

Diabetic Foot Care in Kenya

Cosyfeet Podiatry Award winner Jo Sweeney was awarded £1000 to assist with her travel and living expenses during her voluntary work in Kenya. Here she reports on her experiences.

In January 2011, in the final year of my B.Sc (Hons) Podiatry, just home from a pilot trip to Kenya and working towards finishing my degree, I proposed a three month trip to the Coastal Province of Kenya. Here I planned to volunteer as a podiatrist at Coast Provincial General Hospital (CPGH), working within the diabetic team and focusing on diabetic foot disease. The global burden of disease is moving from communicable diseases, such as HIV/AIDS; to non-communicable disease such as diabetes. I hope to guide my career into working with the most vulnerable feet in the developing world, not only at a clinical, but at a policy development level.

With partial funding secured, the trip of a lifetime to Africa had begun.

I had undertaken a short pilot trip in 2010 based in the clinic I proposed for my 2011 trip, and until I began planning my new trip, I had been unaware of the immense value of the pilot trip. It allowed me to assess which resources would be of greatest value to patients, clinicians and to the hospital. Moreover, the pilot trip made real for me the disparity between health care in the West and in the rest of the world. The constraints on public health care in Kenya, and East Africa in general, are considerable - even with NGO work and international aid. Conscious of this, I assembled a list of resources to aid my treatment of patients without additional cost to the hospital or using their limited resources. The items required ranged from basic clinical consumables such as examination gloves to wound dressings and medicaments. My pilot trip had taught me that wound dressings in Kenya were very basic, limited in availability and that those available were often misused; so wound dressings were high priorities.

With my extensive list prepared I had my work cut out. I began writing to companies for charitable donations and organising fundraising activities. I targeted specific companies for specific items and in total approached over 115 companies. Considering the financial climate, I was delighted with the response and achieved a 1:10 uptake offering donations of varying value and descriptions. I purchased the remaining items to complete the kit, which now weighed in at 250kg. My next hurdle was transporting the kit to Kenya. To pay for transport, I organised a fundraising event at Glasgow Caledonian University, which involved selling 1000 doughnuts in one afternoon!!

Planning the journey was very time-consuming and a little stressful. It turned out the cheapest, fastest and most reliable way to transport the kit was with me. This meant that I had to travel from Glasgow to London by train, fly to Nairobi then drive to Mombasa with 250kg of excess luggage.

I anticipated this would not be an easy journey. I was also acutely aware that each stage of the journey had its own difficulties. For example, would the train company allow me to travel to London with this volume of luggage? Once I arrived in London, would airport

security want to search each of the 11 carefully packed and weighed boxes? I expected I would be searched on arrival in Kenya, but would they try to charge me import duty? And lastly, was it safe to drive to Mombasa?

My trip fell at a very difficult time for the country, which had just gone to war with Somalia. There had been two fatal tourist kidnappings within four weeks of my departure; however the Foreign Office only advised against travel to the north of the country. After carefully considering all the security risks, I decided to continue with the project. I departed Glasgow mid-October, bound for Mombasa via London and Nairobi.

The train company was fabulous and allowed me to travel with my additional luggage at no extra cost. I booked a taxi to take me to London Heathrow Airport, where I departed for Nairobi. Astonishingly, I had no check-in problems or delays due to the luggage - which was booked onto the flight in advance. I arrived in Nairobi the following day. This was the part of the journey I was least looking forward to: negotiating my way through Kenyan security, not losing any of my kit, and not accruing any charges! Thankfully, my fretting was all for nothing: I passed through customs and security without anyone looking into any of my boxes (and still without any charges). The staff at the airport were happy to help move the boxes of kit to the minivan and see me on my way. This next stage of the journey was long, hot, dusty and trying. I completed the marathon 9-hour drive with only one toilet stop, the toilets at the other two stops appearing a definite health risk.

Eventually I arrived at my apartment in Mombasa dusty, red and eager to get settled in. Contracts signed and kit unloaded into the apartment, I then set about cleaning bathrooms and changing beds before I could start to enjoy the wonderful new world in which I'd safely arrived .

I'd set myself clear objectives for my trip. I wanted to gain as much clinical exposure to diabetic foot wounds as possible, and to identify a sustainable source of appropriate materials that could be modified to offload wounds on the diabetic foot. The technique of offloading/redistributing pressure from diabetic foot ulcers is a recognised method of promoting healing – and, as a direct result, can reduce the need to amputate limbs. Furthermore, I was requested to design and implement a screening pro-forma to rate the risk of foot disease for patients with diabetes. This would then allow the patients to be stratified by risk, and treatment plans drawn up accordingly, starting with the population of patients with diabetes that attended CPGH diabetes clinic at that time.

My memories of the hospital were of a busy hub. CPGH served a large area and many people attended this hospital. The hospital building was ageing and looked tired and dank. Equipment was limited, running water was not always available in the clinic and basic resources such as gloves and swabs were sometimes unavailable, too. The hospital staff were very friendly though, and the clinicians in the diabetic clinic were delighted to have me.

As I hoped, clinical exposure to wounds was in abundance and I was immediately thankful for my planning and foresight into the items that would be the most valuable to me in the clinic. Patients attended the dressings clinic in the morning, and then I would attend inpatients in the wards afterwards. I regularly worked alongside one nurse who I had met

on my pilot trip, and who had received some training in managing diabetic feet. She had been delighted to have me in the clinic on my pilot trip and seemed happy to have me back. She did, however, immediately protest my attending inpatients: these patients were the responsibility of the ward, and previously, when she had treated inpatients, the ward staff then neglect their duty to the patient. I understood her opinion; however, I was being directed to these patients by the Medical Officer who dealt with diabetic feet. Already I was treading the doctor: nurse fine line.

While treating patients in the dressings clinic I would explain why I used a particular method or dressing, and tried to demonstrate and emphasise the use of offloading the wound. I had with me a supply of felt; however, I was very keen to find a sustainable alternative.

Despite having to tread carefully around some nurses I really enjoyed my first few weeks at the hospital and time felt like it was racing by. I was flattered to be asked by the Diabetes Medical Officer and Consultant if I would attend the International Diabetes Day rally in downtown Mombasa, and give a talk to the guests. Due to the war and risk of terrorist attacks, however, the embassy advised against attending any rallies or public gatherings. I was disappointed not to go, but was compensated by attending a children's diabetes camp run by the Diabetes Management and Information Centre, Kenya (DMI).

This camp was for four days in a local hotel. The children were aged 4 - 18 and the DMI offered the camp free of charge to around 55 children, three or four times a year. During the four days, the children learned how to manage their diabetes and had time to socialise with their peers. In my view, simply lecturing the children for several hours at a time was not the most effective; however, the children were very tolerant. They also have their blood sugar closely monitored at the camp: I was particularly moved by the patience and commitment of the older children at the camp in helping the younger children monitor their blood sugar. Several of the older children would often set their alarms to go off at night to check on the youngest children whose blood sugar was known to drop dangerously low during the night: they would then contact a member of staff if glucose was required.

I played my small part in the camp too. I talked to the children about how to look after their feet and check them for potential problems. I then demonstrated a foot assessment and explained what the instruments I used were and what they were used for. I tried to make this part as unacademic as possible, and got all of the children to take off their shoes and socks and look at one another's feet. I then worked my way through, checking and screening all the children's feet for risk of ulceration and fungal infections, and dressed the surprising number of wounds. I also cut all toenails requiring it.

Back at the hospital, there was concern looming. There was a doctor's strike planned and there appeared to be no way to avert it. I was concerned too, mainly because emergency care would be compromised. Only very limited services would be available and lives would be at risk. Moreover, some of the inpatients I had been treating had been waiting weeks for surgery and the strike would delay this even further, compromising treatment plans and putting the patients at new risks. Finally, I was concerned because the strikes would bring with them protests and demonstrations, which would present a potential safety risk – particularly as I planned to continue treating patients at the hospital during the strike.

I was especially worried for one of the inpatients I had been treating: he had been waiting for an amputation of the hallux for six weeks and his need for surgery was now great. One week before I arrived in Kenya, he had presented to the hospital with extensive and badly infected wounds on both feet. He was one of the first patients whose treatment the MO asked me to help manage. He had been assessed by one of the surgeons and recommended for below-the-knee amputation; however, another surgeon advised the patient that this was not necessary and suggested that debridement surgery to clean the wounds and remove dead tissue would be sufficient; he added that if BKA was required it could be performed at a later date. So the patient had been scheduled for surgical debridement of both feet within a few days. The MO agreed with the ward staff that I would dress the patient's wounds after the surgical debridement had been completed and until then, the wounds would be managed by the ward.

It took a further four days for the patient to have his debridement surgery. The next day, I visited the patient with the MO, a nurse from the ward and my clinical kit. Together we would reassess the wounds and formulate a management plan. I was prepared for the wound I was about to see but concerned that a BKA was the surgery that should have been performed. The patient was a lovely gentleman who was very happy that I was involved with his care. After reviewing the patient I was surprised that he had been on antibiotics up until surgery, but that the course had finished and no more had been prescribed. I discussed this with the MO, who prescribed a course of Metronidazole IV antibiotic plus painkillers; I took a swab from the wound and sent it for culture and sensitivity.

I treated the patient's wounds daily at around noon for the first few weeks and left instructions on how to dress on the days I was not there. An active man, the patient found being restricted to a bed depressing. I mentioned this to the MO on more than one occasion and also requested physiotherapy, as the patient's muscles appeared to be atrophying in front of my eyes due to inactivity. My request fell on deaf ears. At the same time I began experiencing difficulties on this ward. Each day I took my kit with me – the only additional equipment I required was sterile dressings packs and sterile gauze. These basics would have been necessary whoever was dressing the wounds; however, due to developing tension, this became a bone of contention with some of the ward staff.

On several occasions I met the patient's wife, a lovely, quiet, almost shy and definitely humble woman. She was very concerned for her husband's welfare: he was the only source of income for the family, who lived in Western Kenya. She too mentioned to me that her husband was very sad. As the staff still didn't heed my concerns about this, I did what little else I could to comfort them: I gave them a book and the gifts of fruit my other patients brought for me. His wife would read to him in the afternoons – my patient's bed was located on the outside part of the ward, therefore at night there was insufficient light. I was pleasantly surprised how this small gesture really lifted my patient's spirits and he chatted more each time I visited.

On the other hand, the patient's wounds were not doing so well: I could smell them when I stepped onto the ward, and when the dressings were removed the pus oozed and squirted, clearly still badly infected. The results of the culture and sensitivity test revealed that the

patient had multiple organisms in the wounds. The antibiotic he was receiving was insufficient and the infection was not sensitive to it.

This ward had not allowed me to record in the patient's notes and advised me that it was unnecessary, as I was only dressing wounds. I contested this but was still not permitted to update the notes. One day, I insisted the patient be reviewed by an MO on ward, as his condition was deteriorating, and questioned why it had not been recorded that the patient was receiving his antibiotics as prescribed. I was met by the startling answer that they were not given because I was dressing the wound and had not been using it. I quickly realised that the IV solution prescribed was often used to irrigate wounds and so the nurses had not given it because they were not washing the wounds. I pointed out the antibiotic should have been given by IV but I was challenged on this! Medical staff often use IV antibiotics to wash wounds instead of administering them as IV.

During the review, I assertively pointed out what had happened regarding the antibiotic, but I was offered no explanation. The decision to surgically amputate the patient's left hallux had been made weeks ago but this still had not been performed. Now the patient's feet were deteriorating, rife with infection that required antibiotics the patient could ill afford.

After making a fuss over the few days before the strike, the patient was scheduled for surgery - a blessing, it seemed. As a result of infection the spreading from the hallux, and now from other digits also, the surgeon performed a forefoot amputation, described in the notes as a Symes amputation. It was, in fact, a transmetatarsal; but the name of the surgery is irrelevant.

It was a disaster.

The patient's foot was black with necrosis, oozed pus and was vascularly compromised. He was left with foot which no longer resembled a foot, was highly unlikely ever to heal and was even less likely ever to be functionally useful to the patient.

The first post-op dressing change was after the strike had begun. As I undressed the foot my heart plummeted to depths I have rarely experienced. I was not squeamish about the wound in front of me: I was emotional. I felt a spectrum of emotions from anger and resentment to sorrow and regret. I described to the patient the result and only just held myself together. I also tried desperately hard to shield the patient's wife from seeing it. I quickly realised that no one who was there would benefit from my emotion and so I reformulated it into action. I armed myself with pictures of the wound and headed for the picket line. I searched for the chief of surgery and insisted he listen to me. I describe the case and how it had been managed. I also named the surgeon who had butchered my patient. The surgeon was within earshot and heard me discussing the case with the chief, but shied away from speaking to me. The chief of surgery ordered a BKA - when the strike was over.

The patient suffered for a week until some of the doctors returned to work. The patient was distressed at having to return to theatre for a BKA. I was devastated. My focus turned to the other foot, which was beginning to rapidly deteriorate along with the patient's general

health. My real concern was that (in my opinion) the patient was septic. Anxiously, I swabbed the other wound again and sent it for culture and sensitivity, for which I paid. The wound was infected with multiple resistant organisms, both gram positive and gram negative bacteria. The patient could not afford the required antibiotics and so I paid for the first course to be given by IV. After this was finished, the patient would then buy an alternative combination of antibiotics.

At this time the atmosphere on the ward towards me changed from tentative and a little hostile to nasty. I was not permitted to use any sterile instruments on the wards, the drum of sterile gauze and betadine solution was often unavailable, and every day I was met by the same male nurse, who made a point of being particularly threatening towards me. He made it quite clear he did not appreciate my being on the ward, asking so many questions or reporting to the MO. On one occasion I thought he was either going to spit on me, or hit me.

Once again, after the patient had been for his BKA surgery there was discrepancy in antibiotics administered. I began to wonder if my being involved with this patient's wound management was to his detriment, and whether the clinic nurse had been right – the ward staff were neglecting their duty to the patient.

Shortly after the BKA surgery, the patient died. The cause of death recorded on the post-mortem was sepsis.

I did not know how to react or how I was supposed to react. I was numb. I treated my patients and finished early that day. My faith, and that of my deceased patient, lead me to prayer. I found no other comfort.

The strike was deemed unlawful and so some doctors returned to their positions after seven days while others persisted for 10 days. As a result, the clinic was very quiet. Patients did not attend for dressing changes as they thought the clinic was closed. Some patients changed dressings themselves at home and others kept the same dressings for a week or more. This caused a huge problem: due to the unrelenting heat, patients' feet would excessively sweat under their dressings. Many wounds could not be left more than a day without being changed.

Meanwhile, in the clinic, I was having great success with several patients and staff, despite the strike. I was using the felt I had brought to offload and redistribute pressure and I was keen to implement an alternative material. The most suitable and available resource was rubber from discarded car tyres. This material is already used to create footwear in Kenya and so was an obvious place to start. I suggested this to the clinical staff at the hospital and they were not keen on the idea. I had not anticipated resistance to offloading wounds, and I was advised that this was not the job of the nurse dressing the wounds.

I tried to understand the rationale I was given, but it was alien to me. Patients were not aware of the difference this could make to their wounds and the staff at the hospital were not advising them that other clinics offered this, as CPGH would then lose the revenue for managing those wounds. I was becoming thoroughly disheartened by CPGH. However, two nurses from another local hospital who had been sent to work with me had a completely

different outlook. They were ready and willing to accept change to practices resisted by CPGH. These nurses fully took on board the learning I had hoped CPGH nurses would, but didn't. They grasped why offloading was important to wounds and were willing to discontinue practices that research had proven ineffective or detrimental to wounds, such as the use of acetic acid and washing wounds with IV antibiotics.

I had also arranged to visit other facilities that dealt with foot problems in the area. In particular I visited a small children's hospital, which was not government funded. The hospital offers treatment free of charge for congenital conditions such as club foot, genu varum, genu valgum, arthrogyrosis and spina bifida. The hospital also offers boarding school for those children who would miss out on their education due to their treatment.

I felt inspired at this hospital. The staff, children and other volunteers there were genuine and caring. They were very interested in my profession and I too learned a great deal from them. I had the opportunity to assist with casting children with various conditions and I was delighted to see they were using resources such as rubber where appropriate. This gave me a renewed faith in myself. At CPGH I was reaching a stage where I was questioning what I was doing, whether I going to achieve anything, and generally feeling flat. However, spending time at the children's hospital reminded me why I had come to Kenya: to help those who needed and wanted what I could provide.

Often during my trip, usually (in my opinion) as an excuse, I would hear someone saying: "this is Africa". I dreaded hearing this. I understand the constraints of healthcare in Africa, international and NGO aid and how it can hinder a country's development. But medicine is not ethnic specific. Everyone deserves healthcare regardless of gender, colour or condition.

I met many inspiring nurses and medical staff on my trip, and many who I was ashamed of and ashamed for. I helplessly witnessed discrimination and neglect of patients: on one occasion I was so embarrassed by a member of staff, and so sympathetic to a particular patient with HIV/AIDS, that I dressed him in preparation for an x-ray as he was unable to do it for himself. I even observed patients being left lying on the floor in a pool of their own urine, for no reason.

During my time in Kenya I met significant obstacles I had not anticipated. I assumed, based on my pilot trip, that the clinical time I could offer, however short, was wanted at CPGH. I also assumed that because senior staff at the hospital welcomed my profession and the offer of my services, that the staff I would be working with would also welcome my work. I was wrong. I was accepted to implement pro-formas and protocols the hospital desperately required, reduce the workload on other nurses, and promote wound healing techniques and strategies; but only as long as they did not differ greatly from current, out-of-date practice. This caused friction: I do not agree with washing wounds with IV antibiotics, or not treating a patient today because you are too tired.

I learned a significant amount about myself on this trip. I am more confident and assertive than I realised. I can comfortably discuss patients' needs with any other professional and am I not afraid discuss difficult issues. I gained great clinical experience managing complex wounds in less than ideal environments, confirming the clinical ability I knew I had.

In spite of all the difficulties I experienced during my trip, I achieved all of the objectives I had set out to, although not in all the places or ways I had anticipated. As a result of my time in Kenya, I believe that many patients are experiencing better, more regular wound care management. I have been requested to return to Mombasa to work in the diabetic clinic at CPGH, and also Mombasa Hospital, in addition to the other clinics I visited and worked at. This makes me feel appreciated for my expertise, by some (if not all) of those with whom I worked. Most importantly, I learned that I want to pursue a career dealing with health issues (particularly diabetic foot disease) at a population level. I intend to study a Masters Degree in Global Health in 2012.

The Cosyfeet Podiatry Award assists one person each year to develop their professional knowledge and skills while benefitting others. The £1000 award is open to any podiatrist or podiatry student who is planning voluntary work, a work placement or research, whether in the UK or abroad. It is designed to contribute to travel and living expenses. If you have been inspired by Jo's story and would like to find out more about the Cosyfeet Podiatry Award please email prof@cosyfeet.co.uk