

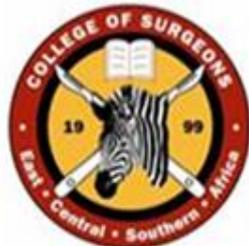
# COOL Hip and Knee Arthroplasty Course

14-17 July 2014

CURE Ethiopia Children's Hospital & Black Lion Hospital

Addis Ababa, Ethiopia

## COURSE REPORT



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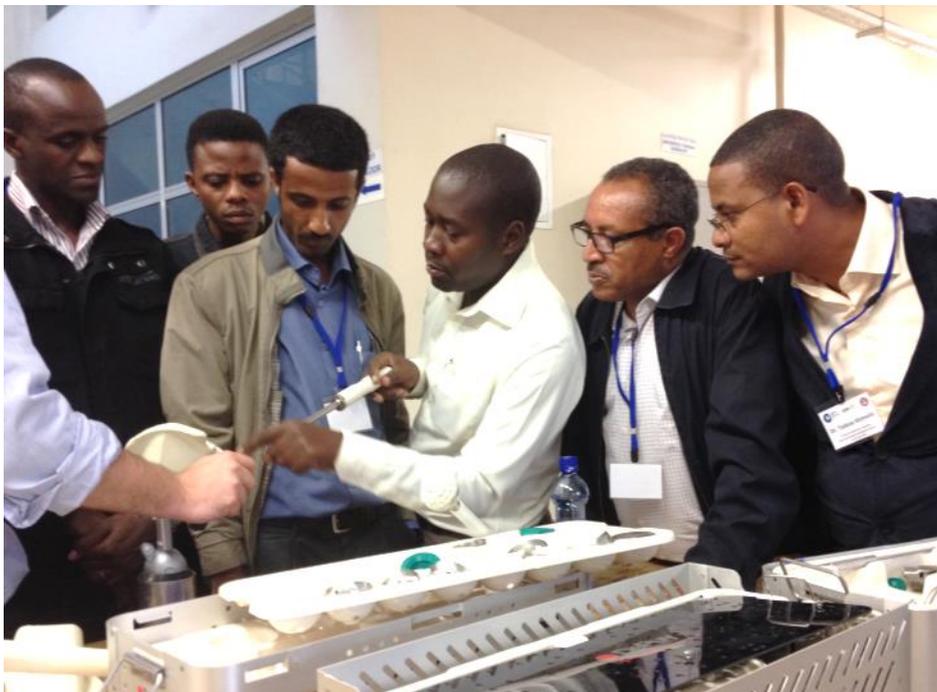
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## Executive Summary

CURE Ethiopia Children's Hospital and Black Lion Hospital co-hosted a total hip replacement (THR) and total knee replacement (TKR) course in Addis Ababa, Ethiopia, 14-17 July 2014 for 33 orthopaedic surgeons from around the region. This introductory course included lectures, demonstrations of surgical approaches to the hip and knee and sawbone workshops to teach basic principles and give hands-on experience. The course was designed and delivered by a UK team of hip and knee surgeons, mainly from the Nuffield Orthopaedic Centre, Oxford University Hospitals NHS Trust as part of the COSECSA Oxford Orthopaedic Link (COOL) programme, a four-year collaboration between the College of Surgeons of East, Central and Southern Africa (COSECSA) and the University of Oxford.

A key aim of the COOL programme is to improve standards of care for musculoskeletal impairment (MSI) and to increase the number of health workers trained in MSI care, through strengthening partnerships between health institutions in the UK and low- and middle-income countries. There are few regional postgraduate orthopaedic courses in the COSECSA region, and this course was the fourth in a series of regional one-week orthopaedic courses (including spine surgery and paediatric orthopaedic surgery), supporting national and COSECSA orthopaedic training programmes.



## Objectives

The course was primarily aimed at senior surgical trainees in COSECSA countries with a career interest in orthopaedics, aiming:

- To provide an overview of hip and knee replacement;
- To develop an understanding of principles, pre-op planning, exposure, surgical technique, pitfalls, and potential complications associated with total hip replacement and total knee replacement, and;
- To develop ability in diagnosing common orthopaedic hip and knee problems (adult) which can be treated with THR and TKR.



## Faculty

### **Nuffield Orthopaedic Centre, Oxford University Hospitals NHS Trust, UK**

Mr Christopher Dodd, FRCS

Mr Max Gibbons, MA, FRCS

Mr Roger Gundle, MA, D.Phil, FRCS (Orth)

Mr Hemant Pandit MBBS (Bombay), MS (Orth), DNB (Orth), FRCS (Orth), D.Phil (Oxford)

Mr Adrian Taylor, FRCS (Orth)

### **CURE Ethiopia Children's Hospital, Addis Ababa**

Mr Rick Gardner, FRCS (Tr+Orth)

### **Cambridge University Hospitals NHS Foundation Trust, UK**

Mr Stephen McDonnell, FRCS

## Participants

The course was attended by 33 participants from COSECSA countries (30 men & 3 women).

- |                               |  |
|-------------------------------|--|
| 1. Dr. Zegene Taye            | Consultant St. Paul's Hospital                           |
| 2. Dr. Tilahun Desta          | Consultant St. Paul's Hospital                           |
| 3. Dr. Tadese Shimelis        | Consultant Black Lion Hospital                           |
| 4. Dr. Yiheyis Feleke         | Consultant Black Lion Hospital                           |
| 5. Dr. Geletaw Tessema        | Chief Resident Black Lion Hospital                       |
| 6. Dr. Worku Belay            | Chief Resident Black Lion Hospital                       |
| 7. Dr. Ephrem Gebrehana       | 3 <sup>rd</sup> Year resident Black Lion Hospital        |
| 8. Dr. Biruk Wamisho          | Consultant Black Lion Hospital, Chairman ESOT            |
| 9. Dr. Bahiru Bezabih         | Consultant Black Lion Hospital, Head of Department       |
| 10. Dr. Dereje Negash         | Consultant Black Lion Hospital                           |
| 11. Dr. Worku Mekonen         | Consultant Yordanos Hospital                             |
| 12. Dr. Ebrahim Mohammed      | 4 <sup>th</sup> Year resident Black Lion Hospital        |
| 13. Dr. Mamo Dessu            | 3 <sup>rd</sup> Year resident Black Lion Hospital        |
| 14. Dr. Mesfin Etsub          | Consultant CURE Hospital                                 |
| 15. Dr. Tewodros Tilahun      | Consultant CURE Hospital                                 |
| 16. Dr. Berhe Gebresalassie   | Assistant Professor Ayder Referral Hospital, Mekele      |
| 17. Dr. Biruh Wubishet        | 2 <sup>nd</sup> Year resident Black Lion Hospital        |
| 18. Dr. Samuel Hailu          | Consultant Black Lion Hospital                           |
| 19. Dr. Birhanu Adanya        | Consultant Black Lion Hospital                           |
| 20. Dr Mesfin Hailemariam     | Consultant Black Lion Hospital                           |
| 21. Dr Bereket Alemayehu      | Consultant Black Lion Hospital                           |
| 22. Dr Kilonzo Ndulu          | Resident, Moi Teaching and Referral Hospital, Kenya      |
| 23. Dr Robert Cheruiyot       | Resident, Moi Teaching and Referral Hospital, Kenya      |
| 24. Dr Albert Nzayisenga      | Junior Consultant, King Faisal Hospital, Rwanda          |
| 25. Dr Pamela T.K. Samoyo     | Resident, Kilimanjaro Christian Medical Centre, Tanzania |
| 26. Dr Daniel Kyengera Kisitu | Resident, Mulago Hospital, Uganda                        |
| 27. Dr David Wamae Gicheru    | Resident, Mulago Hospital, Uganda                        |
| 28. Dr Tony Mutanda           | MO, MoH, Mulago Hospital, Uganda                         |
| 29. Dr Faith Chibeza          | Registrar, University Teaching Hospital, Lusaka, Zambia  |
| 30. Dr James Mwenya Mulenga   | Registrar, University Teaching Hospital, Lusaka, Zambia  |
| 31. Dr Joseph Wapabeti        | Registrar, University Teaching Hospital, Lusaka, Zambia  |
| 32. Dr Penelope K Machona     | Registrar, University Teaching Hospital, Lusaka, Zambia  |
| 33. Mr George Vera            | Head of Orthopaedics, Harare Central Hospital, Zimbabwe  |





## Activities

Dr Addis from the Ministry of Health officially opened the course on the first morning, followed by welcoming addresses from Dr Bahiru Bezabih (Head of Department of Orthopaedics and Traumatology, Black Lion Hospital) and Dr Biruk Wamisho (Chairman of the Ethiopia Society for Orthopaedics and Traumatology). Morning classroom-based teaching sessions (including interactive lectures, case presentations, discussion groups, tips and tricks and debates) were held in the chapel at the CURE Ethiopia Children's Hospital.

In the afternoons, delegates were divided into two groups for parallel practical sessions at the orthopaedics department at the Black Lion Hospital and the anatomy laboratory at the College of Health Sciences, Addis Ababa University (see Appendix for teaching schedule). These involved sawbone workshops using THR and TKR equipment, and demonstrations on cadavers of exposures to the hip and to the knee.

In the final session, Dr Milliard Derbew (COSECSA Vice-President and President of Surgical Society of Ethiopia) gave closing comments and certificates of attendance were awarded to the participants.





## Assessment

At the start and end of the course participants completed a multiple choice questionnaire (MCQ) written by the course faculty to assess baseline and increase in knowledge of hip and knee conditions and treatment.

	Pre-course percentage	Post-course percentage	Percentage change between pre and post-course scores
Mean	57%	73%	16%

The faculty team awarded prizes to Dr Samoyo, Dr Cheruiyot, Dr Ndulu, Dr Wamae, Dr Hailu and Dr Negash for their achievements and contribution to the course.



## Evaluation

A summary of the course evaluation feedback completed by delegates at the end of the course:

### 1. Delegates' previous experience of hip and knee arthroplasty:

	Regularly	Sometimes	Rarely	Never
Assisted	10%	38%	52%	0%
Performed	0%	38%	21%	41%

### 2. What did you enjoy most about the course?

- Practical experience with cadaveric and sawbones workshops ++++++
- Interactive teaching +++++
- Experienced teachers +++++
- Surgical techniques and exposures ++
- Evidence based teaching
- Open discussions
- 'Eye-opening'
- Well-coordinated and presented materials

### 3. What is the most useful/interesting thing you have learned?

- Basics of how to do a total knee replacement / total hip replacement +++++
- Exposures/approaches +++++
- Techniques, tips & tricks +++++
- 'Everything!' +++++
- Planning, preparation and knowing your instruments well +
- Posterior approach to the hip
- Teaching style
- Proper implant placement
- TKR valgus/varus, knee deformity pitfalls



#### 4. Most useful sessions:

Respondents were asked to vote for the three sessions that they found most useful, which were by far the practical sessions: the knee sawbone workshop (26%), hip cadaveric workshop (19%), knee cadaveric workshop (18%) and hip sawbone workshop (15%). The lecture sessions that delegates found most useful were (1) surgical anatomy and approaches to the hip, (2) basics of total knee arthroplasty and (3) hip implant choice.

#### 5. Length and breadth of sessions:

The most common suggestions for sessions that could have been extended were: (1) implant choice, (2) sawbone workshops and (3) cadaveric workshops. Over two thirds of the delegates would not have shortened any of the sessions, and a third of the delegates would not have lengthened any sessions.

#### 6. How could the course be improved?

- Inserting implants into the cadavers ++++++
- More time for practicals +++++++
- More time on implant choice +++
- Time with patients ++
- More time on total knee replacements ++
- More information on THR and TKR in Africa
- More case presentations from delegates
- Pre-course reading

7. **100%** of respondents would recommend the course to a colleague

8. **100%** of respondents would be interested in attending further training on hip and knee surgery

#### 9. Open Comments

- *'Trial fixation on cadavers'*
- *'More African orthopaedic experiences would have been great.'*
- *'It's a fantastic eye-opening course'*
- *'God bless you all!'*
- *'It was perfect of all workshops that I have attended before'*
- *'As good as it gets, top marks to the faculty'*
- *'It was a pleasure to attend the course'*
- *'Consider training of pelvic and acetabular fractures'*
- *'Lovely, friendly way of interactive teaching'*
- *'It should continue in the future'*
- *'We need to repeat this workshop'*
- *'It was a great course – I hope fellowships will be organised'*

- *'Very useful – should be conducted for more colleagues'*
- *'Encourage all African regions/countries to have this course'*
- *'Thanks for sharing your experience'*
- *'The teachers understood the different settings we are from and were very practical about it. It was excellent.'*
- *'V good organisation, excellent faculty and good participants - Black Lion and CURE are fantastic.'*
- *'This has to be given a minimum twice a year.'*
- *'Please continue to share this wisdom with others too'*



## Recommendations

The course was very well-received by faculty and delegates and there is strong interest in developing this collaboration to run similar training courses in the future. The faculty team held a post-course review and would recommend in particular:

- Continuing to support health partnerships to build up hip and knee arthroplasty training in the region through delivery of further short courses and helping to establish more fellowship opportunities
- More emphasis in future short courses on basic science, surgical approaches, anatomy, and step by step teaching of the procedures
- Maximise time for the practical workshops



## Acknowledgements

We would like to thank the excellent teaching faculty who gave so generously of their time. We are very grateful to the Black Lion Hospital, the College of Health Sciences at Addis Ababa University and the team at CURE Ethiopia Children's Hospital for hosting this training, and very kindly allowing us to use their venues and facilities. Thank you to all who have supported the training and who have helped in its organisation and running, including Dr Bahiru Bezabih, Dr Biruk Wamisho, the Ethiopian Society for Orthopaedics and Traumatology, and COSECSA.

We are particularly grateful to the Nairobi Surgical Skills Centre for providing the use of their sawbones and hip and knee arthroplasty teaching equipment, to enable us to run the practical sessions, to Mr Robert Chepkowny from NSSC who supported the faculty during these teaching sessions, and to the teams at Johnson & Johnson, Phillips Kenya, CURE Ethiopia and Black Lion Hospital who helped to arrange transportation of the kit to and from the course.

## Funding

This course was funded through the COSECSA Oxford Orthopaedic Link (COOL) Project through the THET Health Partnership Scheme, which is funded by the UK Department for International Development. COOL is a multi-country partnership programme between the Nuffield Department of Orthopaedics, Rheumatology and Musculoskeletal Sciences (NDORMS) at the University of Oxford and the College of Surgeons of East Central and Southern Africa (COSECSA). The four-year project (2012–2016) combines research and training in primary trauma care and musculoskeletal impairment across ten sub-Saharan countries in the COSECSA region. It aims to meet the critical need for more health workers trained in treating serious injury and musculoskeletal impairment.



### Report by:

**Mr Hemant Pandit and Mr Rick Gardner (Course Organisers)**

**Professor Chris Lavy (COOL Project Director)**

**Grace Le (COOL Project Manager).**

**October 2014**

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## APPENDIX: Teaching Timetable

### COOL Hip and Knee Arthroplasty Course, 14-17 July 2014

<b>Day 1: Monday 14 July</b>	
<b>HIPS (PART 1)</b>	
<b>Time</b>	<b>Topic</b>
09.00-09.30	Registration
09.30-10.00	Welcome, Introduction and MCQs
10.00-10.45	THR Indications & Patient Selection THR History & Clinical Examination
10.45-11.30	Surgical Anatomy and Approaches to the Hip for THR
11.30-11.45	Coffee
11.45-12.30	THR Implant Selection
12.30-13.00	Outcome Assessment and Results for THR
13.00-13.30	Case Studies
13.30-14.30	Lunch and transfer to Black Lion
	(Afternoon - parallel sessions)
14.30-16.00	Group A (15 Students) Cadavers (4 stations)
	Group B (15 Students) Sawbones (4 stations)
16.00-16.30	Tea break
17.00	Summary and close

<b>Day 2: Tuesday 15 July</b>	
<b>Time</b>	<b>Topic</b>
08.30-08.40	Recap and intro
	<b>Debates</b>
13.30-14.15	THR - relevance to Africa
08.40-09.20	Cemented vs non-cemented implant?
09.20-10.00	DVT prophylaxis - Fragmin vs. no Fragmin
10.00-10.30	Coffee
10.30-11.15	Complications and their treatment
11.15-12.00	Rehabilitation and Follow up
12.00-12.30	Case Reviews
12.30-14.00	Lunch and transfer to BLH
	(Afternoon - parallel sessions)
14.00-16.00	Group B (15 Students) Cadavers (4 stations)
	Group A (15 Students) Sawbones (4 stations)
16.00-16.30	Tea Break
16.30-17.00	Case presentations

<b>Day 3. Wednesday 16 July 2014</b>	
<b>Time</b>	<b>Topic</b>
08.30-08.45	Recap and Intro
08.45-09.45	Patient Selection & Indications
09.45-10.30	Surgical Approaches, Anatomy, History and Clinical Examination
10.30-11.00	Coffee
11.00-11.45	Management of deformity in TKR
11.45-12.30	TKA Biomechanics and Implant Selection
12.30-14.00	Lunch and transfer to BL
	(Afternoon - parallel sessions)
14.00-16.00	Group A (15 Students) Cadavers
	Group B (15 Students) Sawbones
16.00-16.30	Tea break
16.30-17.00	Case reviews
<b>Day 4. Thursday 17 July 2014</b>	
<b>Time</b>	<b>Topic</b>
08.30-08.45	Recap and intro
08.45-09.30	Post-op management and rehabilitation
09.30-10.15	Complications
10.15-10.45	Coffee
10.45-12.30	Total Knee Arthroplasty - Tips and Tricks
12.30	MCQ
12.45	MCQ answers / Evaluations
13.00-14.30	Lunch and transfer to Black Lion
	(Afternoon - parallel sessions)
14.30-16.00	Group B (15 Students) Cadavers (4 stations)
	Group A (15 Students) Sawbones
16.00-16.30	Tea Break
16.30-17.00	Closing Session inc certificates