# Beit Trust Report: Beit Cure International Hospital Blantyre & Queen Elizabeth Trauma Department

Andrew Walls ST5 Orthopaedic Trainee Northern Ireland
August 2018 – February 2019

I would like to take this opportunity to sincerely thank the Beit Trust for their kind and generous financial support during the six months I spent in Malawi with my wife Emma.

## Background:

I have had a longstanding interest and passion for orthopaedic care and educational projects in the developing world. This has led me to undertake trips abroad to Zambia and the Democratic Republic of the Congo with orthopaedic objectives over the last twelve years. I am now an active committee member of World Orthopaedic Concern (WOC-UK) which promotes these interests.

My interest in Malawi was first sparked in 2015 whilst reading an article in an Orthopaedic journal about arthroplasty in a low resource setting based in Blantyre, Malawi. I contacted the author which led to a chain of emails and familiar contacts being consolidated, two of whom I already knew through developing world orthopaedic work. After battling a lot of red tape and paperwork my training

programme director finally gave me the go-ahead for six months out of training and I started planning along with my wife for this six-month adventure. This type of Out of Programme experience had never been authorised before by my training programme so the initial reception was somewhat cautious, but with time I managed to receive a very positive and supportive team behind me for the experience.

It wasn't ever going to be straightforward. My two years of planning this trip and the excitement building towards it was almost shattered in May when I was diagnosed with cancer. This was just 2 months before our proposed departure and I had to undergo surgery and other imaging to stage my disease. Thankfully my cancer was localised and a surveillance programme was commenced which I managed to adhere to whilst in Malawi through a laboratory based in Johannesburg. A lot of negotiations and discussions had to take place to convince my Oncologist that it was a good idea for me to go! But, where there's a will there's a way.

***Kyle James, Jes Bates, Chiku Mpanga and Sam Maina at the weekly postgraduate meeting***

My time in Malawi was divided equally between Beit Cure International Hospital and Queen Elizabeth Central Hospital Orthopaedic Department. Both of these units work closely together and meet weekly on a Friday afternoon for the Postgraduate meeting. This is a forum where consultants and trainees can discuss difficult cases and learn from them.

## Introduction:

Malawi is situated in South-Eastern Africa, bordered by Zambia, Tanzania and Mozambique. It doesn't have a sea border or port. Recent figures suggest a population of around 18 million, many of whom live in subsistence farming. It is sadly one of the poorest countries in Africa with an average life expectancy of around 60 years. Despite this, the people are extremely friendly which explains why it's also known as "the warm heart of Africa." The geography of the country varies widely from arid lowlands to high grassy temperate regions and high mountains. The dominating presence of Lake Malawi means that beautiful sunny freshwater beaches are plentiful but as many tourists know, the lake harbors infectious Schistosomiasis and care should be taken to get treatment after exposure!

***Snorkelling in Lake Malawi***

**Queen Elizabeth Central Hospital (QECH)** is the major teaching centre in Malawi. It is adjacent to the main medical school campus and is the centre of training for Orthopaedic Clinical Officers. It is one of 4 central hospitals in Malawi, with others found in Lilongwe, Mzuzu and Zomba. These centres in principle offer tertiary referral services for the remaining 24 district hospitals around the country. In practice, only Blantyre and Lilongwe have regular orthopaedic surgeon access and Blantyre remains the main centre.


***Cabbage delivery to the kitchen of QECH!***

There are three Orthopaedic Surgeons that work in QECH: Professor Nyengo Mkandawire, Dr Chiku Mpanga, and Dr Jes Bates. The hospital has to deal with a burgeoning trauma burden with limited resources. Within the Trauma department there is an image intensifier which is on its last legs and alarms incessantly. However it fulfils its purpose and allowed us to screen

fracture fixations effectively. With regards to equipment the unit has many links to organisations such as SIGN and AO Alliance which provides a robust nailing system for fixing fractured long bones and access to basic hardware and tools for fixing most broken bones. There is also very limited access to a CT and MRI scanning but for the most part this is not an option. Access to theatre is constrained given the burden of demand and also the availability of anaesthetists as there is currently a national shortage.

**Beit CURE International Hospital (BCIH)** opened in 2002 and was built with generous financial support of the BEIT trust and is run by CURE International. Its goal is to provide the highest standard of appropriate Paediatric orthopaedic care to the children of Malawi and the surrounding region. The hospital has a slogan which goes along the lines "Adults Pay a Fee so the Children Can Walk Free." This captures the ethos and goal of Cure very well. A ten-bed private ward offers trauma and elective surgery to private patients which in turn helps to fund the children's work. By helping promote private orthopaedic healthcare, not only can the hospital provide free paediatric services, but also helps create an economic environment that may allow future Malawian orthopaedic surgeons to consider pursuing a realistic career in orthopaedics without leaving the country.

The unit has a close working relationship with the adjacent medical school, teaching hospital and paramedical training departments. The hospital has a strong commitment to teaching; Medical students, Orthopaedic Clinical Officers and orthopaedic trainees all work and train within the hospital. The hospital performs the only total hip and knee replacement surgery within Malawi as well as offering high quality outpatient and surgical services for the generality of adult orthopaedic conditions. During my time at Cure there were four consultant orthopaedic surgeons, Mr Kyle James (UK), Mr Sam Maina [Kenya], Ms Linda Chitoko(Malawi) and Mr Nick Lubega [Uganda].


***Beit Cure International Hospital Malawi***

## My Experience at QECH Trauma Department:

The conditions and resources in hospitals in Malawi are very different from those in the United Kingdom. I have had significant exposure to other developing healthcare systems and therefore came with an awareness and determination to learn and not judge.

My principle aim for the six months in QECH was to experience and assist with the Trauma management of many delayed and mismanaged injuries. In the UK, Trauma units fix “fresh” trauma as resources are adequate to meet the demand and most injuries which require operative intervention have surgery within 1 week. The waiting list situation in QECH for surgery was overwhelming.

***Queen Elizabeth Central Hospital front entrance***

Every Tuesday morning on the grand round the interns would compile an operative list of inpatients awaiting surgery and this would regularly reach 30-40 cases at any given time. Tradition dictates that the difficult decisions would then be made over a team soft drink in the outside café, where we would all prioritise patients based on the nature of their injuries and negotiate for who we thought deserved the surgery that given week.

***Improvised skin traction for a femur fracture***

***Interns being taught casting techniques***

This group of patients would be considered “emergency trauma” and is vastly outnumbered by the several hundred outpatients with longstanding conditions and neglected injuries who are waiting for elective surgery at home. During my time at Queens the surgical department had declared that no elective surgery was to be performed due to the pressing demands of emergency trauma.

***Two crocodile trauma patients requiring emergency surgery***

My weekly schedule at Queens comprised of 3 full days operating, 1 outpatient clinic and a grand ward round once a week. I also covered on calls for the Orthopaedic clinical officers when they required help in theatres as a buffer for the consultants. One memorable on call involved an open back lorry with a large number of guests riding on the back returning from a wedding. Unfortunately, the driver was heavily drunk and the lorry careered over the side of a bridge. Multiple fatalities at the scene was a

given and after being up most of the night and taking several patients to theatre, we counted 23 patients admitted under the Trauma team. Most of the evening was spent in the resuscitation area which I can only describe as chaos. The demands of patient care completely overwhelmed staffing levels and we struggled keeping on top of looking after the sick patients. This was my first experience of a true “triage” type scenario which I have been taught in “Advanced Trauma Life Support” (ATLS). This rations patient treatment efficiently when resources are insufficient for all to be treated immediately. The adrenaline and drive kept me going the next day and we had a full day theatre list until 6pm. A day to forget yet to remember!

The theatre experience in Queens was always stimulating and challenging. Most days a difficult case would require a read-up and some research the night before to refresh anatomy and perhaps think outside the box which kept me on my toes. I had a vast exposure to previously unfamiliar operations including pelvic fixations, malignant tumour excision, large nerve repairs and wound cover using flaps.

As the visiting Fellow I took on many other responsibilities including looking after the ward and supporting the juniors or “interns” as they are known in Malawi. I also have a passion for teaching and sought to raise the standards of ward care by teaching the juniors good casting techniques and the art of managing fractures conservatively. In a low-income country with no welfare support, a conservatively treated fracture with some degree of mal-union is a much better prospect for an individual who needs to feed their family than a potentially infected

operative intervention with limited salvage options. In addition to these management skills I learnt to be flexible and to improvise within the confines of the resources available. However, many aspects of ward care were challenging and difficult to accept even with regular exposure. Contaminated wounds receiving regular dressings would often be infested with maggots on removal of dressings due to lack of hygiene and an open ward allowing flies to swarm freely.

My appetite for teaching was further met by a regular entourage of medical students who regularly rotated through our unit, and required long case discussions and theatre experience to be signed off for their attachment.

***Medical student teaching***

***Trauma Theatre QECH***

I took every opportunity to give them a good taste of Trauma & Orthopaedics with regular ward teaching and an emphasis on clinical skills. The surgical tutor for the College of Medicine arranged for me to give several Orthopaedic lectures in the University setting to around 60 students which I enjoyed immensely. It was beneficial for me to get formal feedback from all the students and this was very positive. Once my enthusiasm for teaching was noted I began to be pulled in many directions and I had to politely refuse requests on a regular basis as my loyalty was to the running of the Trauma Unit. Another valuable experience for me was running an

Objective Structured Clinical Examination (OSCE) station for the final year medical students end exams. This was a stressful time for the students and it brought back many memories of my final exams in 2009!

It was also a pleasure to meet a team of visiting hand surgeons and Occupational therapists visiting from the UK for a three-day educational course on hand injuries and rehabilitation. This was funded through the British Society of Surgery for the Hand (BSSH) and I thoroughly enjoyed helping the faculty deliver their course and have prospects of returning next year to teach on it with them.

**SIGN nail surgery at QECH**

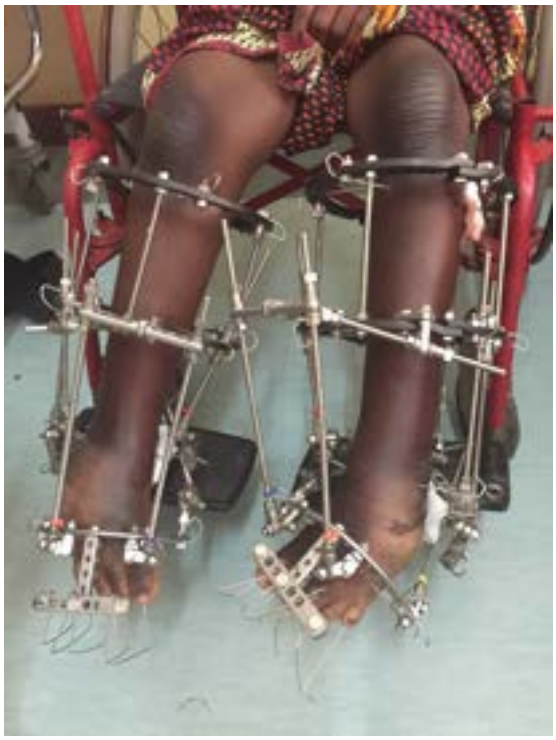
**Satemwa Tea Estate**

**<u>My Experience at Beit Cure International Hospital:</u>**

Beit Cure International Hospital is a 5-minute walk down the street from QECH, but conditions in the two hospitals are worlds apart. The entrance

and clean corridors resemble a hospital from the west and immediately you know it is well resourced from donors in the west. In retrospect, I am glad I arranged my time to be split between both units as each gave me a very different perspective. My wife Emma is an Occupational therapist and she was based in Cure for the six months working with the physiotherapy department.

The pace of work at Cure was more intense and highly organised. The main surgeon from the UK overseeing the delivery of care was fellowship trained in Australia and had an energy to teach and impart knowledge that I had never seen before. Limb reconstruction of children's deformities was bulk of theatre workload and I loved every minute of it. Complex cases would often require careful pre-operative planning for several days before and this would involve measuring angles and manipulating x-rays to achieve correct alignment of the affected limb.



***Adolesecent clubfoot ilizarov correction, these ilizarov frames will stay on for around 3 months and gradually correct the severe deformity.***

Adolescent patients with neglected clubfoot often required complex ilizarov frames on both lower limbs which would take around 5 hours continuous surgery with 3 surgeons operating. These cases gave me so much experience and practical training which would not be accessible in the UK.

The hospital has three operating theatres which run every day with full lists. Resident surgeons, fellows and two Orthopaedic Clinical Officers (OCO's) share the workload and have set clinic days. In my training I have had a wide exposure to Trauma so I would often run a list of private Trauma myself and call upon my supervisor for assistance when it was required. This gave me a huge sense of satisfaction and reward as I was directly enhancing surgical throughput myself and generating income for the hospital to function as it does.

Unfortunately, I had an experience I would rather forget when I was operating with my supervisor in Cure. I was closing an ankle wound and the needle holder wasn't securely gripping the needle as was often the case. The needle slipped off the holders and pierced my hand. I knew immediately that it had passed through my two pairs of gloves. Unfortunately for me the patient was HIV positive and I urgently attended the Malawi Liverpool Welcome Trust (MLW) for assessment and commencement of post-exposure prophylaxis. Studies give an estimate of the average risk for HIV transmission after percutaneous exposure to HIV-infected blood of 3 per 1000 injuries (0.3%). The risk was very low but I wasn't going to take the chance and I started on a 1-month course of three anti-retroviral drugs.

Thankfully, I never became physically sick or unwell despite many people telling me that it was a very common side effect. I did however become very jaundiced much to my wife's amusement as the drugs were having a negative impact on my liver and its processing of enzymes. For over a month I had to tolerate people looking at me in a very inquisitive way which became rather irritating, but it was a necessary evil. After my course of treatment, I had several tests over a 3-month period which confirmed I was still HIV negative.

**Outside of Work:**

The opportunity to live in Africa for six months does not come by very often so my wife and I made sure to see around at the weekends and when we had time off. I often had ward rounds and patients to review at weekends but the fellows always made a point of covering each other to allow for rest and relaxation.

***Jump starting the car in Majete national park***

There are two main Safari destinations in Malawi and both are maintained by African Parks Network of whom Prince Harry is President. We enjoyed two short safari breaks in each of these destinations and were able to get residents rates as we had temporary residents permits. Whilst enjoying a self-drive in Majete game reserve we had an engine fault and I had to jump start the car with a friend. Pushing from the back whilst keeping a watchful eye out for lions was an experience!

Lake Malawi is a must for anyone visiting the country. We spent 4 nights at the lake and enjoyed canoeing and snorkelling with the Cichlids of which there are over 700 species in the lake. We spent two nights on an isolated island on the lake which allowed for much needed down time and rest after the business of the hospitals in Blantyre.

Another pastime we enjoyed immensely with friends was climbing the Mulanje Massif. There are many individual peaks the highest of which is Septiwa at an elevation of 3002 metres above sea level. We managed to squeeze in two three-day trips and conquered Nandalanda and Septiwa peaks during our time away.

***Liwonde Safari: Elephant viewing from Shire river***

## Conclusion:

In closing, I cannot recommend my experience highly enough in both Cure and Queens departments. All staff were incredibly welcoming and the environment was always friendly and supportive. The surgical and educational opportunities available are vast and I wholeheartedly encourage any medical student or doctor who is considering time away to go and enjoy this beautiful, safe and welcoming country. The time away has been life changing for my wife and I and we both intend to go back!

It was an eye opener to experience first-hand the burden of trauma facing much of the world in a resource depleted setting of a low-income country. The experience has developed my decision making and management of surgical problems not commonly encountered in the UK.