Serving as a Volunteer Physician (VP) for the African Medical and Research Foundation’s (AMREF) Flying Doctors in Kenya and beyond…

AAGBI International Relations Committee Report
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Introduction:

“We've never had two VP’s at the same time before. I hope you will each get enough flight time!” These words from the Human Resources manager at the Flying Doctors HQ in Wilson Airport, Nairobi had me a little concerned as I rummaged through the uniforms in the storeroom for a shirt in my size. I had nothing to fear however, as February 2013 turned out to be the busiest month in AMREF’s 56-year history and one of the most exhausting and exhilarating in mine.

AMREF’s charitable activities for communities living in isolated and deprived areas of Eastern Africa include providing training to local healthcare workers, public health projects to reduce infectious diseases and surgical outreach programs for life changing operations such as vesiculo – vaginal fistula repair. As an income generating arm of AMREF, the Flying Doctors was, at the end of my two months with them, well on track to achieve the US $ 1,000,000 profit target for 2013, all of which will be channelled into charitable activities. I am proud of my humble contribution to this and feel privileged to have worked for such a progressive and world-renowned organisation.
Flying Doctors – The Setup:

Based at Wilson Airport in Nairobi, Flying Doctors HQ comprised a control centre (the Radio Room), offices, equipment store and aircraft hangar. It was a tense, yet exciting time to be in Kenya as the March 2013 elections approached, and politics dominated discussions in the comfortable staff lounge where we spent time between missions.

Clinical staff comprised a team of highly trained and extremely skilled flight nurses, all with a background in Intensive Care and Emergency Medicine. Flight physicians are, in the first instance, volunteers from overseas (such as myself) and a staff bank of Nairobi based doctors who could be contracted on a locum basis when multiple missions occurred simultaneously.

Pilots were ranking officers on a mission with overall responsibility for our safety. They are skilled at “bush flying” and were required to fly evasive manoeuvres when we undertook missions to conflict areas such as Kismayu in Somalia to avoid being targeted by local militia.

Equipment and drugs provided were of excellent standard and included luxuries such as iStat blood gas analysers, Oxylog 3000 ventilators and monitors with end tidal CO2 and invasive monitoring. These, combined with interiors customized for “Medevac” transformed the aircraft we used into flying Intensive Care Units.

Operations & Logistics staff coordinated a team to ensure clearance for international flights and ensured availability and suitability of aircraft. There was, as with any organisation, a team of behind the scenes workers who are vital to Flying Doctors’ success.

Going on a Mission:

Requests for aeromedical rescue and transfer missions came from several sources including:

- Insurance companies and partners
- Subscribers to AMREF’s own “Maisha” evacuation scheme
- Requests from remote healthcare facilities for charity evacuations
- Kenya Defence Forces stationed in Kismayu, Somalia, located across the eastern border of Kenya
- United Nations Support Office for AMISOM (African Union Mission in Somalia) in Mogadishu

Response times needed to be as rapid as safely possible due to financial, operational and clinical considerations. Once confirmed, the 1st on call flight nurse and physician would collect necessary paperwork, narcotic medication and equipment. A discussion with the pilot(s) would follow and any concerns or considerations from the aviation / operational and medical sides would be shared. This process of shared problem solving, communication and planning was well rehearsed and took little time.

As the regional centre of excellence for medical care, most missions were retrievals from other destinations in Eastern Africa and ending in one of Nairobi’s private hospitals or single largest government hospital and tertiary referral centre. Repatriations or transfers for medical care unavailable in Nairobi formed a smaller portion of my workload.

Evacuations relatively close to Nairobi were usually undertaken in a Cessna 208 B Grand Caravan. These hardy aircraft could land on almost any dirt airstrip and had the advantage of having the most spacious cabin of the fleet. However, they were unpressurised and also provided the most hypoxic working environment – my oxygen saturations were 88% at rest!

For evacuations further afield within Kenya or neighbouring countries and with higher quality dirt airstrips, we could fly in a Beechcraft Super King Air B200 or B350, which had added advantages of having pressurized cabins and faster speeds. International evacuations where landing on a nearby tarmac
Patients in an unstable condition who could not be brought to the airport or airstrip at which we landed had to be retrieved by us from the facility at which they were held using local private road ambulance providers. Upon landing in Nairobi, I would undertake road transfer of these patients to the receiving medical facility.

**Clinical Considerations:**

When active on a mission, I worked independently in a medical capacity – clinical decisions had to be made quickly and without backup from a consultant. The flight nurses were highly experienced and I was grateful for their sound advice and clinical opinion, though overall medical responsibility would fall to the flight physician. Consequently, it was important to have an insight into my level of clinical abilities.

It was possible to decline missions as a Volunteer Physician and ask that someone more capable for the mission to be sought. Fortunately, for the mission I declined (a premature one-day old post cardiac arrest and on an adrenaline infusion), a replacement doctor was found quickly and the patient safely retrieved. That said, had it been difficult to find a more suitable flight physician resulting in significant clinical deterioration, then a personal and ethical dilemma would have followed.

While my background reading prior to starting my post with flying doctors would advocate avoiding air transfer of some of the patients I encountered, the reality is that they would most certainly not receive adequate care if I did not. Consequently, we did occasionally transfer patients with significant electrolyte, haematological and physiological abnormalities. Being comfortable with airway management due to my anaesthetic training was a great boon in deciding when and when not to intubate for transfer.

Although patients had often received some treatment at a distant medical facility before retrieval by us, this was often suboptimal and a period of stabilization was sometimes required prior to returning to Nairobi. However, this had to be balanced against the risk of delay in getting the patient to a safe environment, which could offer definitive treatment. Additionally, it could be that the retrieval location was deemed unsafe and where time on the ground was limited e.g. conflict zones such as areas in Somalia and the Central African Republic.

**Clinical Experiences:**

Between 1st February and 28th March 2013, I undertook a total of 34 aeromedical evacuations and 28 road ambulance transfers. These occurred at any time of the day or night and I was glad to be sharing the workload with Dr Melissa Dransfield. I achieved “Gold Level” Flying Doctors status with a total of 30,934 miles flown in a “flydoc” aircraft. The patients I cared for had a variety of clinical presentations and ranged from a 3 months to 92 years in age, providing unique and often unanticipated challenges.

I flew two charity missions, both to Mandera, a border town in Northern Kenya, which is prone to unrest and violence. The first of these involved 3 casualties of election associated violence (a grenade attack on a voters queue). The second involved the luckiest intubation of my career to date, in a patient with gunshot wounds to the neck and a totally unrecognizable view on direct laryngoscopy.

My procedural skills were tested by an 80 year old with a traumatic pneumothorax sustained on a hill trekking holiday, as evidenced by his fractured ribs and surgical emphysema. I inserted a surgical chest drain in the cabin of the “Caravan” on the murrum dirt airstrip prior to takeoff. This was surprisingly nerve wracking outside the familiar, secure environment of an ICU. During the flight home, as the litres of air drained from his chest via the Heimlich valve, I breathed a sigh of relief that I had been successful. A tension pneumothorax would have been disastrous.

airstrip was feasible were undertaken in a Cessna 550 Citation Bravo or Cessna 560 Citation Excel jets. These were fast, comfortable and capable of flying as far afield as Asian and European cities (with multiple re-fuelling stops).
I encountered fatigue working through the night during a level-3 neurosurgical transfer, while an obese patient with guillain-barré syndrome left me with aching muscles during another mission as we struggled down the narrow stairs of an ill-designed hospital. Conditions of extreme heat and the discomfort of working while drenched in sweat were further challenges I encountered, but had not previously considered. My patience was also tested as some missions involved the evacuation of patients who clearly had no need for an air transfer and may have been adequately treated at their own location.

I feel that my time with Flying Doctors provided me with a unique opportunity for personal growth as a doctor. The permanent staff are very welcoming, friendly and easy to work alongside. The camaraderie among flight crew is evident as we travel in tiny metal tubes in the sky, with the occasional “DOL” – drink on landing (when appropriate), to unwind. I would whole-heartedly recommend the experience to any anaesthetist who meets the criteria set out on the AMREF Flying Doctors website (www.flydoc.org). Not only is it a valuable learning experience full of challenges and adventure, it is also incredibly fun.

Last day in the Radio Room – with Flight Nurses Kilda, Charles, Festus & Maurice and Dr Melissa

AAGBI International Relations Committee Travel Grant Award:

I am extremely grateful to the AAGBI International Relations Committee for their award of £500 towards my OOPE with AMREF’s Flying Doctors. I used the funding towards my flights to Nairobi, for my temporary Kenyan medical licence and to cover the extension to my professional indemnity with the Medical Defence Union.