LESSONS FROM AFRICA

There was much to be taught – and learnt – during a six-month anaesthesia fellowship in Zambia.

"Africa will get under your skin", a friend advised as I was preparing to leave for a six-month Global Anaesthesia Fellowship in Zambia. With little more thought as to what that really meant, my wife and I packed our bags and with two young children, we juggled our way from Melbourne to Zambia.

After arriving in the capital, Lusaka, I wondered at one stage if this friend had been speaking literally. I had heard about the Putzi fly (*Cordilobia anthropophagia*), but now can say I know the sensation of cutaneous myasis – maggots under your skin! For me, a total of 11, and a memorable experience for my wife who removed them! A real introduction to Africa.

Hospital

Starting work at the hospital delivered another dose of reality. University Teaching Hospital (UTH) is the largest teaching hospital in Zambia and, with a bed capacity of over 1800, provides medical and surgical care for all specialties to the 2.5 million residents of Lusaka and beyond. It is a busy hospital, and places such as the labour ward are particularly crazy, with 60 to 90 deliveries per day.

The anaesthetic department is staffed by several expat consultants, mostly from Uzbekistan, and non-physician clinical officer anaesthetists. The 24 anaesthetic trainees provide most of the day-to-day anaesthesia service for the 16 operating theatres. The anaesthetic department also is responsible for running the main intensive care unit.

My role at the hospital was as a visiting lecturer with the Zambia Anaesthesia Development Project – a UK Aid-funded project that supports anaesthesia specialist training through a local masters of medicine in anaesthesia (MMed). Anaesthesia specialty training for doctors is new to Zambia, having started in 2011. My time with the project was divided between classroom teaching, clinical supervision and teaching, and quality improvement activities.

The clinical teaching and supervision was, as expected, interesting. The caseload in the operating theatres included many of the routine procedures familiar to an Australian hospital. For example, in the adult elective operating theatres procedures such as TURPs, thyroidectomies, and hysterectomies were common. There were regular operating lists for more specialised surgery, including paediatric neurosurgery and cardiac surgery.

Emergency surgery included everything from abscess incision and drainage through to major trauma. The emergency obstetric theatres daily had patients with severe pre-eclampsia or eclampsia, uterine rupture, APH, and severe PPH. The lowest Hb from a patient with a PPH I saw there was 18 g/L. Fortunately, she survived. There was no neonatal service for the obstetric theatres, and the anaesthetic team was responsible for neonatal resuscitation.

I worked alongside MMed trainees in the main intensive care unit one day each week. The ICU had 10 beds, with varying levels of working equipment to support each patient. The ICU was especially challenging with a broad range of pathology represented, usually late in the disease process. There were many interesting cases. Examples include a four year old with intermittent seizures – it was discovered that a family member was poisoning her with low-dose organophosphates. And, a patient with severe postpartum pre-eclampsia with pulmonary oedema, initially saturating at 65 per cent who was extubated two days later – a win! It was especially satisfying to have these patients, who did well, among the many patients who presented too late for effective

treatment.

Challenges

Limited resources presented many challenges. Some of these challenges included unreliable anaesthetic machines, no gas monitoring, frequent power outages, limited drug availability, and limited disposables. Suxamethonium and Pancuronium were the only muscle relaxants available. Sometimes the sux did not work at all, as was the case for my first general anaesthetic caesarean for uterine rupture. Opioids were often in short supply, and ampoules of fentanyl would often be divided between multiple patients. Laryngoscopes were hot property, and were sometimes shared by up to three operating theatres. Pathology results were slow and at one stage we went for more than a month without being able to measure electrolytes.

The real challenge in each of these clinical areas was to facilitate optimal learning for the anaesthetic MMeds – safe practice with the resources available – while encouraging them to take leadership in improving the systems supporting safe patient care.

Quality improvement

Lack of blood availability was the most common systems cause of perioperative mortality at the hospital and led to a major quality improvement project for Zambia Anaesthesia Development Project and the University Teaching Hospital's anaesthesia department.

Lack of blood did not just affect the operating theatres, it was a major issue throughout the hospital. For example, half of the obstetric patients who had a major haemorrhage at the hospital did not have blood available for them; a third of patients with major haemorrhage died. Our project identified sources of significant blood wastage – up to 44 per cent of blood products could not be accounted for after leaving the blood bank. This and many other findings led to us developing a program to address each of the identified problems in close collaboration with a team from the hospital and the Zambia National Blood Transfusion Service.

Alongside our Zambian colleagues, we conducted numerous workshops on blood transfusion and major haemorrhage with nearly 500 health staff from 27

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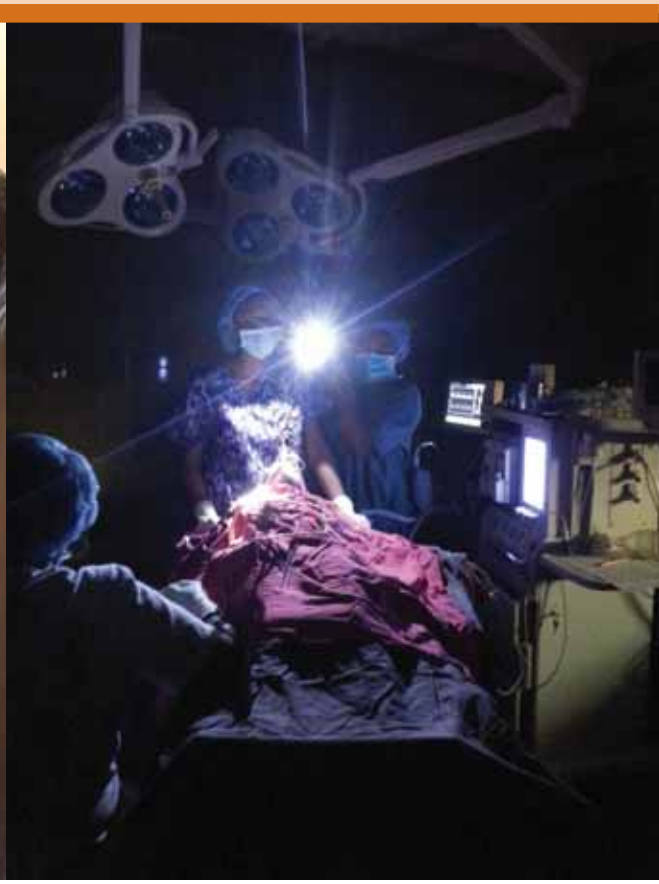
Above from left: Elephants in Zambezi; Dr Nathan Oates teaching one of the many workshops in Kabwe; Senior MMeds trainees enrolled in the masters of medicine in anaesthesia; Simulating major haemorrhage in the elective operating theatres.

LESSONS FROM AFRICA (CONTINUED)



hospitals across Zambia. It was a privilege to be involved with this process, to work alongside a fantastic group of motivated Zambian clinicians and blood bank staff toward a common goal.

Countryside

The Zambian countryside is beautiful. There are spectacular national parks with abundant wildlife to visit, several within a few hours' drive of the capital. The magnificent Victoria Falls – Mosi-oa-Tunya (*"The smoke that thunders"*) is within a day's drive. The easy access to these amazing places was a welcome respite from the busy schedule at the hospital. It was a little surreal to drive for a couple of hours to be immersed in African wildlife.

After one sleepless night listening to hippos wandering around our tent munching grass, I came to accept one thing – camping in the African national parks is different to Australia! Sometimes the cheap option is just not worth it. As my friend had suggested, there are any number of reasons that Africa gets under your skin. The beautiful countryside and climate, and the majestic and crazy animals certainly contribute. The tragedies and successes in the hospital provide constant source for reflection, and the clinical work with limited resources makes even the straightforward cases more interesting. For me, however, it was the people who really got to me – the great team of anaesthetic trainees, of National Blood Transfusion Service staff, who work in this challenging environment with energy and optimism. Their friendliness and sense of humour belied the difficult tasks they faced every day. Although I was there as a visiting lecturer, I spent as much time learning from my Zambian colleagues as teaching. These people left me with a real sense of hope for the future of anaesthesia in Zambia. There is much work to be done, but the future looks bright.

Dr Nathan Oates, FANZCA
ZADP International Liaison

Applications for fellowship positions with ZADP in 2018 are now open. For further information or to apply please contact Nathan Oates via nathoates@gmail.com or visit zadp.org.

Above from left: Sundown at Victoria Falls; Tonsillectomy by torchlight – power outages were a frequent occurrence.