

Urolink Travel Report 2011**Department of Urology, KCMC Hospital, Moshi, Tanzania****“A Urologist Abroad - Messages from Moshi”****1. Background****1.1. KCMC**

The Kilimanjaro Christian Medical Centre (KCMC) is located in the foothills of Mount Kilimanjaro in the town of Moshi, Tanzania. The hospital provides healthcare to a population of 11 million people in Northern Tanzania, in addition to acting as a specialist referral centre for the rest of the country. Established in 1971, it now provides medical care for approximately 400 inpatients and employs over one thousand staff. Nurses, medical students and doctors are welcome from all over the world, making KCMC a uniquely cosmopolitan environment.

1.2. Urolink

“It can no longer be acceptable to ignore the health problems of those who do not have access to even basic medical care.”

*Professor Geoffrey Chisholm, President of British Association of
Urological Surgeons (BAUS) – c.1989*

Originally, the vision of Mr Neville Harrison and a small band of enthusiastic British urologists, Urolink’s objectives are to promote and encourage the provision of appropriate urological expertise and education worldwide with an emphasis on the materially disadvantaged [*BJUI 2002, 89 (suppl. 1), 1-5*]. Since its conception nearly twenty years ago, Urolink has built firm links with hospitals in: Africa, North America, Eastern Europe and Asia. In addition to offering mentorship and education; Urolink has also established a global provision of medical supplies which helps distribute important clinical materials to urology units in the developing world. I was lucky enough to be

awarded a travelling fellowship this year which allowed me to spend six weeks at KCMC. I planned to build on the achievements of previous visits and was eager to experience working in this captivating African location.

2. Aims

The purpose of the visit was to focus on two areas - personal development and clinical experience. I am currently an ST6 urology trainee in the East of England deanery and felt that the time was right to explore an overseas attachment. I was excited about working in a new and challenging environment, as well as experiencing traditional and contemporary African culture. A six week attachment would allow me the time to explore these areas in greater depth and also the opportunity to fully immerse myself in the process. I specifically wanted to take on a challenge that would require initiative and enterprise in order to ensure a secure and productive trip. Along the way, I imagined that I would need resilience and a level head to help manage any difficult problems that might occur. Additionally, I wanted to ensure that I optimised my clinical and surgical exposure during my six weeks at KCMC. I hoped that I would gain from an increased chance to perform open surgery and to encounter conditions more rarely seen in the UK. Additionally, I anticipated that I would be able to teach the local medical and nursing staff in some capacity. Finally, I wanted to tackle this challenge independently whilst experiencing the complexities and disparities of working in a “third world” country.

3. Operation Moshi

3.1. Getting started

My initial contact with Urolink was approximately 18 months prior to my planned date to travel and I was well supported from the committee in all aspects of setting up an attachment. I quickly set up contacts with Dr Mteta (KCMC) alongside Mr Phil Thomas (Brighton) who acted as my UK mentor. It was clear that Mr Thomas had huge experience with visiting KCMC and I valued his advice and guidance. The actual process for planning and funding a visit can be found in the supporting documents (*see supplementary report*). After exchanging emails, I was lucky enough to meet Dr Mteta in person in Liverpool at BAUS 2011. We exchanged ideas and thoughts about the visit over coffee and we also managed to liaise with Mr Thomas during the meeting.

As part of the planning process, I contacted a number of previous Urolink fellows in order to explore certain aspects of their time in Moshi. Furthermore, I was introduced to Mr Gryff Fellows who is retired urology consultant from Oxford and a trustee of KCMC. He helped to conceptualise the hospital and surrounding area for me and also put me in touch with some local contacts that helped to plan specific aspects of the trip.

3.2. First impressions

Despite encountering a number of problems in travelling from London to Moshi, I arrived full of enthusiasm and was delighted to meet Aneth Nkya who coordinates all overseas visitors staying at KCMC. Her warm, broad smile set me immediately at ease and I was thankful that she would take charge of tracking down my luggage which had been lost in transit. Subsequently, I was taken to my accommodation at the adjoining doctor's compound. I was allocated my own house with plenty of space and it was a comfortable and secure base. Initial contact with neighbours and staff left me feeling extremely welcome. The campus is large with an on-site canteen and a corridor of small shops nearby which are more 'friendly' than at first glance. So, despite having no clothes or supplies, I felt at home and looked forward to meeting the team and visiting Moshi town centre. It took a couple of days to finally settle in after reclaiming my bags. Finally, I was introduced to the team and I undertook a tour of the urology department and hospital site.

4. Department

4.1. Structure

The Department of Urology at KCMC was founded by the American Urologist, J. Lester Eschelman in 1991. He helped to establish the Institute of Urology and consequently the only dedicated urology training programme in East Africa. More than twenty surgeons, from seven East African countries have now passed through the one-year urology course. At present the unit is staffed by two Consultants Urologists: Dr Jasper Mbwambo and Dr Alfred Mteta. They lead a team of dedicated and skilful junior doctors: seven residents and two interns. Due to links with the local university and medical school, it is

not unusual to find a number of local medical students studying on the ward with their international counterparts.

4.2. Environment

The department has an enviable framework with the wards, clinics, operating theatres and offices (including a lecture hall) all occupying a single wing of the hospital; allowing easy access to both patients and other staff members. The wards are kept clean but suffer from a severe lack of resources and remain incredibly basic compared to European standards. The x-ray department is situated adjacent to the clinic/ward and it is only a short walk to the paediatric and general surgical wards. I was immediately struck by the sense of teamwork and camaraderie amongst those working in the urology department. Every morning, before a ward round led by Dr Mteta, individuals were greeted with a warm handshake and prayers were taken. An excellent learning ethos is apparent - from the teaching ward rounds each morning to the group debates amongst the residents. When confronted with a difficult or rare urological problem, we would retreat to the resident's room and open copies of Campbell's and Smith's Urology textbooks in order to dive deeper into the clinical issue. It was clear that collective learning early in the day appeared easier and more productive than trying to catch up at home late into the evening. I enjoyed being a part of this proactive and collaborative revision process.

4.3. Colleagues

During my time at KCMC, I met a number of doctors and students that helped to enhance my time in Moshi. Firstly, there are a large number of visiting medical students from Europe and America. It was a pleasure to spend time listening to their experiences and also learning more about the undergraduate medical training programmes in Germany, Scandinavia and USA. I also had the opportunity to teach some fundamental urology to a few keen students. Secondly, I linked into the general surgery department through my neighbour Dr Tan Ten Kok. He is a visiting surgeon and missionary from Singapore. He immediately made me feel welcome and went out of his way to ensure that I was happy at both work and home. I owe him and his wife a great deal of thanks for making my stay so productive and much more comfortable. Finally, I spent valuable

time with visiting pathologists, research scientists and educationalists who taught me a great deal about local practice.

5. Clinical work

5.1. Surgical experience

I was not disappointed by the variety of cases and surgical procedures I was exposed to during the attachment. I was welcomed as part of the surgical team and encouraged to 'roll my sleeves up' and become involved in cases. I had provisionally focussed on enhancing my exposure to open urological surgery. There were no shortage of patients from which to gain greater expertise regarding surgical planning, anatomy and surgical technique for both adult and paediatric urology. Specifically, I was grateful to assist in exploratory laparotomies, ureteric reimplantation, nephrectomy and TURP surgery. Additionally, there was an opportunity to perform open prostatectomy which I had seldom seen in my training thus far and the cases complemented my experience of TURP and HoLEP in the UK. I was also delighted to observe a number of urethroplasties due to the large number of patients presenting to the department with simple and complex urethral stricture disease. Indeed, it was possible for me to perform a first stage urethroplasty, unassisted, by the fourth week. An important area which exceeded my expectations included the paediatric workload. There seemed to be an endless queue of children presenting with: Wilm's tumours, undescended testes, posterior urethral valves, bladder extrophy and hypospadias that needed our help. This represented an amazing array of clinical conditions which would be difficult to match without tackling a specialist rotation in the UK. Finally, the rarer and more curious cases included: Fournier's gangrene, ambiguous genitalia, schistosomiasis and scrotal elephantiasis. The residents would coordinate and perform the majority of the daily operating lists. I was deeply impressed by their high level of skill and competency; as well as the apparent lack of complications witnessed during my stay. Wound infections continue to be a problem in selected cases but were managed with diligence and care on the ward. However, I was surprised by some of the problems with regards to pre-operative planning and diagnostics for certain patients. As a result of financial restraints (patient and hospital) and infrastructural problems, it was sometimes impossible to perform the appropriate and desirable cross-sectional imaging or laboratory tests. This approach

contrasted strongly with the multidisciplinary team approach adopted in hospitals that I have worked in to date.

5.2. Ward Rounds

The morning ward rounds were an excellent opportunity to catch up with members of the team and review the various inpatients in more detail. We would meet at 0730 with the usual convivial welcome and daily prayers. Typically, both Dr Mteta and Dr Mbwambo would attend and ensure that the process was interactive and a fascinating, learning experience. There always seemed to be plenty of time to discuss aspects of interesting cases and it was not unusual to spend 1-1½ hours highlighting clinical signs or reviewing x-rays. I valued this productive time in contrast to the early morning pandemonium I usually experience at home. It is testament to the teamwork, departmental structure and positive attitudes of the staff that the start to the day proved to be so rewarding.

5.3. Interesting cases

5.3.1. Scrotal elephantiasis

As soon as I stepped foot on the ward I was presented a middle-aged man with a grossly, enlarged scrotum. Additionally, an ulcerated area with purulent discharge was evident but he was managing to void without difficulty. The remaining clinical examination was unremarkable. Basic haematology and chemical pathology screens were normal and no further imaging studies had been requested. I queried the nature of the ulceration but was told that it was not unusual for these patients to present with significant infection. Apparently, this man had spent 2 years seeing a traditional herbalist in the mountains and had been praying for a cure. At surgery, it quickly became apparent that the disease process was progressive and probably malignant. The surgery was undertaken under spinal anaesthesia and I relished the chance to operate on such an unusual case. However, it was difficult to comprehend the counselling processes involved with the patient informed mid-way through the procedure that it would be necessary to perform a partial penectomy. In general, the immediate surgical outcome was excellent but I was concerned about the psychological and social impact of such radical surgery. Additionally, there did not

seem to be a robust mechanism for reviewing pathology and onward referral for adjuvant therapy; although the costs may well have been too prohibitive for the patient in any case.

5.3.2. Ambiguous genitalia

Disorders of sexual differentiation (DSD) present to the department on a periodic basis from all parts of Tanzania. Often, the presentation is delayed and cases need to be handled sensitively; including a comprehensive diagnostic work up prior to gender reassignment and reconstructive surgery. Our case of a thirteen year old boy with obvious ambiguous genitalia allowed me to understand in greater detail the problems of diagnosis and management in this complex patient group. It was clear that there were a number of financial and logistical restraints that prevented this boy receiving the care perceived to be optimal by European standards. This experience led me to establish a short audit of all cases seen at KCMC over the last three years (see section 6).

5.3.3. Wilm's tumour

Prior to my arrival at KCMC, I was aware that the department had an excellent experience of managing children with Wilm's tumours. Often, the cases present from the Masai tribes distributed throughout East Africa. Whilst there was only a single operative case during my visit, it was invaluable experience to be involved in this area of urological surgery. Furthermore, I saw first-hand how cases of advanced and recurrent Wilm's tumour were managed in the unit. Often, children would present back on the ward with progressive disease which required further chemotherapy. These children are managed solely by the urology team without the input from any oncology colleagues. Unfortunately, the outcome appeared poor for the patients I encountered, many of whom had failed to comply with the standard follow up protocol. This was a recurrent theme during my time in the department; with patients often failing to return to the hospital after their primary treatment.

5.3.4. Urethral stricture

The concentration of cases requiring urethral surgery was a particular highlight of the visit and allowed me to improve my understanding of the treatment of simple and complex stricture disease. Dr Mteta encouraged an in-depth discussion on every case encompassing diagnostics and pre-operative planning. The high quality of the urethrograms reflected the demanding workload presenting to both the urology and radiology departments. The regular, bi-annual workshops held within the department appear to help maintain these high standards. I assisted in anastomotic and first stage urethroplasty surgery gaining a greater understanding of the anatomy and techniques involved. Ultimately, I was encouraged to perform the first stage urethroplasty for a patient presenting with a long, gonococcal stricture. I hope to be able to build on this experience with further specialist training in the UK in the future.

5.4. Additional sessions

5.4.1. Teaching workshops

A surprising training opportunity was delivered by a team of visiting educationalists from Duke University in America. They held three separate, half-day workshops demonstrating the facets of team based learning (TBL) which has been successfully incorporated into the undergraduate curriculums at Duke Medical School and the University of Singapore. The sessions were interactive and provided an insight into these novel teaching methods. I felt that I learned a great deal about the processes involved and I can see how this approach will complement more standard teaching methods such as lecturing, problem based learning (PBL) and practical classes.

5.4.2. Examinations & assessments

A small component of the work I became involved in, away from the ward and operating theatre, included a role as observer/invigilator for the local university examinations. The system reflected the student assessments that I had been involved in as an examiner at both Imperial College and Cambridge University. It was an interesting insight to the undergraduate training programme and I enjoyed talking

to the students about their experiences of learning and training in Africa. Additionally, I was recruited to help mark some of the pre-clinical exam papers and to sit in on the review processes for residents presenting their research proposals to the MSc. committee. I was impressed by the diligence of the candidates and the robust research protocols being undertaken.

5.4.3. Flying doctors

Operating in a rural setting is a challenging aspect of the work performed by the residents and is conducted through the formal Flying Doctor service in East Africa. During my stay we tried to arrange for me to participate in one of the trips to the Serengeti. Unfortunately, time restraints and logistical problems denied me the opportunity to join the team during this visit. In the future, Urolink fellows who would like to be involved in this process should approach the organising committee through the department prior to leaving the UK. Hopefully, this will help maximise any chance of confirming a place on subsequent trips.

6. Disorders of Sexual Differentiation (DSD) Audit

6.1. Abstract

6.1.1. Background

Sexual ambiguity is a major cause of parental anxiety and can create social problems if not properly managed. Diagnosis and management can be challenging. The aim of this study is to highlight some of the challenges in management of ambiguous genitalia in East Africa.

6.1.2. Aims

- i. Retrospectively review cases of DSD and severe hypospadias attending KCMC hospital.
- ii. Evaluate current standards.
- iii. Review potential future management strategies.

6.1.3. Materials and methods

All cases of ambiguous genitalia managed at the Institute of Urology at KCMC University Teaching Hospital, Moshi, Tanzania between January 2009 and October 2011 were analysed for age, sex at presentation, investigation modality, final gender assignment and outcome of surgery.

6.1.4. Results

Nineteen patients presented to the department with ambiguous genitalia during the 3 year study period. Median age was 5 years (range: 6 months to 23 years) at presentation. Nine patients were identified as pure epispadias or severe hypospadias. 12 patients demonstrated clinical evidence of DSD. Majority of cases were reared as males (n=13) and no gender reassignment surgery was undertaken. The causes of genital ambiguity were: penoscrotal hypospadias (4), epispadias (3), congenital adrenal hyperplasia (3), testicular feminisation (2) and male hermaphroditism (1), mixed gonadal dysgenesis (1) and androgen insensitivity syndrome (1). Four patients were not assigned a diagnosis. Half of the patients had undergone surgery during the study period. The most common complication was urethrocutaneous fistula (50%). A number of patients were lost to follow up.

6.1.5. Conclusions

The diagnosis and management of ambiguous genitalia is a challenging problem in East Africa. Early presentation and treatment is necessary to avoid psychological and social embarrassment. Access to improved laboratory testing and surgical equipment alongside new counselling and follow up services will improve the treatment of children with DSD.

6.2. Follow Up

The audit results were presented to the department on 22/09/11 and I led an active group discussion on the topics raised. The following points were outlined as areas to target over the next 12 months, including a secondary audit cycle:

- i. Electronic (online) database.

- ii. External collaboration (UK centre) and funding.
- iii. Explore local laboratory testing and costs.
- iv. Review follow up protocols.
- v. Identify appropriate counselling services.

7. Funding

7.1. Urolink Travelling Fellowship

I would like to thank the Urolink funding committee for supporting my visit to KCMC hospital. The process was extremely straight-forward and the appropriate application forms were easy to find on the Urolink website (www.baus.org.uk/urolink). The financial contribution helped me to realise a longer visit to KCMC whilst balancing the demands of my regular fiscal commitments at home. I would also like to express my deepest gratitude to my wife, Mandi, who sacrificed her place on the trip and worked overtime to ensure that all the bills were paid whilst I was away.

7.2. Additional funding resources

I would also like to acknowledge the generous contribution made by Coloplast who continue to support me through various educational grants. Additionally, I would like to thank Astellas for their contribution to my travel fund. I have learned that Out of Programme Experiences (OOPE) require personal sacrifice alongside significant external support and financial backing in order to be successful.

8. Problems

8.1. Travel

Perhaps, I was simply a little unlucky during my initial trip to Tanzania. Due to flight delays, an improbable connecting schedule and diffident airport staff, I was left stranded at Nairobi airport on the first night. It proved difficult to communicate with the local personnel in order to arrange overnight accommodation and to ensure a suitable 're-booking' for the next day. Secondly, my luggage went missing during the transition to Kilimanjaro airport. I am told that this occurs frequently and new arrivals will often be observed trudging down to the airline offices in town in the hope of reclaiming their bags. I had a few minor items stolen from my rucksack but any locked compartments

remained secure and untouched. Fortunately, the medical supplies I had brought with me managed to arrive safely (if a little delayed).

In Moshi, it is reasonably easy to get around and I did so mostly by foot, although taxis are fairly cheap. The local transport – Dala Dalas (minibuses) are fraught with overcrowding and inherent personal risk. This mode of transport is however incredibly cheap for those adventurous enough to use it regularly.

8.2. Language

In general, most people will be able to speak some English and it is easy to make yourself understood around town. My colleagues would generally converse in Swahili but were happy to switch to English in my presence. However, patients tend to stick to their native tongue and it will be necessary to have an interpreter if one plans to take in-depth clinical histories or chat to patients. I managed to pick up a few phrases that helped me to get by and a simple “Jambo” or “Habari” goes a long way to making friends around town.

8.3. Electricity

Tanzania has been gripped by a power supply problem since 2008 which often leads to “power cuts” whilst operating. There can be prolonged periods (up to 24 hours) without electricity at home or in town. It seems impossible to predict when power will be restored but in general the doctor’s compound would have its power reinstated most evenings around 6pm. A few hotels and more capable outlets will possess a back-up generator. People intending to stay for longer than 6 months may benefit from purchasing a battery or alternative power source. Additionally, a gas cooker and thermos flasks will ensure that one is able to have hot food and water every day.

8.4. Communications

I struggled in the early part of the trip to make regular contact with loved ones at home. It became increasingly frustrating that the internet service was unreliable or restrictive so that I was unable to connect my laptop to the network. Furthermore, it was not uncommon to arrive to find that the electricity was off, which made planning even more

difficult. International phone calls are expensive and I relied on text messaging to communicate locally and with my family. Overall, I estimate that I sent or received over 500 text messages (at a cost)!

8.5. Defining a role

One of the greatest balancing acts during the visit was trying to express myself without becoming bullish and overbearing. It is often difficult to quickly integrate into a new team thereby ensuring a reasonable share of the training/workload. In some ways the success of the department over the past decade has proven detrimental to visiting UK trainees. The numbers of urologists in training have expanded over time and we tried hard to ensure that all 8 residents (including myself) had an equal exposure to cases. I was happy to forgo endoscopic cases in favour of open surgical procedures. It is clear that there is an undercurrent of frustration amongst the regular trainees who want to learn quickly and to undertake new procedures such as radical prostatectomy, ureteroscopic stone extraction and laparoscopic surgery, all of which are currently unavailable at KCMC. Achieving a high volume of training cases is tough, although the numbers of TURP, urethroplasty and paediatric sessions currently undertaken are impressive. Ideally, I think that I would have benefitted from performing more cases as the supervised, primary surgeon.

9. Recommendations

9.1. Define your role through Urolink

Communicating with the hospital and the department can prove slow and defining specific learning objectives and goals is difficult. I would recommend that future fellows address this issue with their mentors during the pre-trip preparation. I think that a clear and concise backing from Urolink to establish the visiting trainee's wishes and capabilities will enhance the overall experience. Also, I tried to introduce the concept of the ARCP curriculum and assessment process to the department. Initially, there was little interest generated but perhaps this area is worth re-visiting for future trainees.

9.2. Bring torches

Torches, headlamps and candles are essential to cover the inevitable periods without power. All of these items can be purchased locally but I would advise that a selection of supplementary lighting is packed in advance. Other important medication, equipment and supplies are outlined in the supplementary report.

9.3. Travelling companion

I met a lot of people during my trip and made strong friendships along the way. However, I think that it helps to have a colleague or friend with whom to share concerns, decisions and experiences. I am sure that bouncing ideas of somebody or finding reassurance in their presence will ultimately improve the time spent working abroad. Alternatively, it is possible to coordinate visits with the annual workshops that have been established within the department. This will allow an opportunity to interact with senior colleagues from across Europe.

9.4. Internet considerations

This topic will largely depend on the length of stay of the visit. In general, the internet is available at variable rates and standards around town in shops, cafes and hotels. Connecting a laptop tends to be easier at coffee shops and hotels but it also may be possible to register with the hospital IT department. A slow modem is attached to the desktop computer in the urology resident's room. Probably, the best option if staying for more than 4-6 weeks is to purchase a mobile broadband connection from one of the phone companies who have offices throughout Moshi. Zantel comes highly recommended with laptop dongles costing £20 and unlimited online packages around £40/month.

10. Conclusions

I was privileged to spend time living and working in Tanzania. I was amazed by the contrasting beauty and hardship of life in Africa. I will always remember the smiling faces and warm greetings I received from everyone I met. I developed a resolve and resilience during my trip to overcome daily problems and I learned a great deal from my

excellent hosts. I would strongly recommend the experience to any fellow trainees and hope that I can return one day to visit my new friends.

11. Acknowledgements

- Urolink committee particularly Ru MacDonagh, Patricia Hagan and Phil Thomas.
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- Dr Africa (Rwandan trainee) – for his kindness and warm spirit. An exceptional man with a remarkable story. Good luck!



Hakuna Matata!