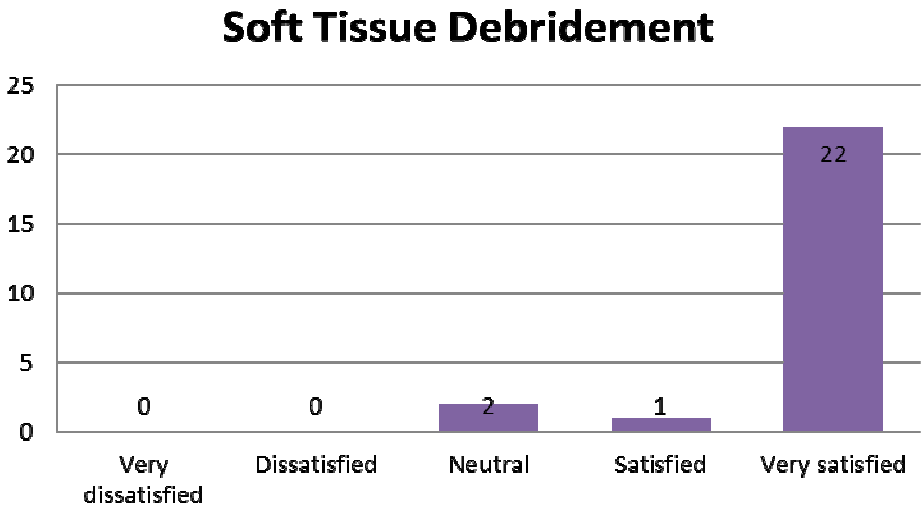
- Although the local Faculty provided excellent organisational support, none of them were able to participate in the course as teachers. Involvement of local Faculty in the teaching would help make this course self sustainable. This would also help them to plan their local training in complimenting the content of this course.

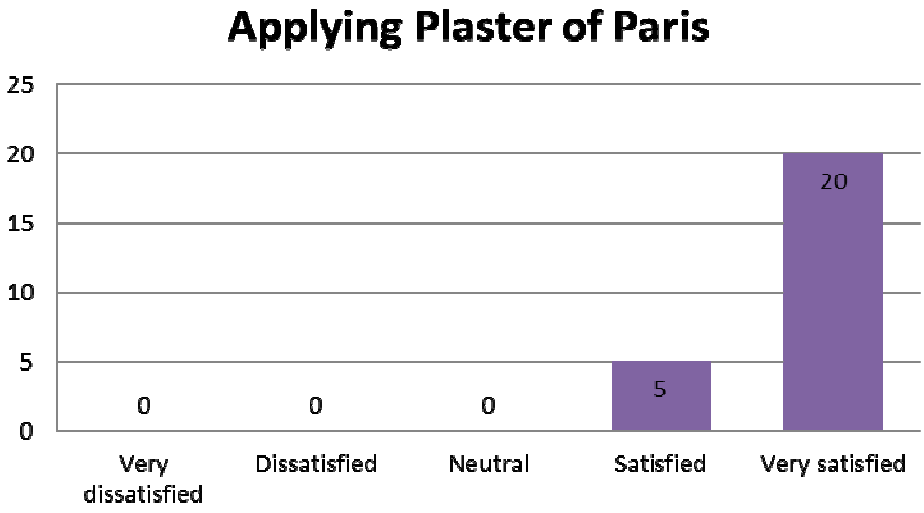
- We are still searching for the ideal models to practice fasciotomy for compartment syndrome.

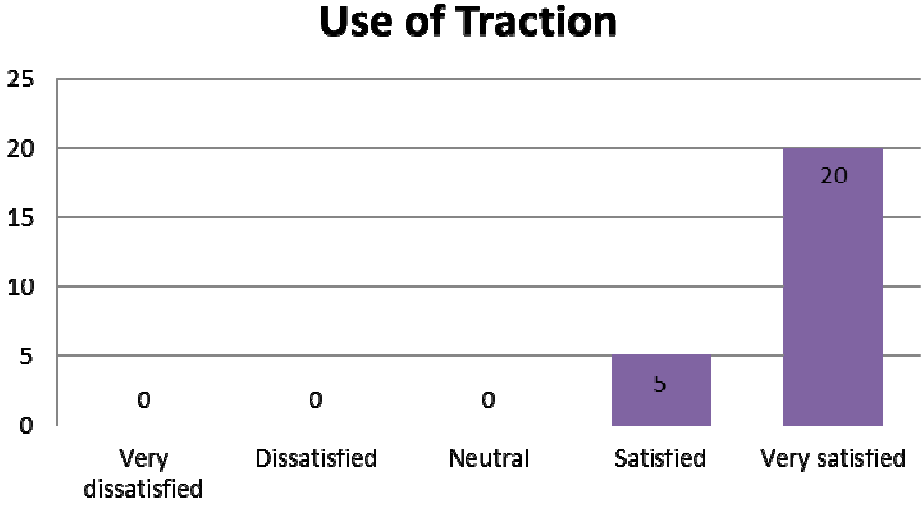
Final comments and future plans

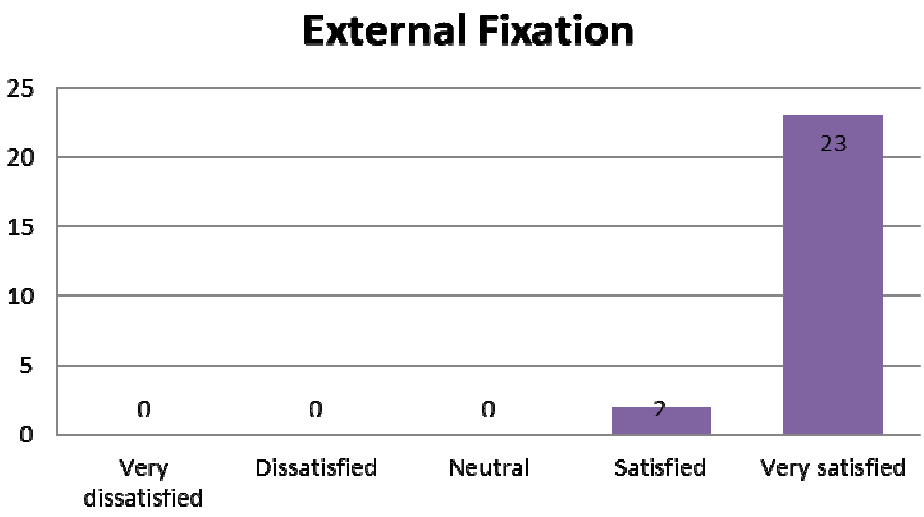
Overall the course was well planned, diligently organised and was delivered without any major hiccoughs. The feedback from the candidates reflects a high level of satisfaction. We remain committed to support expansion of this course in other parts of developing world. Very successful pilot indeed.

Student Feedback - Orthopaedic and Trauma








External Fixation
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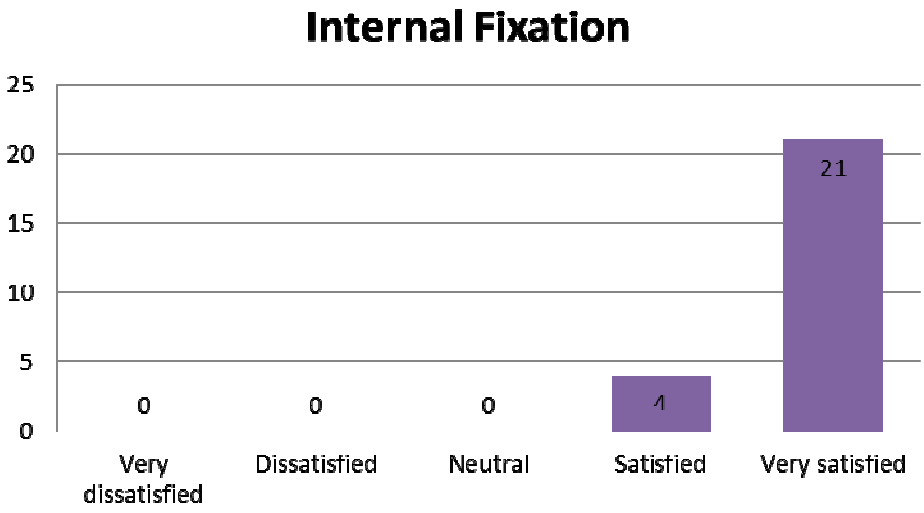
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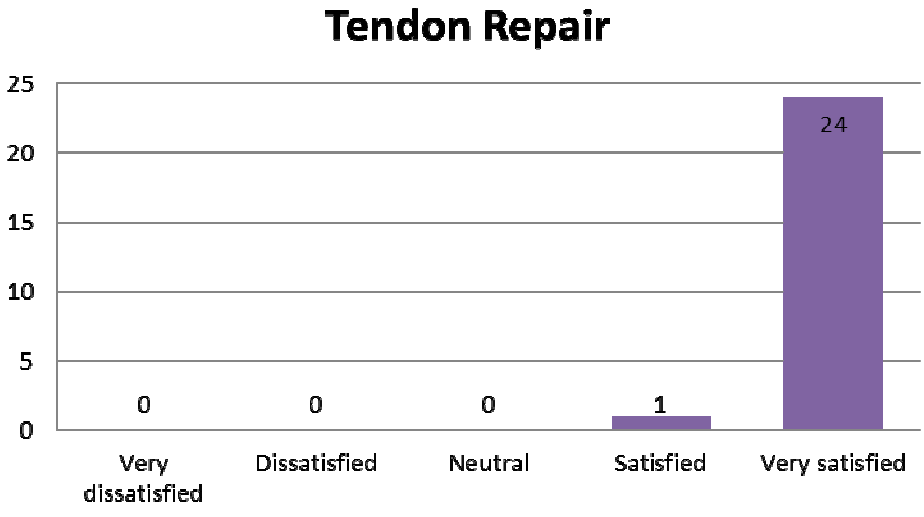
Tendon Repair
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Very dissatisfied
Dissatisfied
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Very satisfied

Equipment list for Orthopaedic module of Lusaka course

Component	Mr Lane	UK	LUSAKA	BIOMET
Debridement	4 scalpels with size 22 blades, 4 Mayo scissors, 4 Curved Spencer Wells forceps, 4 Mayo Hegar needle holders, 4 cork boards with 4 pins each, 4 buckets and 4 X 3/0 Silk (W328H) for drain.		Animal meatx4, Dirt	Broken bone peices
Tendon Repair	4 scalpels with size 22 blades, 4 Crile-Wood needles holders, 4 cork boards with 4 pins each, 4 Lane's tissue forceps, 4 fine toothed dissecting forceps, 8 Mosquitos, 4 Mayo ligature scissors and 32 x 4/0 Prolene half circle with double needles (W8845).	Green needles 30	4 trotters each dayx3	
Plaster application	-Plaster cutter small -straight scissors and four buckets for water, aprons and gloves.	-Plaster cutter Big -Plaster spreader	-wool 4" x60 6" x6 -Plaster of Paris Bandage 4 "x100 6"X9 8"X6 - Crepe /plain bandages for back slabs 4" x 25	
Skin traction		-Skin traction kitsx2 -3 rolls of elastoplasts (back up) -Wooden spatulax8	Elastoplast/adhesive plaster 4"x 30 metres -6 " crepe bandagesx10 -gauze squares x50	
Skeletal traction		-Steinman pins x 8 -Denham pin x 1 -Hand	-Traction cord x 25metres	Drills x4 -Bones tibias x12 -Femur x 4 -Calcaneumx4

		drill(YN) -Stirrup for traction -Skull traction tong		-Clamps to fix bones to table
External fixation		External fixation kitx2		-Drills as above -12 tibias as above
Internal Fixation				-Drills as above -Drill bits 2.5x4 3.5x2 -Tapsx4 -Screw driversx4 -Screwsx50 -1/3rd tubular Platesx4 -3.5 mm DCPx4 - Bones anklex4/forearmx4 -8x long screws for medial malleolus

ORTHOPAEDIC AND TRAUMA REQUIREMENTS

for the animal work

DEBRIDEMENT

4	Scalpel + Blade No. 22 ⊗
4	Scissors Mayo
4	Spencer Wells Forceps (curved)
4	Mayo Hegar Needle Holder
4	Cork boards + 20 pins supplied
4	Buckets
12	Sutures – 3/0 Silk – (W328H) (TOTAL 12 Supplied)

TENDON REPAIR

*4	Scalpel + Blade No. 22 ⊗
4	Crile Wood needle holder
4	Cork boards + 20 Pins
4	Tissue forceps - Lane's
4	Tissue forceps - fine toothed dissecting
8	Mosquito's
*4	Scissors – Mayo (ligature)
1	Plaster cutter, small
32	4/0 Prolene (½ cc) double needle (W8845)

* **= See above, not duplicated.**
⊗ **= 24 Blades supplied for 3 days.**

Urology Module

Faculty

Mr Shekhar Biyani – Module Lead
Mr Jaimin Bhatt

Acknowledgements

Mr Bhatt and I are thankful to Mr Bob Lane MS FRCS Eng FRCS Ed FACS FWACS (Hon), Convenor & Programme Director for International Affairs at the ASGBI for giving us this opportunity and facilitating our visit. His contribution, hard work, leadership and imagination are very great indeed. The joy and enthusiasm he has for training and teaching in sub-Saharan Africa was contagious and motivational for me.

We would like to express our sincere appreciation to Dr Robert Zulu and his team for supporting teaching sessions. Thank you to everyone for your hospitality and patience. I would like to acknowledge Prof Labib's pre-course guidance and a special thanks to Dr Nenad. We also wish to acknowledge the particular assistance and gracious hospitality we received from Dr Nenad.

I would like to acknowledge Karen Kenyon, Territory Manager, Yorkshire, Coloplast for providing manikins for the workshop.

We are indebted to Mr Ru MacDonagh Chairman, UROLINK for his encouragement and guidance.

Finally, The UROLINK team is also grateful to other faculty members for their fantastic support, ideas and encouragement throughout this trip.

Funding – UROLINK.

Background

Zambia is classified as a low-income country and has a population of 11.6 million. The public sector is the largest provider of health care in Zambia. Interestingly, Zambia is also one of the most urbanized countries in sub-Saharan Africa, with approximately 38% of the population living in urban areas. The admitted human immunodeficiency virus/acquired immunodeficiency syndrome (HIV/AIDS) rate in Zambia is just under 10%[1] but it is generally agreed that it is in fact much higher than this and is increasing, in some part because of the migration of workers into the newly re-opened copper mines from Namibia and Mozambique.

Healthcare in Africa is faced with many challenges. In addition to the well-known problems of HIV/AIDS, malaria, and tuberculosis (TB), Africa has a critical shortage of surgeons, particularly in rural areas. Sub-Saharan Africa has the highest concentration of surgical disease burden[2] but the lowest concentration of surgical and anaesthesia providers—with only 1 surgeon per 400,000 people in East Africa.[3,4]

The last decade has seen the emergence of numerous "neglected tropical disease" (NTD) initiatives in global public health and NTDs account for 1.3% of the global burden of disease and 20 million disability-adjusted life years (DALYs) globally, mainly in Africa.[5] Even with limited data, conservative estimates suggest that surgical conditions account for 11% of the total global burden of disease and 25 million DALYs in Africa, the region with the highest concentration of surgical DALYs (38/1,000 population).[2] It is therefore evident that training surgeons is essential for building the surgical workforce and ultimately improving surgical care across the continent.

I met Mr Lane during my first visit to Hawassa, Ethiopia in March 2010. Mr Lane has developed and run a number of surgical training courses for postgraduates and Clinical/Health officers throughout Africa in the last 10 years. Mr Lane and his team delivered a 5-day course on surgical emergencies in Hawassa; however, urology was not part of this course. During our return flight I mentioned that medical officers in the African subcontinent do see a good number of urinary retention and pelvic trauma cases. I therefore felt that they should be able to do a safe catheterisation and should be taught this technique. He emailed me in June 2010 with an idea of designing a 5-day course on Emergency Surgery for sub-Saharan Africa, which will have at its core the practical applications of what is taught. I was asked to take the lead in urology. I informed Mr Ru MacDonagh, Chairman, UROLINK and on his advice contacted Mr Jaimin Bhatt. I am thankful to Ru for suggesting his name as Jaimin contributed immeasurably. Mr Lane contacted specialists from other surgical specialities (orthopaedics, O & G, general surgery and critical care) and the first meeting was organised on 15th October 2010 at the Royal College of Surgeons of England for the pilot course on the "The Management of Surgical Emergencies". A short presentation was done by each speciality and a further discussion took place on course content, number of candidates, method of delivery and assessment. In the next 5 months lots of email exchanges were done between all faculty members. During my second visit to Hawassa in March 2011, we (Mr Joby Taylor, Mr Bhatt and I) joined the ASGBI team and delivered a 4-hour session on urological emergencies - we received very good feedback.

A second meeting was organised on 6th April 2011 at the College to finalise this pilot course. Mr Lane informed us that the first course will be at Lusaka, Zambia and will be from 19th October to 21st October 2011.

The University Teaching Hospital (UTH) is the biggest hospital in Zambia. It is located in the capital city, Lusaka, approximately 4km east of the city centre and is the principle medical training institution in the country for medical students, interns, and postgraduate doctors. It also trains nurses through the Nursing School located within the hospital grounds as well as Clinical Officers through their college located at Chainama Hills College Hospital. The UTH has approximately 1655 beds and 250 baby cots. It provides a full range of primary, secondary and tertiary health and medical services on both an inpatient and outpatient basis.
Jaimin and I started our preparation for the urology session. We selected our topics. I managed to get urethral and suprapubic catheterisation manikins on loan. I also obtained a short video on urethral catheterisation technique. Mr Bhatt resourced catheters for candidates to practice with. Our aim was to deliver our part of the course in the most practical way.

References

1. Source: UNAIDS, MoH GRZ Annual Report.
2. Debas H, Gosselin R, McCord C, Thind A (2006) Surgery. In: Jamison D, editor. Disease control priorities in developing countries. 2nd edition. Available: http://www.dcp2.org/pubs/DCP/67/FullText. Accessed 25 April 2008.
3. Galukande M, Kijambu S, Lubogoa S (2006) Improving the recruitment of surgical trainees and training of surgeons in Uganda. East Central Afr J Surg 11:17–24.
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5. Mathers CD, Ezzati M, Lopez AD (2007) Measuring the burden of neglected tropical diseases: The Global Burden of Disease framework. PLoS Negl Trop Dis 1: e114. doi:10.1371/journal.pntd.0000114.

Urology Module Report

Shekhar Biyani

On our arrival on Saturday 15th October 2011, Dr Robert Zulu and his team greeted us. We were transferred to the Taj Pamodzi hotel in two vans. Everyone wanted to relax a bit after the overnight flight. We went to the UTH to meet the Head of Surgery Dr Munthali. The purpose of this meeting was to review arrangements for the course. We were given a list of delegates. From the list it appeared that the majority of candidates were doing post-graduation in general surgery. In addition, a few from orthopaedics and O & G were also attending.

We agreed to have 1 or 2 observers during the teaching session. I met Prof. Mohamed Labib, Head of Urology and discussed our teaching and training sessions. Unfortunately, he was travelling to the USA for 4 weeks. However, he introduced me to Dr Nenad Spasojevic, Urologist, and assured me that Mr Bhatt and I will get full assistance from Dr Nenad. In the evening Mr Lane organised a meeting of faculty members at the hotel. We went through the programme, sessions, assessment tools and feedback forms.

On Sunday, 16th October 2011, I joined Mr Lane, Mr Gartell and Mr Lock for the dissection session. We dissected a pig to assess our models for the course. I dissected out a bladder for the urology sessions. In the afternoon, we joined other team members for lunch at a safari park. Mr Jaimin Bhatt also joined the team as he flew via Kenya. At lunch Prof Labib and his wife joined us.

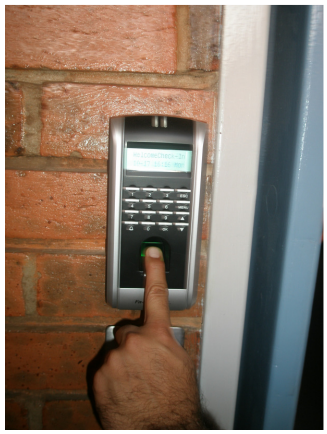
Prof Labib and Dr Nenad with Shekhar Biyani

Monday 17th October 2011

We left the hotel around 07:30 with Dr Nenad, while the rest travelled with Dr Zulu. Mr Dreyer and his team inaugurated this pilot course with a 2-day teaching on critical care. After the introduction, 24 candidates were divided into 3 groups (Red, Blue and Green). Mr Bhatt and I took this opportunity to teach urology to residents. In the evening a feedback session was organised by Mr Lane. Mr Dreyer and his team shared their experience with other team members.

Tuesday 18th October 2011

Mr Dreyer continued the critical care session. I went to the operating theatre for urology teaching. It was interesting to see a finger recognition entry system at the entrance of theatre. All candidates were assessed on the critical care topic by Mr Dreyer's team.



Finger recognition device to enter the theatre complex.

Wednesday 19th October 2011

There were sessions conducted in orthopaedics, general surgery, urology and O & G. We were given 4 hours for urology session. Jaimin and I divided 8 candidates in to 2 groups. We covered the following topics:-

- Urethral catheterisation
- Suprapubic catheterisation
- Renal colic and IVU
- Priapism
- Acute scrotum
- Bladder injury

After short presentations delegates were asked to perform practical skills such as catheterisation (urethral and suprapubic) on manikins; scrotal exploration and bladder repair on a pig's bladder and scrota. After 2 hours, the groups were swapped. We over ran our session by nearly an hour. This was due to multiple factors such as breaks, a lack of abattoir material and poor familiarity regarding local protocols. Urology nursing staff also joined our session as observers.

Mr Biyani and Mr Bhatt teaching urology topics

In the evening we were invited by the First Lady, Dr Christine M Kaseba-Sata, for a dinner. She did her O & G training in the UK and worked with Dr Shirin Irani (O & G Lead), one of our Faculty members. Unfortunately that night Mr Naidu, from the orthopaedic team developed a severe allergic reaction to food and required adrenaline and steroid in the night. It was a scary and stressful situation.

Thursday 20th October 2011

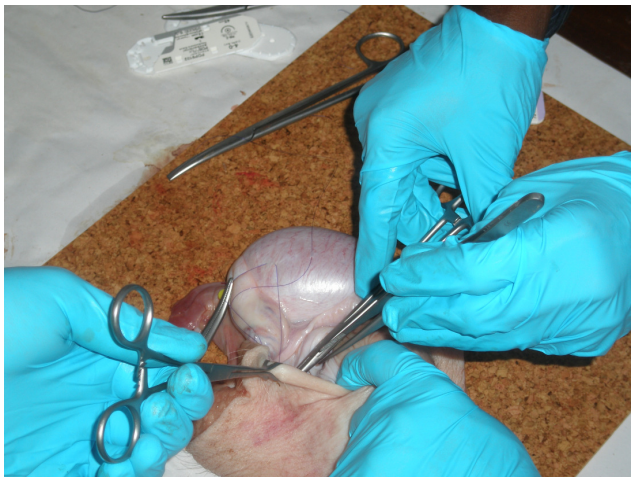
Mr Naidu felt better in the morning but was asked to rest. I therefore went to the orthopaedic session and helped Mr Nathdwarawala. It was an interesting experience for me and I managed to refresh my tendon repair technique. Mr Naidu arrived by lunchtime and I went down to prepare for urology teaching. We continued our session in a similar fashion to Wednesday. On Thursday our time management was better and we finished just in time. I think the previous days experience coupled with repetition (as we were teaching the same topics twice in a day) improved our performance. Dr Nenad joined Mr Bhatt on Wednesday and Thursday. Mr Bhatt had booked his return flight for Friday morning on the basis of the initial timetable. Dr Nenad offered to drop Mr Bhatt at the airport in the morning.


Urology teaching session

Friday 21st October 2011

Dr Nenad came to the hotel. Mr Bhatt and I travelled with him to the airport. We dropped Mr Bhatt and came to the UTH. He asked me to teach 5th year medical students in the morning. I gave 2 lectures ("Urogenital trauma" and "How to read a KUB"). Dr Nenad was present at the session. I found that students were quite up-to-date and were keen on discussion. Dr Nenad informed me in the evening that students liked both topics and feedback was very positive.

In the afternoon Dr Nenad helped me to run the urology session. Mr Bhatt and I are grateful to him. He agreed to assist on such short notice.



Urology teaching session

At 5.30 pm all delegates were asked to take an MCQ based test. There were 10 questions from general surgery; 10 from orthopaedics; 5 from O & G and 5 from urology. After the test candidates were given a certificate and a group photograph was taken.

We all arrived back at the hotel around 7 pm and thanked Mr Lane for organising such a wonderful course.

Saturday 22nd October 2011 - return trip home

We all reached to the airport at 6 am and checked-in. At 7.30 am we were informed that the flight will be delayed due to some problem. Finally at 9.30 am the flight was cancelled and we were transferred back to the Intercontinental Hotel. Unfortunately, local BA staff could not give us any definitive answer about our departure. We were told that the aircraft needs a part and this can take 2 days. On Sunday we had another meeting with BA staff and passengers with connecting flights from London were booked on the Monday morning regular flight to London. I was given a seat on that flight but other members from the group were flown to London via Johannesburg late Monday evening. I reached home late Monday night to resume work on Tuesday and my colleagues had a really tough time reaching London late Tuesday evening.

I believe Mr Lane with the local team can justifiably look back with pride at a highly successful course.

I consider there is a role for UROLINK to have a partnership with the ASGBI in supporting surgical training and improvement of surgical services and such a partnership can be mutually beneficial and may, in the long term, have a significant effect on surgery including urology in Africa.

Summary

What went well?

- From informal discussion with candidates it appears that they all liked the urology session. I am hopeful that the feedback forms will confirm this.
- Involvement of Dr Nenad as a local Faculty member from the start generated "home" ownership.
- Mr Lane's leadership was exceptional and cooperation between Faculty members was marvellous.
- Staying at one place improved bonding between members, allowed exchange of ideas and hassle free travel between hotel and hospital.
- A multi-speciality approach helps to facilitate a better training programme.
- Accommodation and food were perfect.
- AV worked very well. Thanks to Prof Labib for giving us a projector.
- The number of delegates in urology groups was just right (8 divided in to 2 groups). However, total number should be ~18.
- Outstanding local support.

What could we have done better?

- After discussion with many candidates I understand that renal colic is not a common problem in their setting. When asked about ureteric trauma, majority said that they had encountered this in their practice. I therefore think in the urology session, renal colic should be replaced with management of ureteric injuries. This should include end-to-end anastomosis and re-implantation of ureter on an animal model.
- Venue for the urology session was suboptimal. We should look for a better facility.
- A pre-course manual would minimise presentation time and would allow more "hands on" time in sessions.

- To acquire more abattoir material.

- To standardise minimum skills required to enrol on the course.

Opportunities

- The University Teaching Hospital is a big hospital with satisfactory infrastructure. There is an opportunity to develop a “hands on” course for the region. In the future doctors in training from neighbouring countries may participate.

- To increase involvement of local Faculty and indirectly the course may facilitate “Training the trainers”.

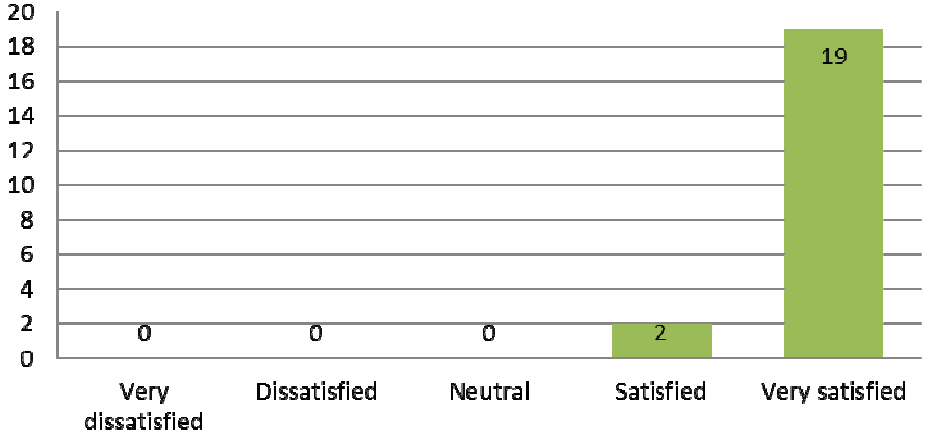
- Urology is a small surgical speciality. Sharing resources, venues and courses would improve urological care in this part of the world.

Threat

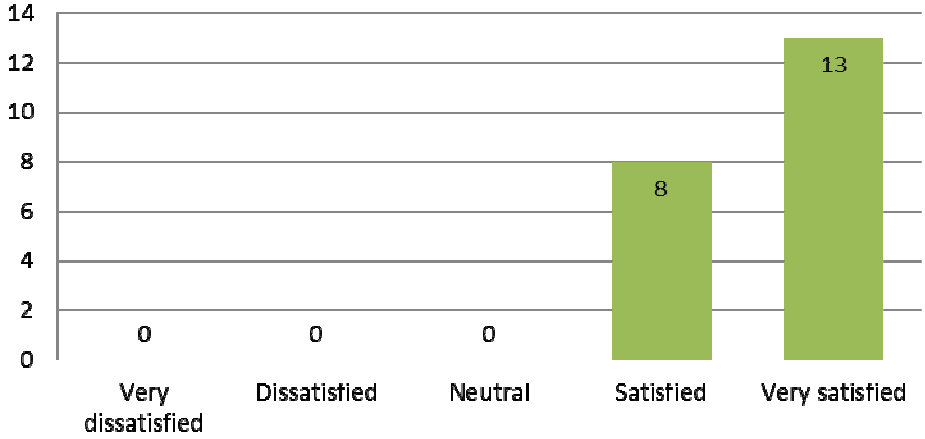
- Financially it may be difficult to continue this on an annual basis unless some special funding is available.

Student Feedback - Urology

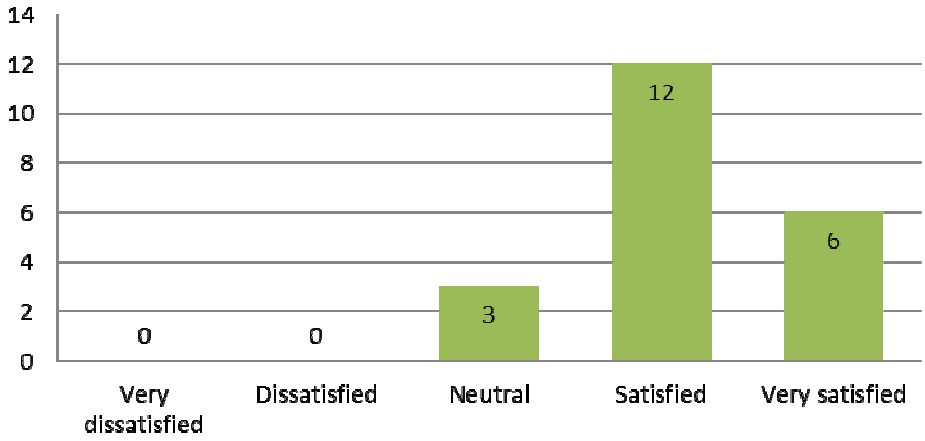
Urethral Catheters



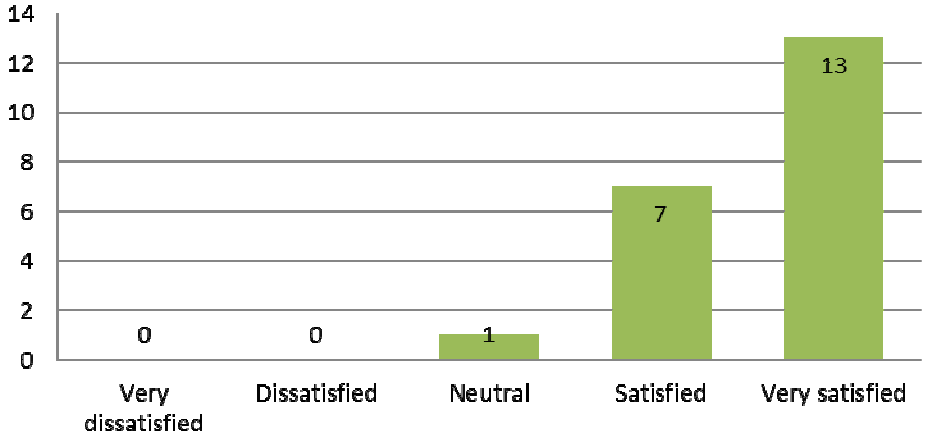
Suprapubic Catheters



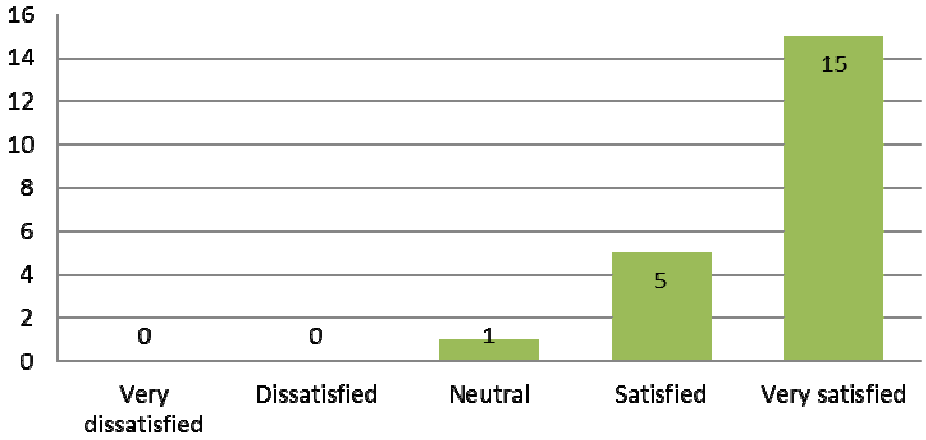
Renal Colic & Urosepsis



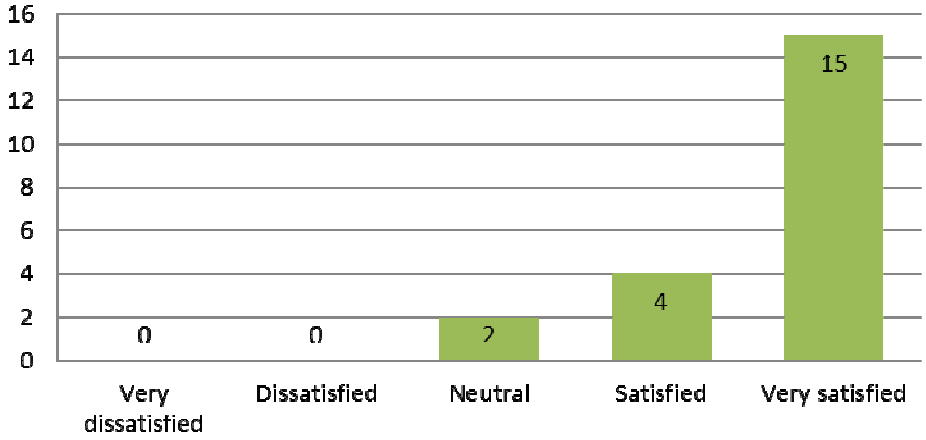
Scrotal Emergencies



Priapism



Bladder Injury



Requirements for the Urology Module

4	Cork Boards + 40 pins
8	Spencer Wells Curved
8	Spencer Wells Straight
4	Forceps, fine non toothed
8	Forceps, fine toothed
8	Babcocks
4	Scissors, 3 Mayo + Please use Metzenbaum instead of fourth Mayo
4	Scissors, Metzenbaum
8	Needle Holders, Mayo – Hegar
8	Scalpel handles No 3.
14	Skin Simulator's
2	Buckets (for sharps).
24	Blades – Size No. 11
6	Boxes – Vicryl 2/0 (½ cc) R.B. (W9136)
6	Boxes – Silk Ligatures 2/0 (W193)

Obstetrics Module

Faculty

Shirin Irani – Module Lead
Michael Wyldes

Programme

Lecture **20 mins** **HAEMORRHAGE: ANTE & POST PARTUM**
20 mins **CAESARIAN SECTIONS**

Station		
APH (abruption, praevia)	A	B
ATONIC PPH/ (inc. inversion, mrp)	B	A
CAESARIAN SECTION Tech (video)	A	B
TRAUMATIC PPH (suturing techniques)	B	A

Lecture **20 mins** **COMPLICATIONS OF DELIVERY**

Station		
Shoulder Dystocia	A	B
Breech Twins	B	A
Cord prolapse / neonatal Resus	A	B
Craniotomy / Symphsyiotomy	B	A

Obstetrics Module Report

Shirin Irani

Friday 14th October 2011, London Heathrow Terminal 5:

After months of emails, the first being October 2010, and a couple of meetings at the Association of Surgeons, we met up as a group physically for the first time. The team consisted of 2 obstetricians, 5 surgeons, 1 anaesthetist, 2 orthopaedic surgeons, 2 urologists and 1 theatre nurse.

Saturday 15th October 2011

A comfortable over night flight in a full plane brought us to Lusaka, Zambia 30 minutes early on Saturday morning and it was a pleasure to find our local hosts waiting to transfer us to the hotel. Dr Robert Zulu a consultant surgeon was the main liaison and 2 residents (Jonathon and Kenneth).

After a brief rest, the leads of each module went to the University Teaching Hospital (UTH) to meet the Head of department James Munthali to go over course arrangements, room allocations and audiovisual equipment.
The course addressed various aspects of emergency surgery and was a mixture of critical care, surgical procedures, obstetric, orthopaedic and urological emergencies.

To offer a realistic 'hands on' experience , the topics of discussion when we were in the UK, stood strong; pigs were the animals suitable for demonstrating procedures such as bladder repair, anastomoses, splenectomy, repair of liver tears eg. So off 3 of us went with Robert Zulu to a pig farm to meet Mr Pig and his 3 brothers who would be coming to UTH during the week.

Sunday 16th October 2011

Final formats to standardise slides and write out MCQs for a post course assessment kept everyone busy followed by a lovely Sunday lunch at the Protea Safari Lodge a few miles out of Lusaka. The local beer 'MOSI', a low alcohol pleasant brew was being increasingly consumed in the heat for hydration purposes

Monday 17th & Tuesday 18th October 2011

The Course kicked off at 08:30 prompt with 24 participants; the majority being 1 – 3 year residents and a couple of senior RMOs (equivalent to FY2 trainees).

Residents undergo 7 years of basic training for the MBChB followed by a rural posting for at least a year. It is in this period that they are often faced with emergency situations and have to perform surgery which they may not be familiar with. Enquiry as to how this was possible confirmed that the lucky ones had a medical officer in the local hospital to seek advice from or be trained by. However, it was standard practice to open a 'how to do' book and read the steps of an intended procedure. Although the trainees we taught were very experienced, due to the sheer numbers of patients they treated, formal teaching was either in short supply or

nonexistent. The course therefore was well received as there was a genuine hunger to learn structured methods.

Wednesday 19th to Friday 22st October 2011

Our obstetrics component consisted of 2 halves; the first addressed common major problems faced in emergency situations.The main maternal component was bleeding both APH and PPH, which included how to do a Caesarean Section, manage an abruption or placenta praevia, suture a uterine rupture and use of compression sutures, packing etc for atonic PPH. Mention was also made with regard to the principles of suturing vaginal tears and perineal trauma. The second component concerned difficult deliveries including how to deliver a baby in breech presentation, twins and shoulder dystocia.

On 2 days we managed to invite the midwives to come along after the resident doctor's teaching session to go over shoulder dystocia, neonatal resuscitation and perineal suturing. This was well received as the initial group we taught turned out to be senior midwives in charge who were very experienced but yet again were lacking in good practice and confidence. They were bemused that neonatal resuscitation did not require energetic attempts to suck the insides of a baby and that basic measures were usually enough. (Assisting an experienced registrar in theatre the next day for a Caesarean section confirmed this practice – although the baby came out crying lustily, a long tube was stuck down its throat and vigorous suction applied).

The positive aspects of the Obstetric module which I was leading were that the topics chosen were appropriate and well received. The overall feedback from trainees for the module confirmed this.

If we are to run this Course again, I feel more time allocated towards teaching specifics in certain Gynae emergencies is essential –there were queries regarding ectopic pregnancies and miscarriages which were out of the scope and time allocated. Also useful will be the addition of teaching videos or DVD clips for surgical procedures.

The room layout was passable although not satisfactory as it was in a noisy thoroughfare area but the equipment, which was minimal and practical, sufficed.

As you are aware I had invited my colleague Mike Wyldes along who was of immense help and it was quite useful to have 2 senior Consultants facilitating our modules as we were tight on time. In future, it should be possible to offer this opportunity to a senior trainee from the UK as it will be a mutually beneficial experience. This is exactly how the urology and orthopaedics modules ran.

Lastly, after some discussion and a couple of meetings with the Vice President and secretariat of the RCOG-overseas arm, it has been good that the College has most generously funded our trip even though we had applied late. I have already sent a similar report to the RCOG and have also been led to believe that this may not be sustainable as there are a few college projects concurrently running. We may need to look at other charitable sources if this Surgical Emergencies course, specifically the obstetric component, is to be run regularly.

Shirin and Michael demonstrating how to deal with obstetric emergencies

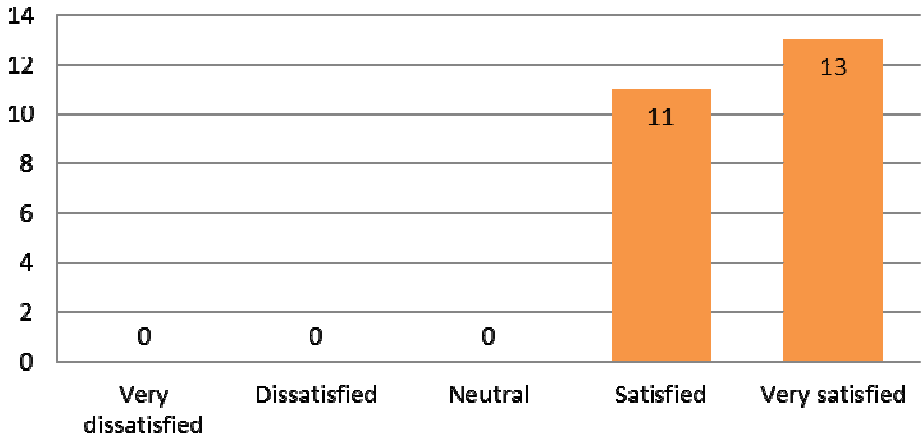
Additional comments by Michael Wyldes

My perspective:

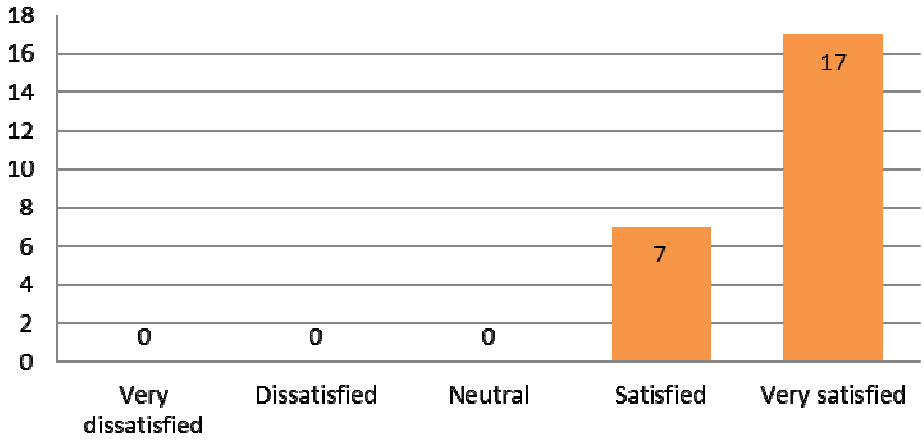
- Thank you for inviting me, I had an enjoyable time (excluding the delays in getting back)
- Obstetrics as a surgical specialty is very important to Zambia and the third world more generally.
- The department in Lusaka had as many maternal deaths in some weeks as we have in our hospital in some years.
- The general experience and knowledge levels shown in Obstetrics was high. Even the more junior surgical trainees had done dozens of Caesareans and worked in rural locations doing obstetrics largely unsupported or supervised.
- Because the trainees were experienced (and probably had seen more maternal deaths than me and Shirin put together), they were interested and very easy to engage with our obstetric scenarios.
- We ran 2 sessions with a "lecture" (for 8 + 2 nurses) and then practical demonstrations (4 + 1) with models and scenarios adapted from practical training courses run in the UK. Timings and content were well received but there was no time for all of them to practice and generally 1 of the 4 did the demonstration and the others watched.
- The Dean's foyer environment was barely adequate with students needing to see the Dean waiting around and this was distracting at times.
- Only 1 of the 4 power sockets worked; if that had failed as well then the projector and laptop would not have worked.
- It was light, and airy, but quite noisy, especially when the builder started drilling next door.
- The contact with the department of O&G was limited, although we did manage to spend 1 half day working alongside the labour ward team, which was instructive for us (and perhaps also the residents). A more formal arrangement should be pursued by the overall course organiser in future.
- We did manage to establish some contact with the nursing / midwifery staff and ran 2 sessions including some practical suturing. If this was going to work properly in future I should recommend a midwife with teaching experience attends and leads some of the more structured sessions which should include more midwives / nurses.
- Having 2 senior consultants (Myself & Shirin) delivering the teaching program worked well for us but the senior registrar/Consultant combination that other specialities ran was probably better for the senior trainees from the UK.

Student Feedback – Obstetrics

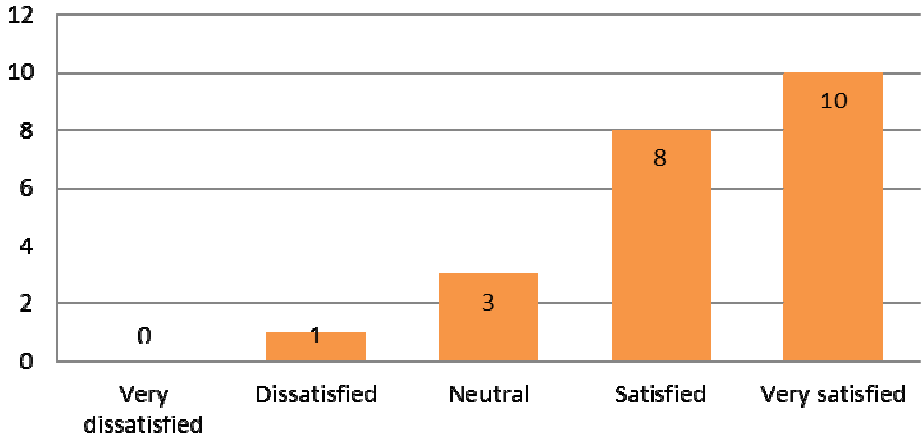
Ante-partum Haemorrhage



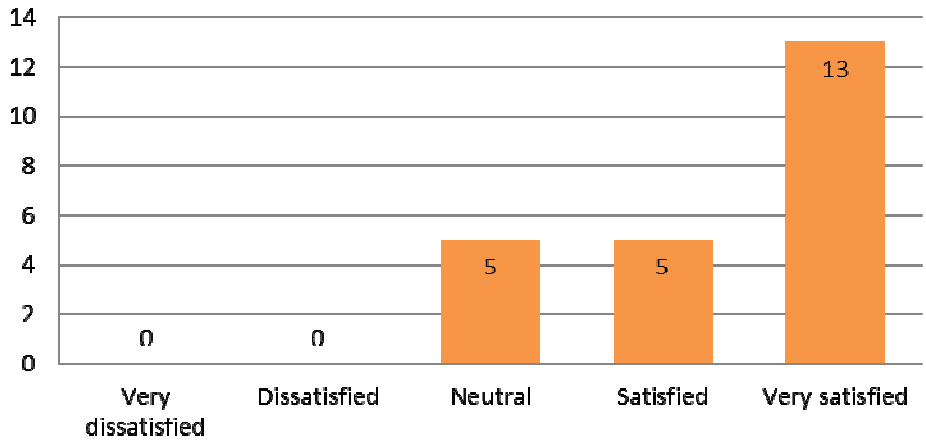
Atonic PPH



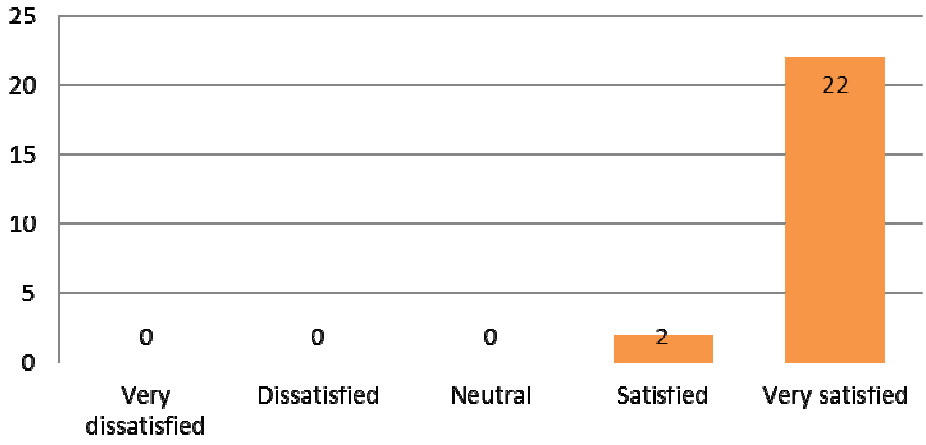
Traumatic PPH



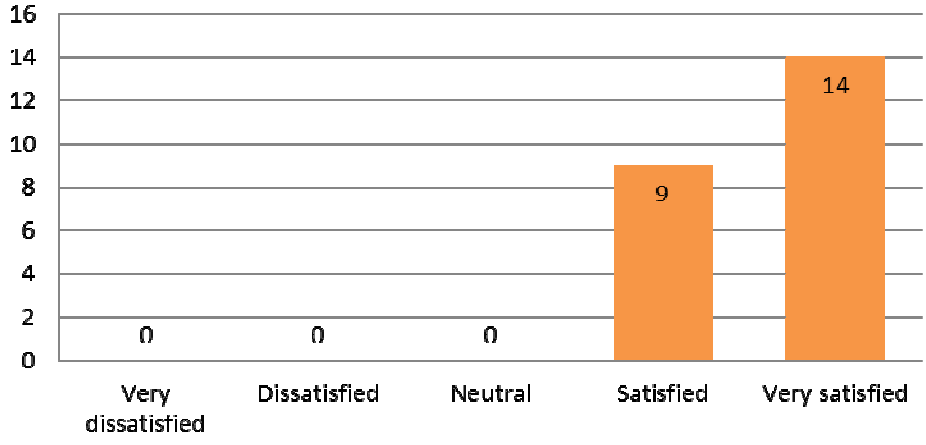
Caesarian Section

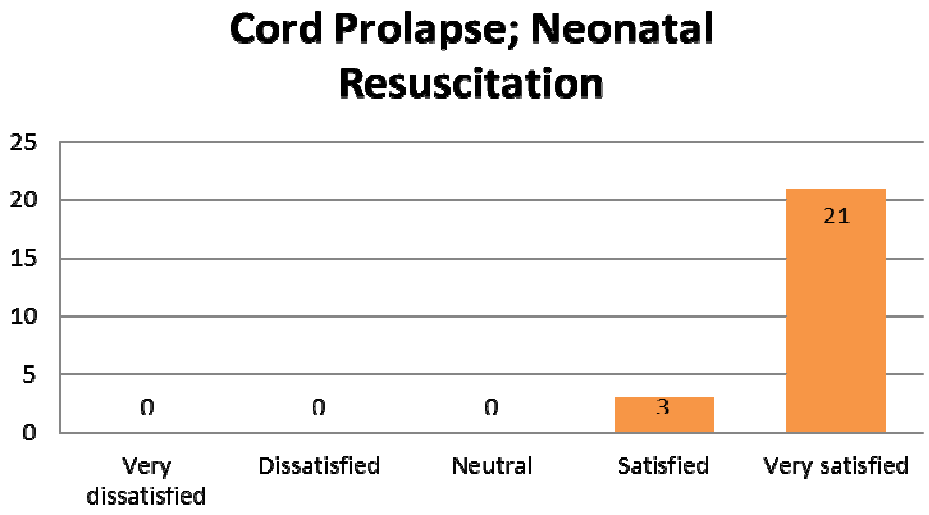


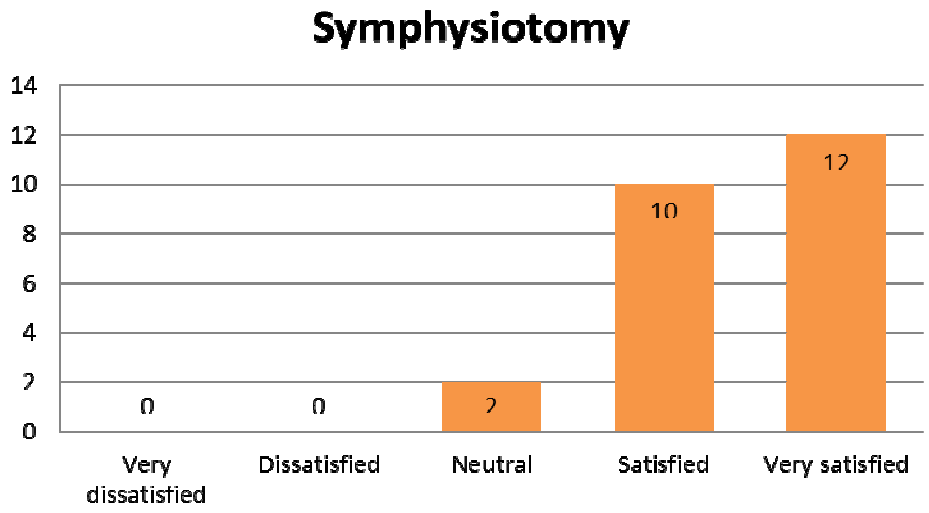
Shoulder Dystocia



Breech Presentation; Twins




Cord Prolapse; Neonatal Resuscitation
25
20
15
10
5
0
0
0
0
3
21
Very dissatisfied
Dissatisfied
Neutral
Satisfied
Very satisfied


Symphysiotomy
14
12
10
8
6
4
2
0
0
0
2
10
12
Very dissatisfied
Dissatisfied
Neutral
Satisfied
Very satisfied

Obstetric Requirements

Resus Annie (half torso) + IV fluids, 0_2 masks with reservoir bag/gloves etc x 3

Uterine inversion model (knitted uterus x 2 with slit) also for suturing techniques.

Lubricating powder for manikin

Obstetric delivery manikin with articulated baby x 2

Roller gauze pack

Rusch balloon

1 Sponge Holder
2 Long curved Spencer's

36 1 Vicryl (½ cc) Taper cut round bodied (W9377)

Nursing Report 17 – 21 October 2011

Sister Judy Mewburn

Saturday 15th October

The team flew from London Heathrow on the 14th October 2011 on an overnight flight. We were met on arrival by Robert Zulu and driven to the Taj Pamodzi hotel, where we had stayed on our previous visit. The Flame trees were coming into blossom and the Jacaranda blossoms were lovely clouds of purple. We had breakfast, (very welcome) and a snooze then met at 1:45 for a discussion on the course then went to LUTH to meet Dr Munthali and his cousin Judy Munthali. Judy had been very busy and had arranged for nurses to attend lectures on all aspects covered by the course. Russell, Bob and Paul visited the not very nearby pig farm to select the pigs for dissection and many other uses.

Sunday 16th October 2011

We had a relaxed day with a wonderful trip to a lodge in the countryside .This was kindly sponsored by the Johnson and Johnson representative. We sat outside under trees, walked to see the lions in a cage and then had a very good lunch under the thick thatch of the dining room. LIttle Weaver birds and Bulbuls flew around but unfortunately Bob was facing the wrong way!

Monday 17th October 2011

We went early to the hospital. The main part of the Course took place in the Tissue Bank room. It had just enough seating for all the participants with a room off for practicals. Six nurses from the ITU and A and E attended the first two days of the course. I visited the ITU with Judy Munthali and it was a very busy place with all beds full. There was a cacophany of noise as every monitor was alarming.... not enough maintainance ..... and no one bothered to turn them off! Craig Orinmore-Brown had been instrumental in improving patient survival in ITU and mortality rates were down hugely.

I was amazed at the amount of trauma from road traffic incidents and from alcohol induced fighting. One six year old had had the top of his head blown off but with a full thickness skin graft seemed to be recovering.

Fanus had devised a fun way of finding out about everyone. We all introduced ourselves, said where we were from and pointed it out on the map, making a little mark! A very good ice breaker.The first day covered primary and secondary assessment, ABCDE, resuscitation, CPR and advanced CPR. This was taught with the aid of manikins. We had two stations; one covered the reversible causes of cardiac arrest, surgical airway and hypoxia and the second covered shock in general, paediatric shock, care of a pregnant woman, post operative oliguria and the Glasgow coma scale.

The feedback from the nurses on this day was good. Repeat ABC had not been taught before. New CPR ratios were useful and practicing CPR was very useful. Learning about chest trauma was helpful.

They also asked for teaching on new intubation skills, cricothyroidotomy, update on care of the burnt patient and immediate post op care. I shall be able to address some of these issues in further nurse lectures.

Tuesday 18th October

Day two covered spinal injuries, sepsis and its diagnosis, management and treatment. Snake bite - the first aid and treatment of complications. Burns care and management. Russell Lock gave a lecture to five nurses on imperforate anus. They apparently have a lot of cases in the paediatric theatre. Shirin Irani and Michael Wyldes gave a lecture to four midwives on neonatal resuscitation, prolonged labour and repairs of tears and episiotomy. Both of these lectures were very well received and the nurses felt that they had learned some useful knowledge.

Wednesday 19th October

On day three thirty nurses gathered in the new and very comfortable nurse training room. Jaimin Bhatt gave a very relevant one hour lecture on the importance of nursing and the ethos of care and compassion. I then spent some time doing a SWOT analysis of nursing practice. This always throws up some very relevant comments. The best one in “Threats” was the attitude of the senior nurses towards the junior nurses. This was described as "*being barked at* ". As there was a senior nurse, Joyce Mendamenda, who was with us all day the message got right to the top in an instant! We then spent a long time going through the Theatre Course. There was a lot of discussion, questions about practice and searching for answers. I always feel this is the best scenario for the nurses to air their problems and to try and find an answer. Three of the theatre porters attended which was useful for them to learn about protective apparel when doing the instrument washing. Only the porters do this so it was important to teach them.

We had a lunch break and afterwards had a session on CPR. This is always instructive, especially as the skills of CPR and bagging to maintain the oxygen saturation take some time to learn properly.

There is always a huge degree of laughter as small nurses strive to do chest compressions. After this we settled down to an exercise on suturing. Having looked at the basic principles the nurses then did interrupted, mattress and subcuticular continuous suturing. There were prizes for the best suturing which went down well! We then did a feed back session. Joyce Mendamenda then gave out the very smart Certificates to all of the Nurses. We then went outside and took some group photographs.

Learning the fundamentals of CPR

Mastering the art of suturing

Receiving a Certificate from Sister Joyce Mendamenda

Group photograph

Thursday 20th October 2011

On day four I was taken to Matron's office and had a very pleasant talk with her and Judy Munthali. Matron expressed the gratitude of the hospital and staff for our efforts.

On day four and five two nurses per day attended lectures on Obstetrics and Gynaecology, Urology and Orthopaedics. This made a total of 12 nurses. All said a huge thank you and reported that they had learned a lot. A big thank you to the surgeons involved.

We then went to main theatres where Jaimin was teaching using the prostatectomy model from Limbs and Things. I talked to the nurses about care of urological instruments and how to use them. A patient with a large sarcoma on his leg was being prepared for surgery but the power was cut off so the operation had to be abandoned.

We then visited the Emergency theatre. Most cases are trauma and as there are not enough tables, surgery is performed on the trolleys. The sister in charge said that the theatre was usually busy all day.

In the afternoon we went to the Gynaecology and Obstetric theatre.
There where three Caesarian Sections to be done. Shirin Irani assisted at one; a live girl. The last was a very sad woman whose baby had died the day before. On delivery the cord was wound three times round the neck and the baby was enormous. ? Diabetic mother.

For all of these cases I demonstrated how important it is to look after the patient and not leave them alone. We discussed the Patient Care plans and swab counting.

Friday 21st October 2011

On day five I went to the main theatres to teach during the ENT list. The list of patients to be done was huge; twelve patients including two mastoidectomies. The surgeons were from Bulgaria and mostly spoke to each other in Bulgarian. Chaos ensued as they changed from one theatre to another, screaming at each other, the staff and the patients. We eventually did five cases all of which I scrubbed for and then the surgeons decided they had done enough!

The waiting patients were sent back to the ward. They did not complain. Such is life in Africa. I felt there was a complete lack of communication between surgeons and theatre staff. The ENT department needs some major sorting out. The staff all went home at two, so I spent some time going through the Theatre Course with those who had not attended lectures. Also explained the use of the scrub and care plan sheets.

Judy Munthali had taken me round all the theatres and while staff morale was good they where short of supplies; gloves etc being dispensed on a daily basis because of budget deficits. The hospital does not charge patients but there are quite a few paying patients in private rooms and these bring in most of the money. Nursing care on the wards was the same as I have observed in other countries in Africa. The nurses do the drug round, change infusions and do the dressings. All other patient care is done by the family. We found a moribund patient; her face crawling with flies. The nurse on duty had not noticed. This is a very African way of working and I feel that they could and should do more for the patient.

We finished the lectures with multiple choice questions for the doctor participants. Certificates where then given out, to much applause. Group photographs were taken and we all said a happy goodbye to lots of new friends.

Feedback from the nurses

- This one day course has been very educative. I look forward to another session.
- The suturing was very good. We take it for granted that this is a surgeon's job when we could work as a team. Please we want more exchange of knowledge of this kind quite often.
- Thank you for coming.
- My day has been wonderful as I had to refresh my knowledge on the care of patients intraoperatively, the importance of taking precautions and lastly suturing.
- The course was very interesting and educative. Looking forward to more teaching like this.
- The workshop was lovely I wish we could have more of this.
- The CPR talk and practical was excellent .The teaching will go a long way in helping our patients. Would like to learn intubation, cricoid pressure and a longer talk on diathermy.
- It has been a very educative workshop and I have been reminded of the importance of the swab count.
- The lectures are very educative. I have learnt a lot of theory as well as practical skills to enchance my practice.
- We should have more of these lectures as they highlight important areas of our practice.
- The knowledge that I have acquired in just one day will definitely be a help in my theatre career.
- The programme was very beneficial. I look forward to more of such.

Report on student and course assessment

Fanus Dreyer

Aims of Assessment

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

Domains assessed

1. Knowledge.
2. Technical skills.
3. Non-technical skills, especially teamwork.
4. Learning value.

Methods: Designing an Assessment Framework

Critical care (Day 1-2):

1. Knowledge: Multiple Choice Questions (MCQs): 16 questions worth 28 points (With the Specialties the total maximum score for MCQs was 96).
2. Subjective assessment by mentors (= 3 tutors, with students in groups of 8): to discuss attendance, participation, attitudes, team dynamics.
3. Non-technical skills and Professionalism: Students scored each other anonymously, trialling a new assessment tool (this did not count towards successful completion of critical care component of course).

Surgical specialties (Day 3-5):

1. Knowledge: MCQs (maximum score per discipline in brackets): General Surgery 10 (20), Orthopaedics 10 (20), Urology 5 (15), Obstetrics 5 (13).
2. Formative assessment in each specialty on knowledge, technical and non-technical skills during practical sessions. The aim was to classify students as unsafe, safe and excellent (minimum potential score 0, maximum 12). These scores contributed to overall assessment and helped to identify outliers, either as outstanding or as students that Faculty had concerns about, especially regarding technical skills, teamwork and relations to other students.
3. Technical skills in bowel anastomosis/other suturing skills: new OSATS assessment tool (formative only, i.e. did not contribute to final pass-fail mark).

4. A Direct Observation of Procedural Skills tool (DOPS) for Orthopaedics was developed but not used.

Feedback:

1. Questionnaires on each specialty (Critical Care, General surgery, Orthopaedics, Urology, Obstetrics) where students could score learning effectiveness on each taught topic. The questionnaire was designed to be learner centred; the question to answer on each topic was “How satisfied were you with what you learned about ....?” (e.g. Airway management, Communication Skills, Internal fixation techniques, etc), and students could rate this from “very dissatisfied” to “very satisfied”. The questionnaire also provided free space to write on “What went well?” and “What could be better?”

2. A summary feedback sheet on course organisation, value and delivery.

Outcomes

Successful Assessments

All students attended all course components and successfully passed course knowledge tests (MCQs). The range of scores obtained (mean in brackets) were:

- Critical Care 53-93 (72.92)%
- General Surgery 40-85 (71.92)%
- Orthopaedics 70-100 (90)%
- Urology 40-93 (72.22)%
- Obstetrics 54-100 (76.6)%
- OVERALL 54-90 (76.95)%

Formative assessment scores for all disciplines ranged from 65-98% (mean 73.87) per student. Individual scores ranged from 5/12 to 12/12 in each discipline. Generally formative assessment correlated well with MCQ scores. Formative assessment scales also allowed identification of a student who was technically outstanding on the one hand, as well as a student who had unsatisfactory non-technical skills.

Experimental tools

The technical OSATS tool in general surgery correlated well with tutors’ formative assessment scores on students’ technical abilities. It was, however, time consuming for tutors to complete two assessment systems for students.
Trial scores obtained with the quantitative tool for non-technical skills demonstrated a wide range of potential scores for various behaviours within the group. Although

completed anonymously, this tool identified the same unsatisfactory non-technical skills that were identified in one student during formative assessment.

Failed assessment attempts

The group of 24 was too large for 3 tutors in critical care to make reliable formative assessments of students (Communication skills, group dynamics etc that can easily be picked up in small group teaching with 4 students cannot be assessed reliably in groups of 8).
The DOPS for Orthopaedics was not applicable to taught scenarios and teaching methods in this course.

Feedback

Generally feedback from students was very positive, with almost all teaching events rated as satisfactory or highly satisfactory. A number stated that such training had not been available to them previously and they appreciated the efforts of Faculty to deliver the course. They found all Faculty easily approachable.
In critical care the highest ratings were for Advanced Life Support, Communication Skills and Surgical Sepsis. Students liked the mix of lectures, tutorials and practicals but felt that overall the programme was too full with not enough time for some topics.
In General Surgery the highest ratings were for Abdominal Trauma and Intestinal Obstruction; students specifically mentioned faculty's approachability and practical experience. Generally students would have wanted more time for everybody to practice all taught procedures which was not possible due to necessary limitations on abattoir material.
Orthopaedics was rated very highly for all topics by almost all students, although they wanted more time for practice. In Obstetrics and Urology students valued that the teaching was very practical but again would have liked more time on certain topics.

Follow up

All students will be contacted by e:mail in May 2012 to inquire as to what aspects of the Course have altered their practice and for any additional comments.

Suggestions for Future Course Assessments

1. Knowledge should ideally be tested before students start on this course, which is an intensive specialist course that does not try to cover all topics in surgical emergencies but teaches critical concepts and practical management. Students should therefore have sufficient knowledge of the anatomy, physiology, pathology and clinical principles of basic surgery. We should therefore suggest pre-test MCQs which can be done with a book or other literature available during the test. A high pass mark (70-80%) would then be necessary for success.

2. To implement pre-course testing students will need guidance on pre-course reading, or material should be made available to them. One possibility is to use the Surgery in Africa Reviews available through www.ptolemy.ca as recognised by COSECSA.

3. Organising faculty will have to decide whether students who fail the pre-course MCQ are excluded from the course or whether they have to write another MCQ at the end. Another option is that the pre-course MCQ contribute to the final course score, which means that a student who fails the pre-course test will have to "make up" during the course to safeguard successful completion of the course.

4. Formative assessment of practical knowledge, technical skills and non-technical skills can provide sufficient information on whether students complete the course successfully or not, provided that:

    a. Students are assessed in all disciplines and on all topics.

    b. Pre-course MCQ results contribute to knowledge scores.

    c. Technical and non-technical skills' assessments are specific, reliable and transferable.

    d. Students' scores are looked at daily, discussed by faculty and poorly-performing students are mentored early. All students should therefore be allocated a mentor for the course, with opportunity to meet from day one and to receive individual feedback. Starting the course with critical care means that students will meet a range of faculty on the first day which improves the reliability of identifying struggling students.

Evaluation Report

By Participants on "The Management of Surgical Emergencies" Course

There were 24 participants who scored an average of 8.7 out of 10 with a range from 7 to 10.
They all found the course useful and the following aspects were reported as being ***most*** useful – orthopaedics/trauma (10), critical care (8), general surgery (8), all (5), practical aspects (5), urology (5), obstetrics (2).
Five participants reported no ***least*** helpful aspects but those that were reported included vascular skills (3), orthopaedic plating (2), ICU (1), monitoring in critical care (1), CVS resuscitation (1), ECG's could have been better handled (1), urology too theoretical (2), urology (1), leave time for more urological emergencies (1), O&G (1) and finally - parts where we would sit and listen for more than two hours – mind wandered (1).

Suggestions for improving the course included:-

More practical sessions (3)
More time for O/G (2)
Shorten the final day because of MCQ's (2)
Pre course material sent to participants (2)
Add a basic surgical skills element (2)

The following were mentioned once each:-

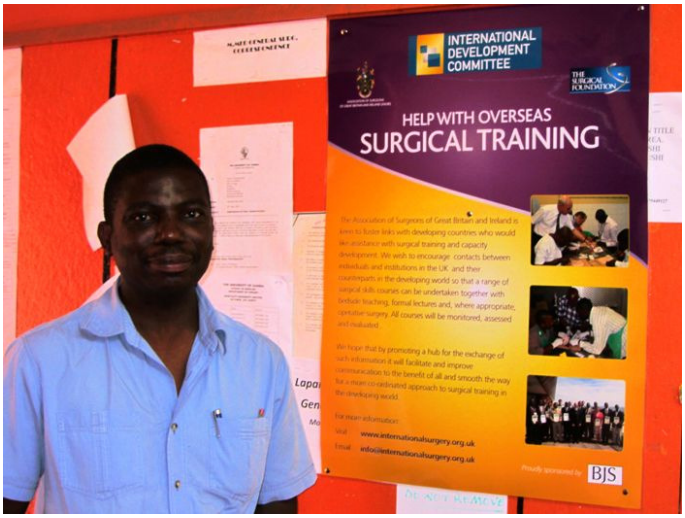
Intubation for neonates
ECG interpretation
More on chest trauma
Allocate more time to specific specialty
Theory given before practical sessions
More simulation on critical care scenarios
More critical care in general
Ventilation (mechanical)
Bowel resection
Nerve repair
General Paediatric emergencies
More pigs.

Other comments were highly complementary and included the following:-

A very well organised course, excellent mentorship, practical sessions very good, learned beyond my expectation, should like to have this course every year, more time to be spent on communication skills, do the BSS first and tailor to specific grades of trainees.

Someone has to count the money!

Awarding a Certificate to a successful participant



Our colleague and friend Dr Robert Zulu who did so much to make the Course a success

Convenors Report – An overview

Bob Lane

This was a pilot course on the “Management of Surgical Emergencies” so that we, the Faculty, as well as the participants could judge whether it had fulfilled all our expectations. The general consensus of opinion was that it had and was deemed a great success. However, a few points were mentioned by the Module Leads which are worthy of discussion.

On the positive side it was evident that all 24 participants turned up on time for all five days of the Course and were enthusiastic and well motivated. It was a fundamental requirement that this was not a course that was transplanted from the UK.The Faculty were well prepared and had worked extremely hard on their modules to make sure that they were fit for purpose in an African setting.

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The assessment process, designed and led by Fanus Dreyer, revealed that feedback was very positive and all participants passed the MCQ aspect and were duly awarded a Certificate of satisfactory completion. There are some aspects of the assessment process which need further attention and that was one of the reasons why we embarked upon a pilot course so that a number of new methods could be tried and tested.

The pig model chosen by the general surgeons was excellent provided that the flies and colon were dealt with rapidly! The pig is the best model simply because of the size of the organs which are similar to those in a human.

We had excellent support from the Department of Surgery and in particular from Dr Robert Zulu who was exemplary in looking after our requirements.

We had the Faculty dinner at Pam’s Restaurant which provided Indian cuisine which was deemed excellent by everybody including the three Indian members! We also had the great privilege of being invited to dinner with the First Lady, Dr Kaseba-Sata, and this because she and Shirin Irani were old friends and fellow registrars in the UK. This was a memorable evening and enjoyed by all.

Faculty dinner at Pam’s Restaurant

Thanking the First Lady, Dr Kaseba-Sata, for hosting us to dinner. Shirin is on her right.

Staying in one hotel improved bonding between the Faculty and allowed exchange of ideas and hassle free travel between hotel and hospital. The hotel itself was very welcoming and despite being the best hotel in Lusaka we were given an extremely good rate which was probably related to the time of year and the size of our party (15).

On the negative side it was apparent that some of the modular programmes were too full especially Critical Care and this mainly due to including practical aspects concerning General Surgery i.e. Burr Holes, Skin Grafting, etc. In the Critical Care and General Surgery Modules the Faculty was not large enough to cover their programmes satisfactorily which detracted somewhat from their smooth running.

There was no air conditioning in the Tissue Lab which was the largest room available to us. In retrospect it was also not big enough to contain 24 participants and a number of observers. Also, some of the break out stations were too far away from the Tissue Lab which resulted in some session's over- running.

The pig model, though ideal, does create certain logistical problems as well as being expensive. Despite this it did supply material for the General Surgery, Orthopaedics / Trauma and Urology Modules.

Organising the refreshments and the time of delivery is always a problem. On some occasions the breaks were unco-ordinated. In retrospect we should only have had *cold* drinks so that they could be taken at any time of the morning or afternoon.

The Dean's Foyer was not very suitable where only one out of four power sockets worked. However, this did not matter too much because of the extension leads brought with us. The Urology and Obstetric components were compromised by being adjacent to a public thoroughfare.

There are certain changes that we must consider for future courses. The Faculty needs to be increased from 3 to 4 in the Critical Care Module and from 2 to 3 in the General Surgery Module. It was generally agreed that 24 participants were too many and that this number should be reduced to 18 which would allow three groups of six each which would be much easier to manage especially during demonstrations and would allow more personal tuition.

Each module has been asked to assess their core content and consider reconfiguration if needs be. The temptation is always to try and include too much. We must emphasize that this course is ***not*** a workshop although it must remain as practical as possible. The choice of participants is important if we are to deliver the right level of training. It may be that we stipulate that they should have completed a Basic Surgical Skills course beforehand as these are now widely available. It would certainly have made life easier if the majority of participants were at the same level of training as some were in Year 1 and 2 and others in Year 4 of their MMed course. Pre-course reading material with appropriate references should be provided to all participants beforehand. It would also be sensible to have the introduction session the night before the Course starts and this could be at a small reception which would allow adequate time for registration including taking ID photographs, allocation of groups and explaining in detail what the course will and will not include.

The course must be sustainable and therefore involvement of local consultants, selected or otherwise, should be mandatory in future. The two local trainers were Dr. Orinmore-Brown (Critical Care) and Dr. Nenad (Urology) who taught on the course and their input was much appreciated. To this end we must also consider running a

Training the Trainers course if one or two centres in the region are going to be selected to run this advanced course in the future.

Many Faculty expressed the wish that they would have liked to have related more to their local Specialty Department and undertaken some specialist training, ward rounds, operating etc. The Urologists, Obstetricians and Orthopaedic surgeons did meet up with their local colleagues on the Monday and Tuesday of the course when the Critical Care Module was being undertaken. It has also been suggested that more nursing and midwife observers could be accommodated and this would be to everyone's advantage. Three trainees made up our Faculty from the UK and it has been suggested that we should involve more in future as it is a great experience for them.

It was also suggested that we could have utilised our charity baggage allowance (69kg) to greater advantage by bringing out equipment for the local departments etc.

We were all encouraged by this Course and must now look to the future and the question of funding. The main expense is the Faculty itself. We cannot reduce the number until we have trained local Consultants to at least participate on the course. It would be ideal to have at least one local consultant attached to each module. The fact that this pilot course has been successful is an indication that we can now maintain momentum and write a manual, confirm teaching requirements and equipment.

I again thank the Department of Surgery at LUTH for inviting us to undertake the pilot course and to the Faculty for their tremendous effort in making it a success.

End of course photograph – we all survived!

Final select comments from surgical trainees

"Overall the critical care component was an eye-opener to things that we take for granted in daily practice."

"The rich clinical experience of the faculty was evident and very beneficial."

"I wouldn't mind doing this course over and over again."

"Very practical course … Work with the pig helped emphasize the points & enabled practice. The teachers were straight to the point and highlighted important points."

"Finally understand the concept of internal fixation and lag screws."

"The whole course was excellent. Supportive teaching. Hands-on was great. Things are nicely broken down to 'do-able' steps."

"If I weren't an orthopaedic surgeon OBS would be my choice if faculty were like you both."

"More time, more time, more time!"

"Sincere thanks to all. Kindly make this annual for the next 3-5years."

Appendix

Saturday 22nd October 2011. Flight BA 254 - Going nowhere!

Return Journey
Lusaka to London, October 22 – 24, 2011

Members of party affected:-

Robert Lane
Paul Gartell
Jacob Stephanus Dreyer
Hendrina Fredrika Dreyer
Jonathan Hannay
Shekhar Biyani
David Ball
Alison Rosemary Boyes
Yogesh Nathdwarawala
Michael Wyldes
Shirin Irani
Naidu Maripuri
Judy Mewburn

Events as they occurred.

Saturday 22nd October 2011

The above checked out of the Taj Pamodzi hotel at 05:45 and were conveyed to Lusaka airport by private transport.

Arrived at Lusaka airport 06:15. Joined a long slow queue to clear security. At this stage we heard that all the computers were down. By 06:45 most of us had passed through security and now joined a static queue for the BA check in desks. Check in was extremely slow due partly to the fact that there was only one BA staff member manning the desk and she had to write out all the boarding cards by hand! We did wonder why extra personnel had not been brought in knowing that the computers were all down. Standing in a queue for 2.5 to 3 hours for some was an arduous process. However, whilst standing we heard that the incoming flight was 2 hours late (scheduled arrival time 06:20) and this because of a dysfunction in the hydraulic system involving the tail fin. The news that four fire engines had to chase the aeroplane down the runway did not seem to be shared by the check in department! It might have suggested that perhaps this aeroplane was not going to take off on time (08:35).

We remained in limbo until an announcement was made at approximately 09.55 to say that the flight had been delayed and a further announcement would be made at 1030. At approximately 1055 an announcement was made that the flight had been cancelled. Naturally we were somewhat fed up but some 30 minutes later two members of the BA staff (a supervisor and a junior member of staff) came upstairs and explained the reason which was the defective hydraulic mechanism in the tail fin. At this stage we were not told what was going to happen to us and were advised to wait in the departure lounge for further news. This we did. We were given vouchers to the value of 40,000 kwacha (£5.12) in order to purchase drinks etc at the refreshment counter. Approximately one hour later we were advised that we should be transferred to the Hotel InterContinental in Lusaka. All enquiries relating to rerouting or whether a flight could be found for us were not answered. The BA staff had been told nothing and clearly there was no contingency plan with regard to further flights at that stage.

We then made our way down the stairs into the arrivals hall where we collected our bags and then went outside the building to stand in the sun to wait for transport to take us to the InterContinental Hotel. It took 3 hours for some of the team to get a place on the mini coaches that were available and during this time there were long queues to get vouchers for the hotel. There was only one person sitting down writing out the vouchers and after a protestation from many people another member of staff turned up. Some of us got on the first bus available. It might have been better to get everybody to the Hotel and then issue the vouchers instead of keeping everybody standing in the heat. Others who did not get this bus were then suddenly told that they had to have their exit visas cancelled which meant taking their passports away which caused more delay. Eventually all of the above were transported to the Hotel InterContinental where the check in procedure took a long time and this not unnaturally because a sudden influx of people bombarded the reception desk when the hotel was more or less empty and the staff were not prepared to receive over a 100 people, even though transport was staggered. The last of our team arrived at 15:45. We were allocated rooms and had further refreshment. We awaited details together with everybody else who was on BA254. That evening we were told that there would be **no** flights out of Lusaka the following day, i.e. Sunday 23rd October 2011. This caused consternation amongst pretty well everybody. On numerous occasions staff were asked what plans had they to get us back to London but they simply did not know.

Sunday 23rd October 2011

A meeting was called for 10:00 when the BA staff would meet all the passengers on the flight in a large meeting room. The meeting did not get off to a very successful start when the person sent by BA said that the first that she had heard of a problem had been the previous night! This caused disruption amongst the audience and the manager was asked to come straight away to explain this appalling lack of communication. Whilst waiting for the manager a plan was mentioned to us, and that was that the scheduled flight from LHR departing Sunday night and arriving 06:00 on Monday 24th October would bring two engineers and the replacement item to repair the hydraulic system in the tail fin. We were told that this would probably take no more than one hour or so. The local engineers (not BA) had removed the defective item and so all the BA engineers had to do was to install the new one. It was stated that if this were to take place then the plane that we were going to fly back to London the previous day would now take off at about 10:00 (on Monday 24th October 2011) because the scheduled incoming flight to Lusaka would be taking off at 08:45. In other words there would be two planes leaving Lusaka with about a two hour interval between. Both would be returning direct to LHR.

However, not everybody took this information at face value. One could foresee all sorts of problems, i.e. that the plane would not be ready to leave at 10:00 the following morning and that it conceivably would not be fit to leave at all! What would happen then? There were places on the scheduled flight back to LHR leaving 08:45 and a number of people jockeyed to get seats on that plane. One member of our party succeeded, Shekhar Biyani, and this because of his connection with a flight back to Manchester. However, this did leave five members of my party who were also due to fly onwards to Glasgow. We simply did not know what was going on. Lists were being made left, right and centre.

Later in the morning a manager did arrive. His name was Ezekiel and his title on his name badge was - *? Airline Operation Manager*. He was the most senior BA staff member we had met and infact was very pleasant and explained again the plans for the morrow.

It was arranged that those who were going to catch the scheduled flight leaving at 08:45 would be picked up from the hotel and transferred to the airport at 05:30 on Monday 24th October 2011. Those of us remaining who were going to travel back to LHR on the repaired aircraft which was scheduled to leave at 10:00 would be picked up and transferred to the airport at 07:30.

We went to bed that night at least knowing that there was a plan but not knowing whether it was feasible.

Monday 24th October 2011

Mr Shekhar Biyani got the 05:30 transfer and departed on time from Lusaka airport for LHR at 08:45 or thereabouts. However, most of the remaining passengers had decided to get down to the main foyer at about 07:00 to make sure that they were on the transport to take us to the airport. When we came downstairs there were a number of photocopies on the reception desk stating that the 10:00 flight had been **cancelled** because the defective hydraulic system had not been repaired! One can only imagine the feeling of utter despair and consternation amongst the passengers standing looking bewildered in the foyer of the Hotel InterContinenta! I had a diabetic in my party who was running out of insulin and many of us were now out of anti malarial tablets.

A member of BA staff then turned up at the hotel with a list and it transpired that about 40 of us were **on** this list including all my team. Enquiries were made as to what this list was for and we were told that there were places on the scheduled flight to LHR i.e. leaving at 08:45 and please could we be prepared to transfer to the airport within 10 minutes! Several of us were infact still in our rooms and it took some running around to get them all downstairs. The transport arrived and my team and other passengers helped pack the little trailer with most of the cases; the remainder went inside the bus together with everybody else and a very uncomfortable ride ensued in order to get us to the airport. Once there we unloaded the bags, went through security yet again and queued up in front of the BA desk somewhat exhausted by this recent turn of events but nonetheless moderately happy that we would be getting the scheduled flight and be home that night. However, more disappointment was to come!

The manager that we had met the day before explained that there were **no seats** available on the scheduled flight! The BA staff member who brought us the message was in fact standing in front of me and I said to the manager "well excuse me how is it that this lady here came with this list and said we were on the flight?". Various mumblings went on and he just reiterated that there were no seats on the flight. At this stage several members were deeply shocked and angry as to yet another turn of events.

The Manager then admitted that even when the defective part in the hydraulic system is replaced the plane would have to undergo a test flight because it had been grounded for over 24 hours. In that situation the plane could not then take off again that day because BA would have used up its flight/take off slots!! In other words this plane was **NEVER** going to take off back to LHR on Monday 24th October 2011!!

However, it then turned out that the reason why the plane had not been repaired was because whilst the two engineers had arrived on the scheduled flight, the replacement item for the hydraulic system **had been sent to Johannesburg!** Further incompetence on behalf of British Airways!!

The duty manager then explained that a Jumbo jet would fly out of Johannesburg with the item to repair the hydraulic system and would then return to Johannesburg leaving at about 15:40 hours. We should then be boarded onto the direct flight back to LHR from Johannesburg. We spent from 08:30 until 15:00 hours in the BA lounge at the airport which although comfortable, six and a half hours stuck in one place isn't a great deal of fun. The flight took off late from Lusaka because of "problems with the paperwork". We therefore arrived in Johannesburg at just past 18:00 local time and the flight was due to take off at 18:45. We therefore exited the Jumbo jet, got into a bus and were taken straight to the terminal where two BA staff members issued boarding passes and we then queued up to get our passports stamped and then had to queue up again to get through security and then had to literally run from one end of the terminal to the other to board the aircraft. We made it literally just in time. The flight back to LHR was satisfactory and arrived on time at 05:10 on Tuesday 25th October 2011.

The five members of my team who had onward flights to Glasgow made their connections and their luggage followed them later that day.