PTC Course Report:

Kilimanjaro Christian Medical Centre: Moshi

Mount Meru District Hospital: Arusha

24th – 28th March 2014

Report prepared by:

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COSECSA Oxford Orthopaedic Link (COOL)

This Primary Trauma Care course is part of a project funded through the Health Partnership Scheme, which is funded by the UK Department for International Development (DFID) for the benefit of the UK and partner country health sectors and managed by the Tropical Health Education Trust (THET). The project is called the COSECSA Oxford Orthopaedic Link (COOL).

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Purpose of the visit:

This course was the third of five to be run in Tanzania over an 18 month period, as part of the COOL project. (COSECSA Oxford Orthopaedic link).

Trauma, especially road traffic accident worldwide, is a substantial cause of morbidity and mortality. In Tanzania, it accounts for 30% of casualty referrals and costs the country $20 billion / year

The first course had been held in September 2013 in Muhimbili National Hospital, Dar Es Salaam, supported by 4 UK instructors plus Dr Howard Kingu from South Africa.

The second had been run in December 2013 at Kibaha and Bagamoyo District hospitals. Tanzanian instructors from the Emergency Medicine department at Muhimbili National Hospital led the course, supported by two UK based PTC instructors to facilitate and help.

This course followed the 2-1-2 format and was held at 2 centres over 5 days. It started at Kilimanjaro Christian Medical Centre (KCMC) in Moshi, which is a consultant hospital and the major referral centre for the Northern regions. It then moved on to Mount Meru hospital, the main regional hospital in Arusha, which was 80km away from Moshi.

KCMC

Mount Meru

Executive Summary:

A total of 44 candidates were trained over the 5 days using a mixture of English and Swahili.

5 instructors (4 Tanzanian, 1 UK) led the course in KCMC where there were 23 participants, a mixture of doctors, clinical officers and nurses.

12 candidates were selected to attend the Instructors course, 7 of which travelled to Arusha to teach the next course. The new instructors then trained a further course of 21 participants over the next 2 days.

All candidates on both courses completed the pre and post course MCQs with everyone improving their scores. Some of these were very significant, showing, for example, MCQ scores up from 6 to 19 and from 12 to 25.

Even confident candidates, with extensive clinical experience, who scored highly on the pre course test, improved their scores significantly.

Most candidates also showed a great improvement in the confidence matrix so that after the course they would be far more likely to intervene appropriately to treat patients.

Equipment that was available in the hospitals, such as oral airways, chest drains or interosseous needles had never been used, even by many of the doctors. The skills station proved useful introductions to their correct and safe usage.

All participants embraced the ABCDE approach enthusiastically and will hopefully lead their teams in a more systematic approach to the trauma patient.

The Tanzanian team from Dar Es Salam had organised both courses superbly with recruitment of participants, all the necessary paperwork, an excellent teaching approach and a responsible budget. They no longer need UK support.

There will be a need to simplify the course as more remote and smaller hospitals are involved. It will also be necessary to teach increasingly in Swahili .

Alongside teaching the PTC course, important organisational difficulties within the hospitals were identified. In particular, the inability to take an unstable, bleeding patient directly to theatre without admitting them to a ward first for surgical review. The Tanzanian team were able to explain the changes that they had implemented at Muhumbili hospital. Invitations were issued for senior KCMC staff to visit Dar and further investigate not only the financial benefits that had resulted, but more importantly, the improvement in patient survival.

In addition to PTC teaching, an initial needs assessment was made at both hospitals by Dr Spencer on behalf of “Lifebox”. There was only one pulse oximeter at each hospital that was shared out between 6-7 operating theatres.

PTC may need to rethink the finances in more remote areas. There was absolutely no acceptance of the credit card, however large the bill. Only cash could be used and the restriction on withdrawals applied by both the charity credit card and by Tanzanian ATMs was a problem. This is likely to be pose even bigger difficulty on the next two courses.

Key Personnel:

Dr Hendry Sawe: Emergency Physician, Muhimbili National Hospital and President of the Emergency Medicine Association of Tanzania. (EMAT)

Dr Kepha Bernadi: Emergency Physician, Muhimbili National Hospital. Member of Emergency Medicine Association of Tanzania. (EMAT)

Dr Said Kilindimo: Emergency Physician, Muhimbili National Hospital. Member of Emergency Medicine Association of Tanzania. (EMAT)

Dr Germinian Festo Temba:Emergency Physician, Muhimbili National Hospital. Member of Emergency Medicine Association of Tanzania. (EMAT)

Dr Ruth Spencer, UK based PTC trainer and Consultant Anaesthetist, Frenchay Hospital, Bristol, England

Local Contact: Dr Mark Mvungi: Lead Emergency Physician at KCMC.

Professional Aspects of the Visit:

The first 2 days in KCMC were held in a large, air conditioned room where it was possible to run 3 simultaneous skills stations or scenarios at any one time without being too cramped or noisy. Food and refreshments were excellent. AV facilities and projection were

provided by the instructor's laptops and a projector donated by PTCF. Food was provided mid morning and at lunchtime, with further afternoon refreshments.

That room was double booked for the Training the Trainers (TOT) course but an alternative was rapidly found. It was a smaller board room which had the advantage of being a quieter, less intimidating atmosphere for the new trainers to begin teaching in and also promoted full participation and feedback. The disadvantage was that there was not enough space to practice running scenarios.

The second 2 day course at Mount Meru was held in the hospital church. It was a little darker with long benches instead of chairs but there was still adequate space. There was no air conditioning but it was not required at this time of year. Refreshments were also of an excellent standard.

Both courses miraculously started within 5 minutes of the proposed time of 9am. In KCMC, every single candidate was present punctually at the beginning of the second day and there were no time keeping issues. The start time was however dictated by the hospital wide prayers that occupied the 8.30-9am slot daily.

At Mount Meru the start time was dictated by other meetings being held in the church, so earlier starts did not prove feasible. A few participants (4-5) drifted in a little late but being a smaller hospital more of them had clinical duties to fulfill in addition to attending the

course. At both hospitals several of the participants had on call duties overnight and were tired the next day

The commute from Moshi to Arusha is 80km along a good, paved road. It took just over 1.5 hours. A minibus was hired as we took 12 people and was substantially cheaper than using taxis. The Dar team were able to arrange this and had very good local knowledge despite also being away from home.

Arranging our accommodation in Arusha was also achieved using excellent local knowledge. We all stayed together at a Catholic hostel that was clean, comfortable and good value for money.

Course Participants:

First course at KCMC:

There were a total of 23 participants, 15 women and 8 men. There were 8 doctors, 3 Clinical Officers and 12 nurses. The specialties represented were from Surgery, Paediatrics and Casualty. No anaesthetists attended.

Dr Mvungi, our local contact stayed for every single part of the course. He was constructive, helpful and greatly encouraged his junior colleagues.

One participant joined after about an hour on the first day and another came to the second day only. He was given a specially printed “One Day” course certificate. Neither completed both MCQs so there are 21 pre-course tests and 23 post course tests.

Pre course MCQ scores ranged from 9-22/30. Post course MCQ scores were from 16-28/30. Everyone showed improvement, including those who had already done well on the first test.

TOT Course:

A total of 12 participants were selected to do the TOT course based on knowledge reflected by the MCQs but also on enthusiasm for teaching and engagement in all the activities. They comprised 7 doctors (including 2 surgeons and 2 paediatricians), 1 Clinical Officer and 4 nurses. Dr Mvungi again joined us for the whole day. Despite the very short notice, 7 of them were able to make the journey for the two night stay at Arusha. Of these 5 were doctors and 2 were nurses.

Second Course at Mt Meru:

A total of 21 participants attended the second course, 10 men and 11 women. Specialties represented this time included surgery and casualty, but in contrast, the largest group were anaesthetists. Pre course scores were generally lower ranging from 6-24/30. Post course results ranged from 10-28, with every candidate showing an improvement.

Course Instructors:

As listed under key personnel:

Dr Hendry Sawe:

Dr Kepha Bernadi:

Dr Said Kilindimo:

Dr Germinian Festo Temba:

Dr Ruth Spencer.

Details of Activities:

Days 1 and 2

The first day started promptly at 09.05. The lectures were shared among the 4 local and 1 overseas instructor. Three skill stations were taught:-

1. Basic Airway support, using airway opening techniques, nasal and oral airways and bag-mask ventilation. No candidate had ever inserted a nasal airway despite them being available.

2. Advanced Airway station where we discussed problems with intubation such as misplacement of the tube. We also taught how to treat a choking child. We did not teach intubation or cricothyroidotomy. Only one of the candidates had ever intubated anyone and no one had ever seen a laryngeal mask although they were apparently used in theatre.

3.Application of a neck collar and safe removal of a motorcycle helmet.

The candidates were enthusiastic and the skill stations generated much discussion. They proved a good way to get people involved before we moved onto scenarios in the afternoon. This was a new style of learning for them but they participated eagerly and were able to integrate the ABC principles into practice.

Day 2 started with the lectures, before moving onto more skills stations. The goat arrived and remained alive until a few minutes before it was needed! We used the thorax for the workshop on chest drain insertion and used chicken legs to demonstrate the use of

interosseous needles. A third skill station taught log rolling in the presence of spinal injury. These sessions were very well received.

After lunch all participants then completed the end of course MCQ. We conducted the second day scenarios after this as we judged that they would not influence scores that much and it gave us time to mark the papers. The candidates were very encouraged to hear how much progress they had made. It also gave us time to think about who we would select for the instructor course.

Certificates were presented to all candidates by Dr Hendry Sawe, Dr Ruth Spencer and Dr Mark Mvungi

Day 3 (Instructor's course)

All 12 selected instructors were able to attend the course but it was very short notice for them to also be able to come to Arusha for two days. The main issues were commitment to work that could not be altered and domestic arrangements. Our local contact Dr Mvungi was particularly helpful in gaining permission for people to be away.

We taught the course material about how adults learn in a relatively short time. Thereafter, all selected candidates had prepared a 5 minute lecture or teaching session with each candidate giving their presentation to the whole group. Some excellent presentations

included how to make an asthma spacer out of a water bottle and teaching the skill of treating corns and callouses using oranges. The group also practised giving constructive feedback after each talk.

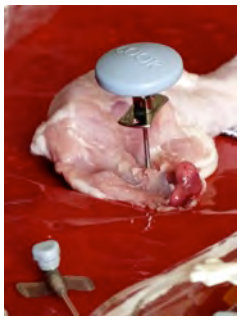
During the morning the Chief Executive of the hospital was able to visit and lend his support to the programme.

The remainder of the day was spent allocating the lectures and other teaching roles that everyone would undertake in the next course. 7 of the 12 were able to come to Arusha and we set off together in a minibus at 16:30. We were all able to stay at the same hostel and went out for dinner together.

Days 4 and 5

Although Arusha is a larger and much wealthier town than Moshi, Mount Meru hospital was a lot smaller than KCMC.

We taught in the hospital church and had 21 candidates. Initial MCQ results were poor. There were two senior doctors who scored well but 7 of the candidates scored 10 or less. One candidate scored only 6/30, gave himself the lowest marks on the confidence matrix but admitted that he saw up to 200 trauma cases a month.



Our new instructors were actually very good at delivering the lectures and at organising themselves. They needed some support to get all the equipment for skill stations and scenarios together but they kept their eye on the clock and rearranged the programme to suit the situation, managing to finish day 4 on time. We used the same skill stations as at KCMC

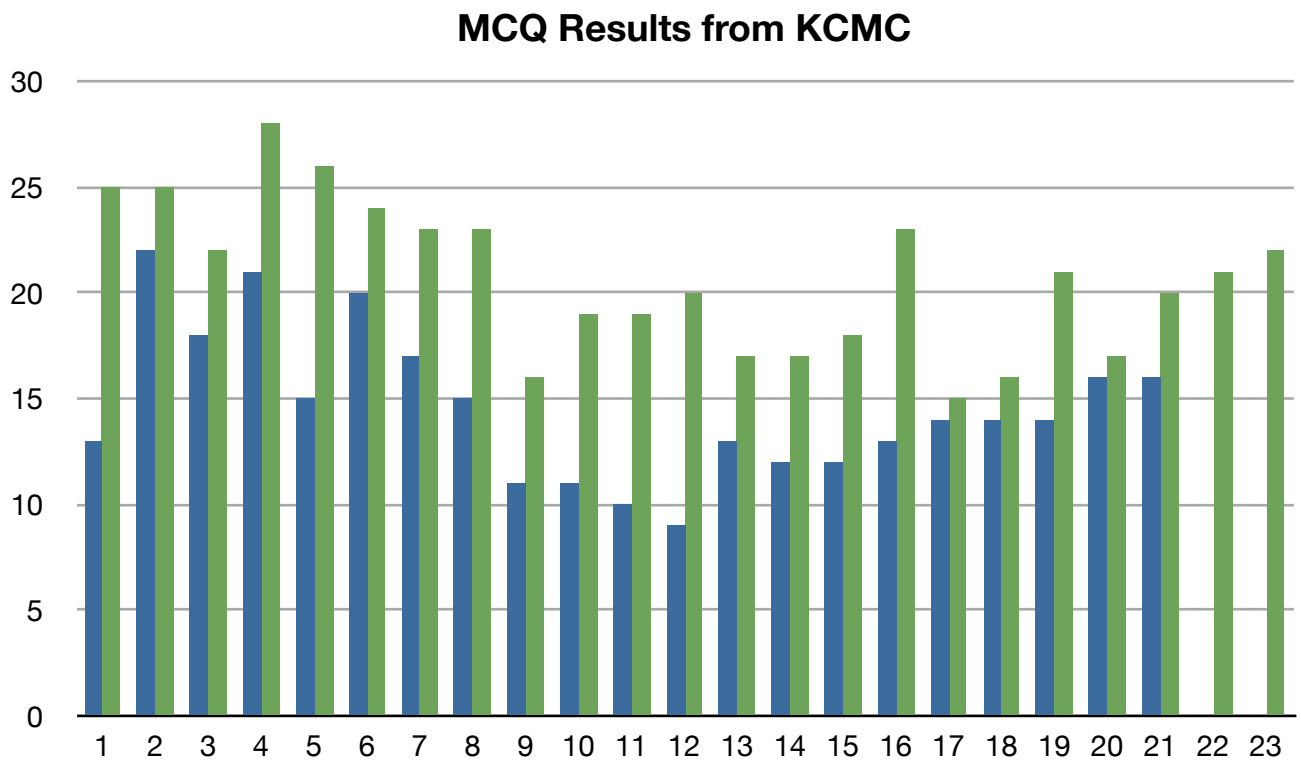
The final day saw the lectures take longer than expected, mostly due to a large number of questions from the participants. It was necessary to clarify some very basic concepts and the Muhumbili team, especially Dr Sawe, were clear and helpful, continuing until everyone had understood. We used a second goat and more chicken legs, having determined that the doctors did need to learn about chest drains and that interosseous needles were available. Our new instructors once again altered and adapted the programme to fit everything in.

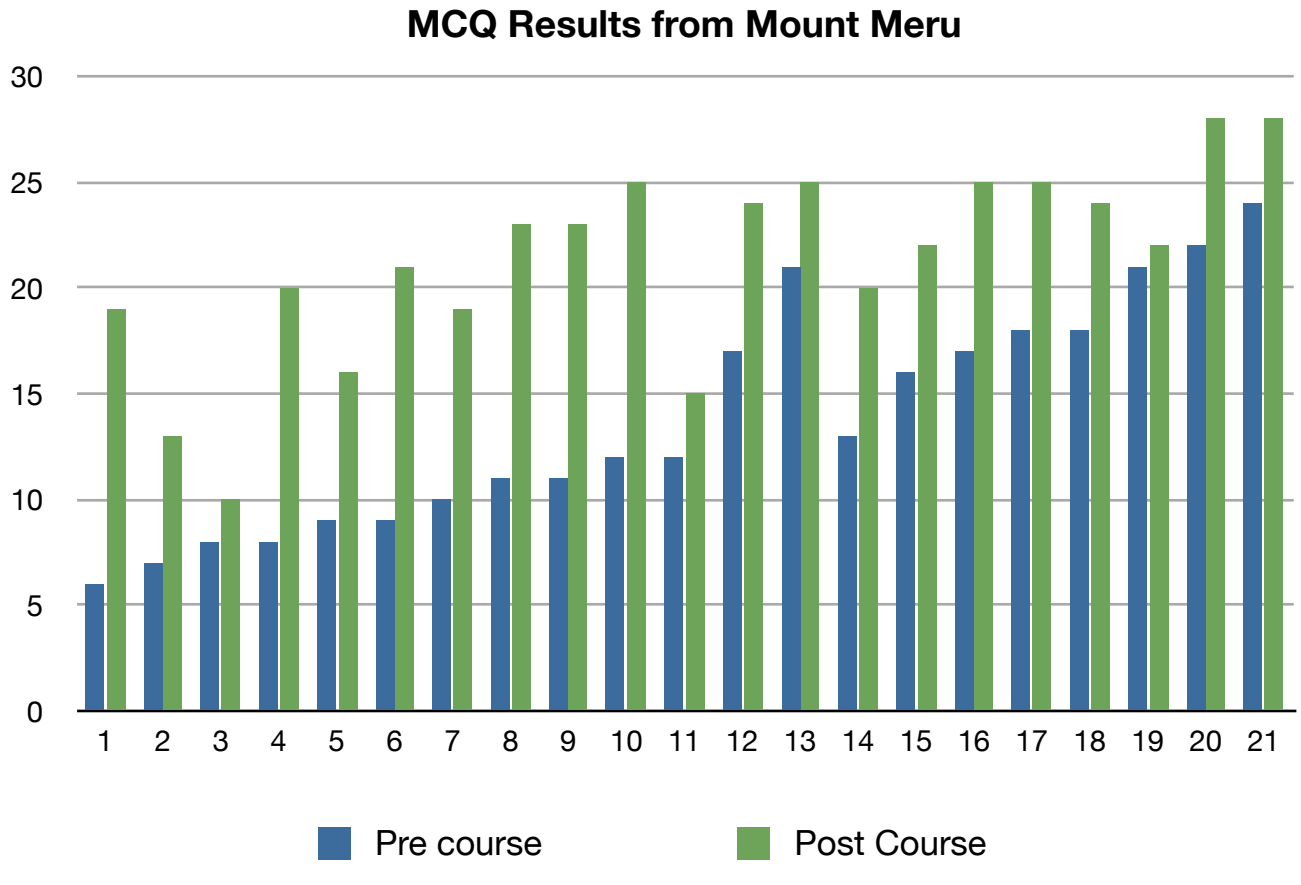
The post course MCQs showed some very dramatic improvements. The participant who had scored 6 managed to get 19 and everybody did better including the two who had initially scored highly and were very senior doctors. Announcement of this was met by spontaneous singing and dancing in celebration before certificates were presented

It was apparent that several of the new instructors have the confidence and knowledge base to go on and run other courses elsewhere. They were all immensely encouraged to have made such a difference with their first attempt at teaching and are all keen to pursue future PTC courses.

The team from Muhumbili were also very happy to have delivered such an excellent first course and to have seen their new trainers perform so well and effectively.

Summary of MCQ Results:





Media coverage and plans for the future:

On this occasion, there was no media coverage.

The team at KCMC are very keen to run future courses. They are organised under their team leader Dr Francis Sikita, but they lack the equipment in the black box, in particular, the airway mannequins. They are also uncertain how to arrange future courses, how to fund them and whether they need permission from either Dar Es Salaam or from PTC in the UK.

Because of the structure of the 2:1:2 course, no trainers were recruited at Mt Meru. There were at least two very senior doctors there who would make excellent instructors and others who with encouragement and support could also take on this role.

It is hoped that senior administrators from KCMC might be able to visit Muhumbili hospital to see the tremendous improvements made to patient care by instigating the practice of surgical review in the casualty department and by direct transfer to theatre if unstable.

There are 2 more courses planned:

June 2014 – Mbeya and Iringa
October 2014 – Mtwara and Lindi

Kit for the courses will continue to be kept in the black box donated by PTC and stored in Muhimbili Hospital. New instructors are likely to still require some continuing support from the Muhimbili (EMAT) team

Dr Ruth Spencer will pass the Tanzanian phone, this report and further advice to Dr Tom Hanna who will facilitate the next course.

Recommendations:

Most difficulties were financial. As the pattern of courses becomes steady, it may be possible for fixed and predictable amounts such as the printing and photocopying to be paid directly from the PTC account to the EMAT account and avoid the need for large cash transactions.

It would be prudent for any UK trainer to ensure that their own current account has a reasonable balance in it and that their bank is informed that large and frequent cash withdrawals may become necessary. This is the only possible point of acquiring additional cash whilst abroad.

Pre-course communication could be improved by nominating a single African trainer who is actually going to be present on the course. On this occasion, we communicated via Dr Juma Mfinanga who always replied promptly to e-mails but as he was never going to be teaching on the course was not always able to answer helpful specifics about contact names, places to stay or times of arrival.

It may be helpful to give notice to all participants on the first course that selection as a trainer will mean traveling away from home. This might avoid the last minute need to rearrange work and domestic committments in a single evening and would increase the chance that those trained could then participate in the second 2 day course.

It would be useful to have a plan for supporting new trainers. I did not feel that the new trainers at KCMC really knew how to move forward and although they were very enthusiastic, they do not know how to make another course happen.

Many of the good value hotels in more remote regions do not have an internet presence and cannot therefore be booked from the UK. The Dar team were able to access accommodation that could not be booked from here.

Acknowledgements:

We would particularly like to thank Annette Clack for her unfailing encouragement, support and advice which has been vital in planning these courses.

Also, Dr Deborah Harries for leading the Tanzanian PTC project which such commitment and enthusiasm