Report on the Introduction to Surgical Skills Course at The College of Medicine & Health Sciences School of Medicine, Hawassa, Ethiopia

22nd – 25th March 2010

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**Surgical Skills Course at The College of Medicine & Health Sciences**  
**School of Medicine, Hawassa, Ethiopia**  
**22nd – 25th March 2010**

**Faculty**
- Mr Robert Lane
- Mr Paul Gartell
- Miss Sarah Mills
- Mr Mike Beverly
- Sister Judy Mewburn

**Introduction**

The Association of Surgeons of Great Britain & Ireland (ASGBI) was invited by Dr Belayhun, Dean of the Medical Faculty to run a Surgical Skills Course at the request of the Dr. Aberra Gobeze, senior surgeon at Hawassa Referral Hospital. The request was initially raised by Mr Biku Ghosh, founder of the Southern Ethiopia Gwent Healthcare Link, and discussions for this trip began at the Annual Meeting of ASGBI in Glasgow, April 2009.

It was requested by Dr. Aberra that we have two full days for general surgery followed by two full days for orthopaedics and trauma. Mr Yogesh Nathdwarawala, Consultant Orthopaedic Surgeon at Neville Hall Hospital, would assist in the running of the latter two days alongside Mr Mike Beverly. Mr Paul Gartell and Miss Sarah Mills would assist with the general surgery module. Furthermore, Sister Judy Mewburn would run a separate theatre and recovery nurse course from Tuesday 23rd to Thursday 25th March. It was also planned that the Southern Ethiopia Gwent Healthcare Link would visit Hawassa at the same time.

It was the intention that the equipment based at the Black Lion Hospital in Addis Ababa would be loaned to Hawassa for the duration of the course. Numerous attempts, aided by Steve Brockie, to contact the local Ethicon manager in Addis
came to nought. It was later learnt that his son had been extremely ill and thus all was forgiven. In the end and four days before the course was due to take place the Black Lion Hospital said that the equipment could not be borrowed because they were going to be running a course at the same time. This lack of co-operation was somewhat disappointing. However, Dr. Aberra assured us that he had enough instruments but lacked skin pads, cork tiles and pins, buckets and neoprene and above all, sutures.

Further discussion with Biku revealed that Customs at Addis Ababa airport were unlikely to allow electrical items (bar laptop) and instruments into the country. This, we were told, was due to a heightened awareness of terrorism possibly related to the forthcoming general election in May. Through my association with the Tropical Health and Education Trust I contacted a former Ambassador to Ethiopia, Sir Myles Wickstead, and he advised that I send a list of all the equipment that we were taking together with details of flights etc to the Embassy in Addis Ababa. This I duly did though quite what effect that had, I am not sure.

A pre-course conference call was held prior to departure and the content of the course was discussed in detail. Sarah agreed to undertake chest drain insertion and Paul the tracheostomy. Mike had been in touch with Yogesh and between them they had arranged a programme for the two days of orthopaedics and trauma. The list of requirements was discussed and the potential difficulties with regard to electrical goods and instruments at Addis Airport were emphasised.

All pre-course proceedings were undertaken in the usual manner. Immunisation and insurance advice were given and waiver forms completed and returned prior to departure.

Acknowledgements

I should like to acknowledge Ethicon GB for sponsoring this course and in particular the help and advice given by Mr Steve Brockie and Mr Denis Robson. Their support, as always, was overwhelming.

I should also like to acknowledge Miss Bhavnita Borkhatria for her help in booking the flights, general administrative duties and for arranging for the expenses to be reimbursed promptly, Mrs Jane Gilbert for her excellent secretarial assistance and Mr
Skekhar Biryani for permission to use information in his report to Urolink.
I should like to thank the visiting Faculty (Mike Beverly, Paul Gartell, Judy Mewburn and Sarah Mills) for their fantastic support and being such good fun throughout this trip. Finally, thanks are due to the Research Foundation of the Association of Surgeons and the British Journal of Surgery for supporting this course.

**Background information with regard to medical education and healthcare in Ethiopia**

Ethiopia has a population of approximately 82 million with only 143 hospitals and 2,000 doctors in the country. There are five established Medical Schools (Addis, Gondar, Jima, Hawassa and Mekele). In 2009 there were 300 graduates in all with 45 in Hawassa. The Government expects each medical school to increase the number of undergraduates to 200 by 2010 because of the serious shortage of doctors in the country. However, this will have an adverse effect on training by diminishing exposure to patients on the wards, in outpatient clinics and in the operating theatre. Currently medical training is only undertaken in the Medical Schools. There is therefore a necessity to utilise district and private hospitals. There is also a great need to have a national curriculum. A deficiency in the basic sciences is making Problem Based Learning difficult. There are, incidentally, many capable school leavers wishing to take up medicine. In addition there are just not enough trainers to match this enormous increase in the number of medical undergraduates.

The basic problem the Government has in providing surgical care is that 90% of surgeons work in the cities whilst 85% of the population live in the rural areas. Fifty percent of doctors work in the private sector and are not allowed to work in the public sector. However, those doctors who do work in the public sector find it is less attractive because they earn less money. In Hawassa there are 15 qualified doctors working for an NGO concerned with HIV prevention and furthermore are paid four times more than their clinical counterparts and are not allowed to work in the public sector.

There is a move to train nurses and health officers in medical schools to become doctors but this will have a detrimental effect in the rural areas by reducing the number of nurses and health officers available to work there. Currently medical graduates are bonded by the government for four years to remain in the country or, if
they emigrate, they pay half a million birr which is the cost of training. This is supposed to reduce emigration, however, it will not stop the internal brain drain into private practice, working for NGO’s or public health.

Hawassa Referral Hospital (for 16 million population) has 3 general surgeons who have to cover all aspects of general surgery, trauma and orthopaedics. There is no orthopaedic surgeon, no trauma centre, no HDU or ICU. The hospital has 400 beds but currently only 250 are in use of which 58 are for surgery. The reason for reduced bed numbers is because of shortage of manpower and other resources. It would be extremely difficult for the number of clinicians in the hospital at present to train 200 or so undergraduates in each year.

*Hospital facade facing Lake Hawassa*

*Itinerary 22nd – 25th March 2010*

Three members of the Faculty (Bob, Paul and Sarah) flew to Ethiopia with the Gwent Team on Friday 19th March. Judy and Mike Beverly (along with his wife Celia) departed exactly 48 hours later, i.e. Sunday 21st March. Four members of the
Faculty returned on Sunday 27th March. Mike Beverly and his wife stayed on to sightsee in the north of the country for a further week.

**Outward journey Ethiopian Airlines, Flight No. 701**

**Friday 19th March and Sunday 21st March 2010**

Depart LHR, Terminal 1 at 21:00  
Arrived Addis Ababa the following morning at 07:45.

**Inward journey Ethiopian Airlines, Flight No. 710**

**Sunday 28th March 2010**

Depart Addis Ababa at 00:15  
Arrived LHR the following morning at 07:15

The total cost was £522.70 per person.

Those leaving on Friday evening met up at Heathrow Airport with the group from the Southern Ethiopia Gwent Healthcare Link (namely Biku Ghosh, three midwives, a MLSO in Microbiology and an Orthopaedic Surgeon, Yogesh Nathdwarawala) and a Urologist, Shekhar Biyani, who was on the trip to assess urological services at Hawassa Referral Hospital on behalf of Urolink. The flight was uneventful and we arrived on time. Visas were obtained with relative ease at a cost of $20.00 each. We passed through customs without any difficulty at all. Nobody stopped us or enquired as to what we were carrying. Whether the details that I had submitted to the British Embassy in Addis had made any difference I do not know. We were met by Dr. Aberra together with two mini buses (Toyota Hiace) with two personnel in each; a driver and his assistant. The luggage was roped onto the roof and we set off. A short stop on the outskirts of Addis was made for light refreshments and then again about half way for lunch. The distance from Addis to Hawassa is about 275 Km on a good tarmac road (about 5 and half hours drive). Biku had instructed the drivers to drive carefully and not to go too fast! Hawassa is almost due south of Addis in the Rift Valley and the countryside all the way was fertile. Ethiopia now exports flowers and towards Hawassa there were a number of large plastic “glass” houses which take water straight out of the Lakes. We were reminded of the situation in Kenya on the road up from Nairobi to Nakuru. We arrived early evening at the Haroni Hotel in the centre of Hawassa. The rooms were satisfactory but the hotel was prone to ‘outages’
which did effect water temperature in the shower etc. The food was excellent and essentially Ethiopian. The staff were extremely pleasant and helpful. There was a bar just outside the main door which belonged to the hotel. That evening the whole party went to the Pinna Restaurant which is about five minutes down the road and had a very good meal following which we retired to bed somewhat exhausted.

**International Surgical Skills Course**

**Sunday 21st March 2010**

We were slightly delayed by one member of the Visiting Faculty who misplaced his passport which necessitated a grand search of his room, enquiries at Reception etc before it was found in his security pouch strapped around his abdomen! We went straight to the Hawassa Referral Hospital which was built in 1996 and its modernisation was stimulated by the efforts of Dr. Aberra. The Skills Lab was on the ground floor at the rear of the Hospital facing the Lake. This was a large room with plenty of desks and chairs which were placed accordingly. Electric points were accessible and the windows were curtained off. Dr. Aberra had indeed obtained a number of instruments which sufficed for the course. The visiting Faculty had brought more sutures than we needed together with the other items mentioned above i.e. buckets, neoprene, cork boards etc. The tables were prepared with all the items required for the first day of the course. A local lunch was taken in the Hospital which was very pleasant. The Midwives conducted a course at a venue that was separate from the Skills Lab. The remainder of us returned to the hotel; the journey taking about 15 minutes. In the afternoon Dr. Aberra, Paul, Sarah and I went off in search of a sheep. “The Butcher” had not got one on hand and we were taken to a “hotel” which alongside it had a yard full of empty bottles and fire wood together with a number of small goats. A conversation was had between Aberra and various people and it was decided we should return at 07:00 the following morning to choose the said sheep and have it slaughtered. Dinner at the Haroni Hotel.

**Monday 22nd March 2010**

Paul, Sarah and I together with Dr. Aberra drove a short way to the hotel that was to supply the sheep. There were four or five small goats together with one that looked slightly larger. They started to prepare the slightly larger goat and I said that we needed a sheep not a goat. It was duly explained to me that the animal in question was a sheep! It looked exactly like a goat except for the fact, I have to admit, that its
tail pointed downwards as opposed to upwards as in all the other goats! There was otherwise no difference at all! I just had this impression that sheep were rather woolly beings and not at all goat like! I was wrong and the sheep was duly slaughtered. This was placed in various bags and put into the minibus.

We drove to the Skills Lab and at 08:00 the participants arrived. There were 11 health officers who were in their 2nd year (of three) of their MSc in Emergency Surgery and four GP’s, who were qualified doctors who had finished their internship and were now working in the hospital on general duties. All signed the register. The data projector was connected to Paul’s laptop. The sound production was satisfactory and the course started on time. The visiting Faculty spoke fairly slowly so that all the participants could understand what was being said. They were initially rather shy but by the end of four days they were more noisy. Paul undertook dissection of ‘the sheep’ which took most of the morning. This was done in the one working sink just outside the Skills Lab. The knot tying proved, as always, to be the most difficult aspect of the whole course. It was interesting that all the participants were male.

The mid morning, lunch and mid afternoon refreshments were available just outside the Skills Lab and this was very convenient and the food was excellent. Some of the participants were ‘fasting’ during Lent which meant that they did not eat dairy products or meat but consumed vast quantities of other products! It was quickly apparent that Ethiopia does not run on the same Calendar as the rest of the world and this is confusing. Furthermore they have a twelve hour clock which starts at six in
the morning and finishes at six in the evening which roughly corresponds to dawn and dusk.

The intestinal anastomoses were performed during the afternoon but because we were dealing with a sheep which behaved as a goat the intestines were only just acceptable in size and diameter. However, the participants did well and we finished the day at 17:00. During the afternoon Mike and Judy arrived and it was great to see them. They had had an uneventful flight and the drive down from Addis to Hawassa was straightforward. Dinner was taken at the Pinna Restaurant.

![Course instruction by Sarah and Paul]

**Tuesday 23rd March 2010**

The course started on time. One slight problem was that one or two of the GP’s were late arriving because they had to complete their duties on the wards. The vascular component was difficult because the arteries were really only just acceptable in terms of diameter. Paul had great difficulty and all credit to him that we managed to have just enough for the participants to perform their tasks. After the morning tea break Paul performed the tracheostomy exercise and after lunch Sarah performed the chest drain insertion exercise.

This was followed by the abdominal wound closure and after the tea break I gave the WHO lecture on Safe Surgery including the Surgical Check List. The course finished at 17:00.
During the day Mike and Yogesh gave lectures to the medical students and did a ward round. Judy started on her theatre course and attracted a large number of participants (see Appendix 2). That evening we went to the Lewi Hotel for dinner.

**Wednesday 24th March 2010 / Thursday 25th March 2010**

The Orthopaedic and Trauma module was conducted by Mike and Yogesh. (See Appendix 1) During these two days Paul, Shekhar and I together with Dr. Aberra and Dr. Yifru (former Dean of the Faculty) and the current Medical Director met Dr. Belayhun, Dean of the Medical Faculty. The aim was to discuss Shekhar’s views with regard to developing the urology service. The Medical Director, who only qualified a year or two ago, made some pertinent remarks about priorities concerning service provision. The majority of emergencies are related to trauma (73%) and contribute to most deaths occurring in the hospital and this without any trauma unit let alone an orthopaedic surgeon. There is no HDU or ICU. The Medical Director felt, quite rightly, that development of a trauma centre would require improvement in a number of areas, namely radiology, pathology, operating theatres, more specialist surgeons (orthopaedic) and a significant amount of investment. The Dean switched the conversation to developing an endoscopic service for urology which was certainly going to be much cheaper! However, in order to achieve this there does need to be a reliable supply of electricity whether from an outside source or a generator. During the course we had experienced several outages which lasted for upwards of 30 minutes on one occasion. If this is to persist then no way can endoscopic urology be undertaken. The Dean denied that there were any long term problems with the generator.

Further meetings were held with Dr. Sheleme, Vice President of Academic and Research, Hawassa University and Mr. Seyoum, Head of the International Office, Hawassa University. We discussed the priorities for the future direction of health care. Both these interviews were very helpful and the impression was that central direction seemed to have a powerful influence over local considerations.

On Wednesday night dinner was had at the Pinna restaurant and on Thursday the Course Dinner was at the Haroni Hotel. The certificates of attendance were distributed by the Dean and thanks made to those who had allowed the course to be run which, by all accounts, was most successful.
Friday 26th March 2010

The visiting Faculty and the Gwent team checked out of the Haroni Hotel at 11:00. Our initial destination was the Wondo Genet Resort Hotel where we arrived at midday. We were allocated rooms and then had lunch. Several of the Gwent team went off to the local Health Centre. Others went for a swim in a naturally heated pool but Paul and I went off bird watching. We had a couple of guides who were tremendous. Overall on the whole trip in Ethiopia I saw 105 species. That evening we had a meal in a very Russian looking restaurant at the hotel. This was built during the communist days after Heile Selassie’s reign. Incidentally, he used to spend part of the year in this very hotel which was then a private residence.

Saturday 27th March 2010

We set off for the Wondo Genet Health Centre, where the Link had spent a lot of time and money on updating equipment. They had donated two computers, laboratory equipment, an oxygen concentrator, beds and a whole host of other items including a motorbike ambulance.
The Centre consisted of bungalow type buildings which were kept extremely clean. We departed after an hour and a half but before we left the Centre’s grounds, one of the minibuses (the one containing the Faculty) had a puncture and so we had to stop off in Shashemene to get the tyre repaired which took about half an hour. The trip back to Addis was straightforward and we stopped for refreshments half way. When we arrived in Addis at 16:00 we went to the National Museum and saw “Lucy” or rather her bones. She was a female hominid who lived in the northern region of Ethiopia 3.2 million years ago. We then went to an Ethiopian restaurant and had a dinner consisting of local dishes. Gordon Williams joined us and it was great to meet up with him again. At half past eight we left for the airport. We had to put our cases etc through security on the way into the airport and again prior to entering the departure lounge. The return flight was unremarkable.

**Evaluation**

**Scores:-**

13 replies - 9 from the health officers and four from GP’s. The overall average was 9.0 out of 10. The average for the health officers was 9.22 and that for the GP’s was 8.75. All found the course beneficial.

The most useful aspects quoted were intestinal anastomosis (10), arterial component (7), all of the orthopaedics and trauma (6), tendon repair (4), knot tying and internal/external fixation (3 each), skeletal traction, dislocation reduction, fracture management, tracheostomy, (2 each), abdominal wall incision, abscess drainage, POP application, debridement, nerve repair and chest drain insertion (1 each).

Seven participants reported no least helpful aspects but one reported wound debridement and suture techniques and two POP and skeletal traction.

Several ideas were put forward to improve the course and these included practising on patients, adding tracheostomy and chest drain insertion to the DVD, trauma management, amputation and minor ops. Other suggestions were impracticable.

All were very complimentary about the course and this was very welcoming.
Summary

What went well?

- The venue was good and bearing in mind that none of the Ethicon team was available, Dr. Aberra excelled himself in providing enough instruments etc. He was tremendous and spent a lot of time helping us in all sorts of ways. However, we could not have run the course without us taking out skin pads, cork boards, neoprene and sutures etc.

- We did manage to cope with the goat/sheep. However, it may be that in future we should use prosthetic material for the arterial work. The intestine was just about satisfactory for our purpose but would have been more acceptable if the lumen had been larger.

- The AV equipment and especially the sound production was satisfactory. On the second day of the course we used Mike’s speakers which did enhance the quality and for future reference we should take out additional speakers as a matter of routine.

- There did not seem to be any problem with the participants understanding either what was on the DVD or what was spoken to them.

- The participants were generally very punctual so we were able to start on time. Because we had two full days for general surgery we could afford to take extra time helping the slower members of the course.

- The refreshments and especially the lunches were extremely good and by being just outside the Skills Lab this made it so much easier than having the participants wandering off to find food elsewhere and furthermore the refreshments were always available on time.

- The idea of having a course dinner was very well received and a number of medical school hierarchy came which made it a memorable occasion for us all.
• The orthopaedic and trauma module was excellent and all credit to Mike and Yogesh. Perhaps we should consider adopting this innovative model for future courses.

What could we have done better?

• Because there are so few Consultants in the Hospital there was essentially no local Faculty so it is impossible to imagine how this course could be run in the near future without external assistance. Certainly when a number of health officers and GP’s have undertaken the course they could assist in training others but this does not alter the fact that Consultant input needs to be increased. Dr. Aberra cannot be expected to run these courses singlehanded.

• This is the first course where we have trained health officers and qualified doctors at the same time and it was interesting that their needs were not the same. The doctors had done a fair amount of applying POP and skeletal traction and they were the two who found this aspect of the course least helpful. They had also undertaken wound debridement and suturing so they didn’t find that aspect of the course very helpful either. In an ideal situation one should train these two groups separately.

• Unfortunately, and for understandable reasons, the participants did not have a manual either prior to the course taking place or during the course itself and this despite me emailing it to Dr. Aberra beforehand. This aspect needs addressing.

• One of the comments that a participant made was that tracheostomy and chest drain insertion were not on the DVD. Perhaps this is something we should look into.
Thoughts for future courses:

Possibly include:-

1. Central line placement and tracheal intubation using a manikin
2. Suprapubic catheterisation
3. Urethral catheterisation using fine bougies

Conclusion

This course was highly worthwhile and presented a number of interesting challenges which I believe were well met.

The situation was somewhat unique in our experience of running Surgical Skills Courses in that we were training both Health Officers and medically trained doctors at the same time. This seemed to work satisfactorily although both groups required different levels of training but because this course was run over four days more time could be spent with each group on certain aspects.

It was a shame that the Ethicon donated equipment at the Black Lion Hospital in Addis Ababa was not available to us but nonetheless the instruments that Dr Aberra had obtained for the Skills Lab sufficed for the number of participants we had. If there were any more then we would have been short of a number of items. If there are to be continuing problems with loaning the Ethicon equipment then perhaps Ethicon GB might consider equiping Hawassa separately and the items could be used by other Medical Colleges outside Addis.

The main problem we had was the size of the sheep. Whilst I accept that it was not a goat, the arteries, in particular, were on the small side and it may well be that we have to consider using prosthetic material for the arteries, and possibly for the intestines, in the future which could be an expensive outlay.

The third edition of the DVD has so many mistakes that for future courses we should use the fourth edition
Our time in Hawassa gave us ample insight into the health care problems in Ethiopia especially with regard to Health Officers undertaking an MSc in Emergency Surgery. My one real worry is the lack of trainers in the Medical Schools/University Hospitals. It is to be hoped that this situation will be remedied in the near future because I cannot see how courses, such as the one that we conducted, could be undertaken by Dr Aberra all by himself although he is amply qualified but has so many other responsibilities that to take four days away from clinical practice would be extremely difficult. ASGBI would certainly be prepared to assist in the running of this course, maybe, on an annual basis. The alternative would be to consider an active link with a University Medical School in the UK and this would be a good idea for many reasons.

The insight given by the situation in Hawassa has made us very aware of our role in education and training in Ethiopia as in other countries in Sub Saharan Africa.

Finally all the visiting Faculty had enormous admiration for what Biku Ghosh and his team have achieved in this Region with regard to health care in the community. It made our contribution seem very small.
Appendix 1

Report on Orthopaedic and Trauma Module

Mr Mike Beverly

Mr Yogesh Nathdwarawala (YN) and Mr Michael Beverly (MB), both orthopaedic surgeons in the NHS, were invited to join the faculty from the ASGBI to teach a Royal College of Surgeons DVD based surgical skills course. The course usually runs for two days with the last half day being orthopaedics. We had been invited to prepare two days of orthopaedically based training at the request of Dr Aberra, the chief surgeon at Hawassa Referral Hospital.

YN and MB discussed the content by telephone on two occasions and prepared a rough outline. It was agreed that MB would do a general review, simple traction based treatments and children’s orthopaedics. YN would concentrate on fracture management, internal fixation, external fixation and plasters. He was able to bring a large supply of plastic bones (Biomet), plates, screws and an inexpensive electric drill. MB was able to bring a variety of traction equipment, splints, orthoses, braces and so on. We both supplied a considerable number of sutures, gloves, plasters, Vellband and Stockingette.

On arrival we found excellent teaching facilities. There were four GP trainees and eleven second year MSc Emergency Surgery students. They were enthusiastic, well motivated and spoke good English. Mr Biku Gosh coordinated our activities with the local head of department and also ran a group of midwives visiting clinics at Dilla. In addition Judy Mewburn ran a theatre nursing course in Hawassa. Dr Aberra was able to persuade all the UK faculty members to give presentations, ward rounds and general teaching to approximately 30 fifth year medical students on site.

Wednesday 24\textsuperscript{Th} March 2010

A DVD based day was arranged. This began with wound debridement. We had one medium sized sheep and its four limbs provided a one to four table exercise. This was adequate given the previous limited surgical skills of the MSc students. Wound debridement will be very important for these health officers and doctors. We covered the principles and practices of wound debridement in a variety of tissues and the insertion of appropriate drains.
Tendon repair followed. The four limbs of the sheep provided a one to four table arrangement.

It would be preferable if one to two arrangements were possible and preferably pig or larger animal. The basic principles and practice were covered together with more advanced Kessler weave type repairs.

The third component involved plastering and again the DVD provides a suitable if somewhat outdated review of fracture mechanisms and reduction. We had sufficient plaster for each participant to put on a Colles’ plaster. Smiths’ fractures were also discussed. Following a break a full review of ankle trauma mechanisms and below knee plastering on a one to one basis was carried out.

The day finished with a flip chart based talk by Mr Beverly covering basic simple fracture management of jaw injuries, cervical spine fractures and dislocations, clavicular fractures and ACJ dislocations of various types, shoulder and humeral neck and shaft fractures, elbow fractures particularly the supracondylar fractures found in children, forearm, wrist, finger and thumb fractures, the spine and lumbo-sacral fractures and slippages, pelvic fractures and their appropriate support.

The use of traction for fractures and dislocations from children to the elderly including gallows traction and appropriate skeletal distal femoral and proximal tibial pinning, tibial fractures, ankle fracture mechanisms and appropriate reduction positions and plastering, calcaneal pinning and foot and toe fractures was discussed. The importance of elevation and counter traction throughout was emphasised.

**Thursday 25th March 2010**

We wished to run a number of orthopaedic “OSCE” type tables. In the end YN and MB each took half the group. The groups then switched halfway through the day.

YN covered more advanced plastering, stabilisation particularly involving above knee plasters. With his additional equipment and drills he was able to allow the participants to practice the insertion of skeletal pins at the distal femur and proximal tibia. Perhaps the highlight of the orthopaedic session was plating and internal fixation with screws of common femoral and tibial fractures. Most participants stayed
on through the breaks to practice this. YN was also able to cover the use of external fixator and plaster combined with ex fix pinning.

![Image](image.jpg)

*External fixation*

MB had a round table and couch practical discussion of the previous skeletal talk and was able to get participants to practice with towels, Dunlop splints, collar and cuff, Zimmer finger splints, Bedford splints and the practical use of Scotch cast for plastering a wrist. MB also covered club foot, including TEV Ponseti management, developmental dysplasia of the hip with a suitable Pavlik harness on a baby model, Perthes using a local X-ray of the condition, slipped epiphysis and its recognition and treatment.

MB was able to use a locally supplied plastic spine to discuss disc prolapse and its conservative treatment together with scoliosis and spondylolisthesis. Osteomyelitis both in its acute and chronic presentation were discussed at some length.
The day finished with a PowerPoint talk illustrating general and trauma surgery in Africa based on recent experience in the Sudan. The importance of debridement and delayed closure of wounds was emphasised. Amputation and orthotics were briefly covered. The range of surgery possible using the Bewes & King primary surgery book was illustrated. The wider organisation of trauma services, government, political and NGO involvement in reducing trauma were also discussed.

The importance of a group photograph, certificates, very good catering facilities and a dinner for all the faculty and students at the end cannot be overestimated.

YN and MB felt that the two days had been useful for the participants. There were favourable reports from the feedback forms and the DVD and teaching materials were left in the hope that the local faculty would be able to run future courses.

All in all a very worthwhile and well organised surgical skills course had been delivered.
Appendix 2

Report on Theatre and Recovery Nurse Training Programme

Sister Judy Mewburn

I flew overnight to Addis Ababa with Mike Beverely on Sunday 21st March and arrived early next morning. We obtained Visas and were met by Debrewok, a midwife from Dilla, and driven to Hawassa in a minibus. It was fascinating to watch the Ethiopian country side, its vegetation, animals and colourful people. We had a short stop for breakfast and arrived in Hawassa at about three o’clock. We checked in to the Hotel and then drove to the Hospital where Bob Lane, Paul Gartell and Sarah Mills had been running the Basic Surgical skills course all day. The hospital is very large, two storey and had been built by an aspiring politician who had then abandoned it when he did not get elected. The building was in reasonable shape and built around lovely garden squares which did a lot to cheer everyone up. We met Dr Aberra who was organising the various aspects of the course.

Tuesday 23rd March

I was taken to theatre by Dr Aberra and introduced to the theatre nurses. There where about ten of them and six cleaners and porters. I changed and went into theatre where I was given a tour by Workie, an anaesthetic nurse. The theatres where quite well equipped with a good working table, lights in both theatres, one sucker for all three theatres, anaesthetic machines with halothane vaporisers.

There was a CSSD and all instruments, drapes and gowns were sterilised there. The drapes and gowns were washed in large bowls by the orderlies, dried, packed and then sterilised. Abdominal swabs were being washed after use because of shortages. Instruments were soaked in bleach 1 in 10 for 10 minutes, washed and sent to the CSSD. Jankauers suckers and tubes were soaked in formalin for 24 hours, rinsed and then used. There needs to be better ventilation in this room as the fumes are very harmful. There were three scrub basins and soap was used. Scrubbing and hand drying were good and the open gowning technique was used. It would be good to have all gowns packed with their towels in a separate pack to ensure a more sterile technique. Trolley laying up was good and neat and only became muddled towards the end of the operation as the scrub nurse tried to separate used and unused instruments. Sharps were handed in a kidney dish and disposed of properly.
Swabs were counted at the start of the procedure but it was difficult to count them at the end as many had been thrown on the floor. The first patient was for elective Caesarian Section. Patient dignity was not observed well and the patient was left naked on the table. I retrieved her gown and covered her.

This provided a talking point for lectures later. I also talked to the patient and tried to reassure her. A very healthy 4 kilo baby boy was delivered and cared for well by the nurses. The recovery area had six beds and two oxygen cylinders but no suction or monitoring. After two more cases we went to the study area and went through the Training Course. This proved a very good basis for discussion and teaching for the ten nurses who were able to attend. We talked about the nurse as the patient’s advocate and how important it is to care for the patient through the perioperative phase. We discussed swab counting and its importance. I gave them the swab counting sheet and demonstrated how to use it. Patient care plans were discussed and they were shown how to use the simple one from the training course. They all seemed keen to improve their skills and enjoyed the time we spent together. In the afternoon I photocopied the swab counting sheets and care plans and took them to theatre.

**Wednesday 24th March**

I gave a lecture covering Infection Control, Care of the Patient, Cardio Pulmonary Resuscitation and ending with a SWOT analysis of their practice. The nurses were very shy and it took a lot of effort to make them participate but by the end of each session they were all chatting animatedly. Each topic covered was followed by a quiz to reinforce the information given and hand outs were supplied to the nurses on topics covered. There were 28 nurses in the morning session and 12 in the afternoon. The SWOT analysis was given to Dr Aberra for his information.

I would like to say a special thank you to the photocopying lady who was very helpful and obliging.
Thursday 25th March

In the morning Sarah Mills and I gave a lecture on Burns to 43 medical students. I covered the nursing aspect of burns. In the afternoon we gave a lecture on shock and fluid replacement to 24 nurses.

Hand outs on patient positioning and shock were distributed.

I really enjoyed teaching and the participation of the students and nurses was very good once they had got over their shyness.

We travelled to Wondo Genet on Friday and had a wonderful time in this very heavenly place. On Saturday we drove to Addis, took advantage of a spare hour to see “Lucy” in the museum then after dinner caught the night flight home.

Thank you to Biku Ghosh and Dr Aberra for all of their organisation.
Addendum

Introduction of Laparoscopic General Surgery in Hawassa.

Paul Gartell

Current situation

- No laparoscopic surgery performed at the hospital.
- 2 general surgeons have had some training in laparoscopic surgery in India
- Light source
- Camera and processor
- Telescope
- VDU
- Insufflator
- Diathermy machine
- Some instruments

To consider offering laparoscopic surgery, instead of a conventional open approach, one should consider the tangible benefits and costs rather than the alluring art of the possible.

Benefits

- Diagnostic (laparoscopy v laparotomy)
- Less post operative pain
- Quicker recovery
- Lower / different morbidity
- Fewer needle stick injuries?
- Shorter hospital stay
- Reduced full laparotomy rate in the acute setting / more targeted surgery
- Use instead of CT scan etc
- Reduced morbidity
  - Pain, Chest, Wounds, DVT, Incisional hernia, Adhesions
- Earlier return to work and normal activity for patient

Costs

- Set up
- Maintenance
- Replacement
  - Electrical
Minimizing costs

- Look after the equipment
- Form a dedicated team and train your Theatre and TSSU staff well
- If the instruments and equipment are well looked after they can give years of good service
- Get CO2 from local brewery
  - Buy by weight and not pressure
- Cut down entry (no Verres needle)
  - Cheaper
  - Safer
- Reusable ports and instruments
  - Avoid magnetic seals if suturing
- Learn skills rather than use workarounds
  - E.g. Instrument rather than balloon dissection
  - Suturing and knot tying instead of clips or staples

Pitfalls

- Lack of supporting infrastructure
- Poor maintenance of equipment
- No finance for replacements
  - E.g. Telescopes, bulbs, instruments
- No structured training
- Overconfidence
- Lack of mentorship

At present the various components required to perform laparoscopic surgery are from different suppliers and cannot be fully integrated. The stack is yet to be assembled and tested to see if it can provide a usable platform for diagnostic surgery in Gynaecology and General Surgery. There is no maintenance available for the
various components and no local technical help to troubleshoot any problems. 2 surgeons have had some training in laparoscopic surgery in India but will need a refresher course or mentorship before starting in Hawassa.

**Recommendations**

- Identify a lead clinician who will champion laparoscopic surgery
- Set up equipment to test for compatibility and usability
- Train Nurses and Technicians to look after the equipment
- Refresher training for surgeons wishing to perform surgery
- Mentorship (internal or external)
- Start with diagnostic laparoscopy
- A fully integrated stack and maintenance contract is essential before moving onto more complex laparoscopic surgery