COURSE REPORT

ARUA, UGANDA

17th – 21st February 2014

Report Presented by: Tim Beacon

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). More information is available at www.ndorms.ox.ac.uk/cool.php.

PTC PROGRAMME REPORT

ARUA FEBRUARY 2014

Tim Beacon

March 2014

PTC PROGRAMME ARUA, UGANDA

FEBRUARY 2014

C O N T E N T S

1. INTRODUCTION

This report details a UK team visit to Arua in North West Uganda to run a Primary Trauma Course Foundation Programme (PTCF) in February 2014. This was the second of a new wave of THET funded PTC courses in Uganda as part of the COOL project via Oxford and COSECSA.

With the high incidence of trauma and its poor management well documented throughout Africa, the need for improved trauma management is of paramount importance in order to save life and promote both a rapid and quality recovery. The PTCF aims to address this issue through a properly structured and consistent programme that takes into account the often poor resource environments the medical teams work in.

This report summarises each stage of the courses together and concludes with discussion points and issues raised.

Tim Beacon
Course Director

2. KEY STAFF INVOLVED IN PLANNING AND CO-ORDINATING

Alex Bangirana (AB)	Consultant Surgeon. PTC Coordinator Uganda
Tim Beacon (TB)	Managing Director, Medical Aid International
Annette Clack (AC)	UK PTCF Administrator
Hyatt Khan (HK)	Orthopaedic Registrar, Maidstone and Tunbridge Wells NHS Trust
Francis Lulu (FL)	Consultant Surgeon, Arua General Hospital
Professor Emmanuel Moro (EM)	PTC Representative for Uganda COSECSA
Nigel Rossiter (NR)	UK Country Coordinator for Uganda

3. UK PTC INSTRUCTORS

Tim Beacon (TB)	Managing Director Medical Aid International
Hyatt Khan (HK)	Orthopaedic Registrar Tunbridge Wells NHS Trust

4. PURPOSE OF THE VISIT

The purpose of the visit was to run a PTC Programme in the Arua district of north western Uganda at the main hospital in the town of Arua.

The course was instigated by NR in liaison with AB, the Country Director for PTC. NR asked TB to act as Programme Director. The aim was to run an initial instructors' course followed by one for the larger team led by the recently trained instructors.

5. EXECUTIVE SUMMARY

1. 30 people attended over the five days. Outcomes on all three courses were very good. The faculty are very confident practise will change. Ongoing support and encouragement to roll out the programme is vital.

2. The equipment and data projector is a very important asset in terms of augmenting the teaching quality and outcomes of the course.

3. All UK and in country organisation was excellent.

4. The value of the local hospital visit was immense.

5. The enthusiasm of the delegates and in particular the local trained instructor's team performance on days 4 and 5 is to be highly commended.

6. PROFESSIONAL ASPECTS OF THE VISIT

All in country preparation coordinated by AB and done in Arua by FL was excellent. All logistics worked perfectly. Drivers were on time, all accommodation was booked and the level of enthusiasm and cooperation in all areas was superb. The venue was excellent with very helpful staff. Power was intermittent but the generator was soon put on when we had a power cut.

The Arua Hospital visit was done on the evening of day one. As ever this was a real education and helped significantly in the running of the course.

FL had assembled a team of enthusiastic delegates for both courses from a wide geographical field and with a range of experience and specialities; he quietly instilled a real sense of enthusiasm, anticipation, expectation and professionalism. Having EM in the background enthusing and supporting the team and delegates was as always a vital encouragement and his influence, wisdom, sense of humour and precene adds an immense amount. As always his clinic input was of real benefit.

TB photocopied enough manuals for at least two courses before he left to ease the administrative challenges of getting this done in country.

7. INSTRUCTORS' PTC COURSE

There were twelve delegates. The courses ran smoothly with the delegates rapidly recognising the principles and applications of PTC. We made it clear that they would be teaching this material on days four and five and those they should not only learn clinically but observe our teaching methods. Pre and post course scores indicate successful improvement in the delegate's knowledge. This was also demonstrated in the role plays and general discussions.

Delegate (one paper lost)	Pre Course MCQ	Post Course MCQ	% Increase
1.	47	70	23
2.	73	97	23.4
3.	57	90	33.3
4.	50	83.	33.3
5.	53	87	33.4
6.	50	87	36.7

7.	63	80	16.7
8.	70	93	23
9.	60	73	13.3
10.	70	83	13.3
11.	57	73	17
AVERAGE	**59.1%**	**83.3%**	**24.2%**

The course confidence matrix shows an encouraging improvement in the delegate's knowledge:

	PRE COURSE	**POST COURSE**
5 yr old child with # pelvis	2.0	4.2
30 yr old pregnant female with # femur	3.2	4.5
25 yr male with knife in abdomen	3.5	4.3
60 y female with 40% burns	3.5	4.3
50 yr old male unconscious with fixed dilated pupil	2.3	3.4
20 yr male conscious but cannot move legs	2.7	3.8
2 year old child with major haemorrhage due to traumatic amp of leg	3.3	4.3
50 yr old male cyanosed with tension pneumothorax	3.5	4.8

Course Feedback Questionnaire summary:

DAY 1	**AVERAGE**
Local trauma perspective	4.6
The ABCDE of trauma and Primary Survey	4.8
Airway and breathing	4.9
Circulation and shock	4.5
Skill stations	4.4
Secondary Survey	4.6
Demonstration scenario by instructors	4.6
Scenarios Practice	4.4
Chest trauma	4.7
AVERAGE	**4.6**
DAY 2	
Head trauma	4.4
Spinal trauma	4.5
Abdominal trauma	4.6
Limb trauma	4.3
Trauma in children	4.4

Trauma in pregnancy	4.3
Burns	4.5
Workshops	4.5
Disaster management	4.5
Scenarios practice day 2	4.5
Multiple Choice Questionnaire	4.7
AVERAGE	**4.5**

Post courses evaluation comments can be seen in Appendix one.

8. TRAIN THE TRAINER

All of the delegates from days one and two attended. Delegates enthusiastically embraced the teaching and were very focussed and professional. They were a joy to teach.

The delegate Feedback is as below and numerically demonstrates a successful day. This was borne out when they taught on days 4 and 5.

Usefulness of each section scores:

SUBJECT	AVERAGE SCORE
Introduction	4.6
How adults learn	4.6
Asking questions	4.6
Feedback	7.8
Presentations	4.8
How to give a lecture	4.7
How to lead a discussion group	4.7
How a skill teach	4.6
How to teach a scenario	4.0
Workshop: Give a lecture	4.5
Workshop: discussion group	4.6
Workshop: teaching skill	4.8
Workshop: scenario	4.6
Language issues	4.0

Confidence Matrix

Teach a PTC skill	4.5
Deliver a PTC Lecture	4.2
Run a trauma scenario	4.1

Run a discussion group	4.4
Lead a PTC course	4.1
Lead a PTC Instructor course	3.9

Evaluation comments can be seen in appendix 2

9. HOSPITAL PTC COURSE

All of the delegates from days one to three were able to stay to teach on the hospital PTC course. There was a wide range of skills in the team: surgeon, anaesthetist, clinical officer and one senior nurse. This high number was very encouraging although it allowed reduced opportunities for multiple lecture and workshop experience.

The faculty were extremely impressed by the enthusiasm, organisation and teaching quality of the instructor group. More so when FL was unwell for the first day so coordination of the two days was handed over at the last minute to one of the delegates who ran the course extremely well. FL very wisely allowed the coordinator from day one to continue on day two.

They ran the course superbly whilst taking on board guidance as the two days progressed. The success of the teaching is demonstrated in the table below and in the comments in appendix three.

The delegates who attended on days 4 and 5 were varied (see below) and enthusiastic and demonstrated a real willingness to learn. Many had travelled a significant distance to attend.

All the evaluation feedback below demonstrates a successful course. The evaluation comments can be seen in appendix three.

Delegate	Pre Course MCQ	Post Course MCQ	% Increase
1. Clinical officer	43	77	79
2. Clinical officer	40	80	100
3. Anaesthetic Officer	57	87	53
4. Enrolled nurse	37	77	108

5. Senior Nursing officer	43	90	109
6. Nursing officer	37	70	89
7. Unknown	16	60	275
8. Clinical officer	40	53	33
9. Radiographer	50	80	60
10. Enrolled nurse	20	63	215
11. Orthopaedic officer	43	87	102
12. Orthopaedic officer	63	83	32
13. Senior radiographer	47	90	91
14. Nursing officer	30	53	77
15. Enrolled nurse	37	63	70
16. Nurse	43	87	102
17. Clinical officer	23	70	204
18. Nursing officer	27	53	96
AVERAGE	**39%**	**74%**	**105 %**

The Post course evaluations are below and confirm the positive outcomes:

How confident do you feel in managing?

	PRE COURSE	**POST COURSE**
5 yr old child with # pelvis	2.9	4.5
30 yr old pregnant female with # femur	4.0	4.7
25 yr male with knife in abdomen	0.3	4.6
60 y female with 40% burns	3.7	4.8
50 yr old male unconscious with fixed dilated pupil	2.5	4.5
20 yr male conscious but cannot move legs	3.5	4.6
2 year old child with major haemorrhage due to traumatic amp of leg	3.7	4.5
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Course Feedback Questionnaire

DAY 1	**AVERAGE**
Local trauma perspective	4.4
The ABCDE of trauma and Primary Survey	4.9
Airway and breathing	4.9
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Skill stations	4.5
Secondary Survey	4.5
Demonstration scenario by instructors	4.6
Scenarios Practice	4.4
Chest trauma	4.8
AVERAGE	**4.5**
DAY 2	**AVERAGE**
Head trauma	4.6
Spinal trauma	4.6
Abdominal trauma	4.6
Limb trauma	4.7
Trauma in children	4.7
Trauma in pregnancy	4.6
Burns	4.5
Workshops	4.4
Disaster management	4.1
Scenarios practice day 2	4.5
Multiple Choice Questionnaire	4.4
AVERAGE	**4.2**

10. DISCUSSION

A multitude of observations can be concluded from the MCQ's, confidence matrix, feedback and faculty observations**.**

1. In terms of resources and infrastructure to deal with severely injured patents, as is usual, the hospitals and clinics the delegates come from have minimal equipment and infrastructure (see right).

2. In view of (1) above it is vital that the PTC training is devolved to all levels recognising the reduced skill base and very limited equipment.

3. An overview of the pre and post MCQs clearly shows, as per the table below, the initial higher knowledge base of the senior staff, who were taught on days one and two compared to the very low initial lower knowledge base of the delegates on days four and five (none of whom where doctors and where a spread of nurses and clinical officers). This is to be expected, though given their role in initial management of trauma management this is an area of significant concern.

	Pre Course MCQ	Post Course MCQ	% Increase
INSTRUCTORS (days 1-2) AVERAGE	**59.1%**	**83.3%**	**24.2%**
HOSPITAL (days 4-5) AVERAGE	**39%**	**74%**	**105 %**

Nonetheless what is extremely encouraging and exciting is the level to which the hospital staffs knowledge has increased to be almost on par with the senior staff after the course. This is a reflection on the teaching team, the material and the delegates.

11. ISSUES RAISED

Without a doubt the course was effective in delivering its objectives. Thirty delegates from a wide variety of specialities left with a much better understanding of how to manage trauma patients and a determination to educate others. Key discussion points are as follows:

1. FL's organisation pre visit and his quiet but very effective motivation of the delegates were a vital ingredient of the courses success.

2. Ongoing encouragement must be given post course to the group to teach others.

3. Having an international component in the faculty adds a dynamic to the programme which is very powerful. Hyatt Khan added an immense amount to the programme with his

It seems there is much debate at PTCF about the value of the training aids ("the box") and how necessary they are. It is generally recognised that they are very helpful but the question is often asked does the box make the courses equipment dependent?

It is the authors view, based on his experiences of teaching PTC with and without the box, that whilst one can teach with no resources the value of the teaching aids in terms of professional image, course quality and ease of teaching makes them very desirable, bordering on essential.

Without the training equipment one could ask where does advanced first aid training end and where does PTC start?

enthusiasm and knowledge.

4. EM and AB's role cannot be underestimated in terms of supporting the course and giving it credibility.

5. The teaching resources, especially the airway trainer and the projector were very helpful. FL felt the resources were vital for them to roll out the programme locally as whilst they could do without resources it makes it much easier and enjoyable to teach. These are in rugged military specification transport boxes to protect them whilst being transported so there is no reason why this cannot happen.

6. FL and the delegates were keen to run further courses locally and were discussing obtaining the training equipment with AB. This was very encouraging.

7. A stock of higher quality certificate would be good as delegates value these

12. ACKNOWLEDGEMENTS

The reasons the three programmes were a success was the combined efforts of the entire faculty and in particular Dr Francis Lulu in Arua whose on the ground preparation for the team was faultless. Special mention must go to Alex Bangirana for local liaison and for taking five days out of his work at Mulago Hospital to support and teach on the programme and Professor Emmanuel Moro (right) for his enthusiasm and support through attending, encouraging and teaching. Thanks also to Hyatt Khan for making a last minute very quick trip to join us. His contribution was greatly valued.

Finally without all the support of Annette Clack in the UK none of this would have happened so we are very grateful to her for her support, encouragement and patience.

APPENDICES

APPENDIX 1 PTC INSTRUCTORS COURSE EVALUATION COMMENTS DAYS 1-2

What is the most useful thing you have learned on this course?

1. Systematic (ABCDE) Management of trauma patient
2. The general approach to any trauma condition
3. ABCDE (Primary survey for trauma patients)
4. The principles of ABCDE
5. Triage and ABCDE approach
6. Managing airway in a trauma patient and protecting of the cervical spine
7. The principles of trauma is ABCDE approach
8. Systematic use of ABCDE
9. Being sequential in management of trauma patients
10. Application of the theoretical knowledge into practise systemically and the easiest way
11. Structured approach to trauma care (ABCDE)

What two things do you plan to change in your trauma management as a result of this course?

1. Have the necessary equipment ready and take appropriate action first
2. Steps in medical examination, changes in patient transportation (ambulance system)
3. Chest drain for tension pneumothorax and Haemothorax
4. Implement ABCDE in our trauma management
5. Include secondary survey
6. Always use ABCDE approach; systematic and detailed
7. Better support to cervical spine in trauma patients
8. Using AVPU criteria to perform quick neuro assessment
9. Apply the ABCDE principles at all times
10. Disseminate to team knowledge to co workers
11. Forming an emergency team / disaster team
12. Primary survey for al trauma always consider ABCDE
13. Assessment of trauma patients
14. Management of life threatening conditions like tension pneumothorax
15. ABCDE approach
16. Continued regular assessment. Communication with patient

Thinking about the last trauma case that worried you (described in the pre-course questionnaire at the beginning of this course) would you change anything in your management? Please explain.

1. Managing a head injury by using the ABCDE approach so as not to miss other associated injuries
2. I would change the system of patient monitoring. IE Shorter time durations on follow up especially re-evaluations of primary survey
3. Yes follow the basic principles pf primary survey, fluid management, O2 therapy, antibiotics and tetanus toxoid
4. Yes, involve others staff in the principle of ABCDE
5. Yes will change the idea of not giving IV fluids in head injury despite the low BP, increased pulse rate and replace the learnt idea from the PTC
6. Yes! Application of ABCDE before referral
7. I would change the assessment. Primary survey with re assessment and then proceed to secondary survey
8. Determine clinically whether there was a 2nd brain injury due to intracranial haematoma (extradural, / subdural). Burr hole decompression

What was the best part of the course?

1. All serious. Interesting
2. Practising what we learnt through scenarios
3. Skill stations
4. The ABCDE of primary survey
5. Discussions on head trauma needs more information
6. Practical demonstrations on models
7. ABCDE
8. The practice sessions (case scenarios)
9. Theoretical was excellent
10. Demonstrations of airway management, spinal trauma management

What would you change?

1. Nothing
2. Expand a little more on the management of pregnant patient especially secondary survey
3. I would make the presentations a little more detailed and elaborate (have ben to simplified and summarised)
4. Some scenarios were too long, need to shift to all comers for further learning

5. None
6. Case scenarios be spread over days to give time to internalise
7. Chest tube insertion using live goats. Venous cut down. Illustrations during slide presentations
8. The training is mainly aimed at clinicians and in our settings they are the people doing everything in the management of patients so I think it would be better if it covered both of patient management of the trauma conditions beyond the primary survey and baseline investigations.

APPENDIX TWO TRAIN THE TRAINER EVALUATION COMMENTS DAY 3

What was the best part of the instructor's course?

- The workshops on how to give a lecture, discussion group, and teaching a skill and scenarios
- All
- The workshops, especially scenarios
- How to teach skills
- How to teach a skill
- The presentation general introduction
- The workshops
- Full participation of all the participants that made every person confident enough to be a TOT
- How to give a lecture
- Workshop on how to give a lecture
- Teaching a skill
- How to give a lecture

What would you change to improve the instructor's course?

- More details and emphasis on handling a scenario teaching
- Nothing to change
- Provision of transport refund
- Leave out workshop on how to give a lecture since it is covered in the lecture
- Just keep up but more or further trainings could be held in competency
- Increase the number of days
- Give 2-3 days to prepare to teach as an instructor
- Making demonstration lectures by participants before actual delivery as an instructor
- After the training courses I will be able to know areas of inadequacy to enable decide objectively where changes have to be made

- Allocate more time on the workshop than the lecture

APPENDIX THREE HOSPITAL EVALUATION COMMENTS DAYS 4 - 5

What is the most useful thing you have learned on this course?

1. Assessment of trauma patients both primary and secondary
2. Decompression of Pneumothorax / Haemothorax
3. How to carry out primary survey and keep patient alive
4. The importance of primary survey that keeps the patient alive
5. Understand the priorities of trauma management
6. Assessment and management of trauma especially the ABCDE
7. Use ABCDE in management of PTC
8. ABCDE can do wonders and save many lives
9. Primary Trauma Care and management of a pregnant woman in trauma
10. The ABCDE of primary trauma care
11. To manage patients not forgetting ABCDE
12. Proper management of primary survey in order to save lives
13. Management of primary and secondary survey
14. The Air, Breathing, Circulation, Disability, and Exposure of PTC in trauma
15. ABCDE intervention in PTC

What two things do you plan to change in your trauma management as a result of this course?

1. a) I want to teach all the staff to know how to assess PTC and b) I want to apply the knowledge I have gained for all patients
2. a) Referring patients without primary survey and b) Examination of the back in secondary survey
3. a) Always go by the ABCDE approach and b) Always treat conditions as I find them
4. a) Minimising referrals and b) Sensitising colleagues about PTC
5. a) Be able to rapidly assess trauma and b) Accurately assess trauma patients
6. a) Systematically assess my patient and b) Manage my patients in accordance to the parameters I find (vital signs)
7. a) Always do ABCDE for every trauma patient and b) Train fellow staff on the ABCDE
8. a) Save life and b) Avoid further injury
9. a) Always follow PTC, practice of ABCDE on all trauma, clinical and emergency patients and b) Enhance and build a trauma team
10. a) Primary Trauma Care and management and b) Change attitude of health workers

11. a) Log rolling and b) Transportation of PTC
12. a) To act as fast as possible and b) Not fear when the patient is severely injured
13. a) Train other staff members so that we work as a team and b) To improve management of trauma cases
14. a) Management of primary survey and b) Management of secondary survey
15. a) Airway maintenance and b) Care of disability
16. a) Involvement of head to toe examination (no other answer given)

Thinking about the last trauma case that worried you (described in the pre-course questionnaire at the beginning of this course) would you change anything in your management? Please explain.

1. The ten year old girl who got paralysed after running for a long time - I would advise her not to run for too long next time and the rest of the students too. Refer her for further management to an orthopaedic surgeon
2. Public toilet to be done, primary survey reassessment, i/v N/S 2 litres bolus, then if pneumothorax-decompression and insert an intercostal tube and under water shield drainage
3. Yes, early toiletting of the wound and prompt administration of antibiotics that would have prevented gangrene
4. Definitely yes, through adequate primary survey followed by secondary survey I will stabilise the patient before referral
5. Yes, I would change my management of spinal injuries
6. I would have made sure the airway is clear then assess the breathing before going to arresting the bleeding which I did in the pre-test
7. I will do a lot more to save the life of the trauma patient with all the knowledge obtained, especially the ABCDE
8. Yes, because I shall now use my ABCDE guide first than my usual management
9. Definitely, I will fulfil the principles of ABCDE and hand the patient alive to the surgeon
10. Yes, I will because I have learnt more skills in assessing the patient with trauma and the new approach
11. I will change the management of primary and secondary trauma care from the old methods to the new skills I have obtained in this course
12. I will try to be confident in managing the patient knowing what will be done is for the betterment of the patient
13. Same principles applied in all trauma cases – the ABCDE approach
14. Yes, the way I will manage a patient with head injury
15. Shall be able to reduce pain by mobilisation, comfort, cold compress and then drugs

16. ABCDE intervention involved and reassess again in any cases when condition deteriorates is what I had not applied before

What was the best part of the course?

1. All was ok
2. Primary survey
3. Both the theory and practical part
4. Both lectures and skills practice
5. All were good but I am a slow learner
6. The PTC
7. Practical demonstrations and the gadgets
8. Really the lectures were good especially the chest and head trauma
9. All were excellent
10. The ABC aspect of saving life of a trauma patient
11. The ABCDE systematic approach
12. Hands on
13. The simplified manuals
14. Primary survey
15. Decompression of pneumothorax/haemothorax, compartment syndrome
16. The presentations of the assessments were the best for me

What would you change?

1. Nothing
2. Nothing
3. Nothing
4. The period was too short
5. Include time for skills in Neurological examination, Airway Management /Resuscitation
6. More days for the work shop
7. Make scenarios more real
8. Administrative announcement to help those coming from very far
9. Nothing
10. Rapid Neurological examination
11. The days for the course were not enough. The facilitators were forced to rush with the presentations. I would increase the days to at least 3 days