

Report of 6 months at Kilimanjaro Christian Medical Centre, Moshi, Kilimanjaro, Tanzania

Dr Naomi Goodwin

Six years ago, my husband, a dermatologist, went on a study trip to Tanzania to look at skin diseases in Africa. He came back filled with enthusiasm for the country and people and determined that we should go back there, as a family, to work there for a period of time. While I was equally excited, the thought of dragging two very young children to live in an African country was daunting. We now have three children; aged 10, 8 and 5. We made the decision that now was the right time for us as a family to be able to do something like this – with the oldest child still in primary education, but the youngest robust enough to withstand African tummy bugs!

I am a consultant anaesthetist working in a large teaching hospital in Wales, UK. My special interests include anaesthesia for renal transplant, orthopaedics, ENT and major gynaecological oncology. Life was surely going to be very different in Tanzania.

Having spent 6 months working in Tanzania, I can now appreciate what a truly special place it is. The people are so friendly and welcoming, and the landscape is beautiful. Where we were, in the north of the country, it is relatively green, especially in the hills. The towns and roads though are dry and dusty. The short rains which were due around December failed this year. Daily average temperatures were in the 30's, and I had to learn to adapt to a slower pace of life.

As expected, life in anaesthesia was a challenge. Anaesthesia is provided largely by a combination of nurse anaesthetists and assistant medical officers (AMOs). There are between 12-15 medically qualified anaesthetists in the country, and the majority of those are apparently nearing retirement age. Most of the nurse anaesthetists train in the hospital in which I was based, Kilimanjaro Christian Medical Centre (KCMC). There is one other school for nurse anaesthetists in the country, which is probably training less than 10 nurses per year. We have 33 nurses training this year, on a one year course. They will then go back to work in their local hospitals. As far as I could tell, there are no AMOs currently in training in Tanzania, and possibly one or two doctors, although accurate data is hard to come by and I may be wrong. This is to serve a population of 34 million.

At KCMC there are 5 main operating theatres as well as ENT, urology and obstetrics. The staff do an incredible job. They are expected to anaesthetise a wide variety of different cases. The anaesthetic equipment used consists of an endo-tracheal tube (re-used single use equipment), hand-ventilation via a T-piece for a child and a ventilator (often a Manley) for adults, an ECG, BP monitoring for adults and a very useful pre-cordial stethoscope. Pulse oximetry is now in most theatres. This is due in part to the donation of two pulse oximeters and probes from the AAGBI. I spent a good amount of time sorting out what equipment we had stashed away in the back of cupboards, and what could be made to work again by both finding leads and probes stored in other cupboards, or by writing to the relevant companies to ask for a donation of the missing parts. We have a truly multinational lot of different donated monitoring equipment, and I have been learning how to set a BP machine in Swedish!

There are many marvellous things that I have learnt here in Tanzania and some that I hope I have taught them too. I started work at around 7am teaching a mixed group of nurse anaesthetist students and medical students. The anaesthetist group are now more than half way through their one year training programme and are increasing their knowledge and skills. It is good for their confidence to know so much more sometimes than the medical students! We stopped class around 8am to go to theatres to get ready for the day. I then worked between the various operating theatres checking that all was well; that all the necessary equipment was present and functioning; that the patients were appropriately prepared and that the surgeons were present. Not so dissimilar from home really! I tried to take over the

anaesthesia as little as possible unless there was a critical incident. With such a short training time it was essential that the nurses dealt with as much as they could themselves.

A common cause for a late theatre start was clinical anaemia that may or may not have been detected by blood tests, and a chronic lack of available blood. We also run out of some drugs (including suxamethonium and ketamine), and therefore had to be very careful about what we used. Many drugs were not available, including opiates (other than pethidine), ephedrine and IV beta blockers. HIV rates in Tanzania are over 10%, and in the hospital were well over 20%. Still I had to persuade people to put gloves on.

There was a high incidence of infants with spina bifida defects, with meningo-myeloceles requiring repair at various levels on the back and neck. Most of these babies are operated on within the first month or two of life, and many also required VP shunts. We anaesthetised these patients using a T-piece and halothane, with hand ventilation. Again, the pre-cordial stethoscope was a most valuable monitor. I don't practice neonatal anaesthesia in the UK as a consultant, but fortunately I did some extended training as a specialist registrar, which proved very useful! We also had a constant run of head injuries from the dangerous roads requiring burr holes. The general surgeons covered all of these cases, and are extremely skilled at turning their hand to everything.

I have introduced the concept of audit to the department – something so common at home, but not often used there. Hopefully, this may provide impetus to change those things that can easily be changed, although late arriving surgeons are, I believe, a universal worldwide problem that we all have to cope with! I worked until around 1pm and then walked home to have lunch with my children. I then returned to teach again in the afternoon. All in all, it was a pleasant working day.

My main concern at the moment is how the changes that I have made can be maintained. I have modified the training programme for the nurse anaesthetists and have made sure that next year's programme is in place. Next to each topic I have also put details of either the book to use for that topic, or where it can be found on the information CDs that I brought to the department. Hopefully, this will give next year's students and those who teach them an easy resource to use. These CDs are called "Anaesthesia Resource Volume 3" and are a fantastic source of information. They can be obtained free of charge for those working in developing countries from www.talcuk.org. Each member of staff and all the nurse anaesthetists in training have been given a copy to keep. I had thought that the information available on the internet would be useful for teaching. However electricity and internet are frequently unavailable. CDs and books are much more accessible.

On one of my final days in Tanzania I walked into work and was surprised to see two locals overtake me. This may not seem strange to those of you reading this, but when I arrived in Tanzania, I walked so fast, in typical Western style, that I was always out-there in front. Now, either some locals were speeding up (which is unlikely), or I was finally adapting to the slower and often better pace of life that they have.

I am very grateful to the support of the AAGBI travel grant of £1000 from the International Relations Committee for my trip to Tanzania. My challenges now are twofold. Firstly, I need to work out how I can continue supporting KCMC and Tanzania in anaesthesia; and secondly, I need to maintain all of the good qualities that my family and I have all learnt whilst living in a developing country.

Dr Naomi Goodwin
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