World Anaesthesia news

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www.aagbi.org/international/international-relations-committee/world-anaesthesia-society
Trainee Anaesthetists in the Developing World

27th February 2014
at AAGBI, 21 Portland Place, London

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• RCoA developing countries module
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Welcome to World Anaesthesia News

Welcome to this edition of World Anaesthesia News, our first issue as editors. We have taken over from Matthew Size and would like to thank him for all his hard work during his time as editor.

We are both consultant anaesthetists in the North-West of England with an interest in furthering safe anaesthesia around the world. Sarah works regularly with Medecins Sans Frontieres, has also worked with Mercy Ships, and is a sometime faculty member on the Oxford-based Anaesthesia in Developing Countries course. Gordon is a member of the Kybele Advisory board and a joint leader of their Armenia project. He also travels to Uganda, leading the Maternal Acute Illness management course delivered by the Gulu-Man Link of the University Hospital of South Manchester Academy.

We are excited to have the opportunity to edit World Anaesthesia News. This issue features reports of projects in Nigeria, Uganda and Cambodia. We also have a final update from Mary Nambukenya, the World Anaesthesia Ugandan Fellow, who has now completed her anaesthetic training. There is also a profile of Teresa Schwalbach, an influential anaesthesia teacher from Mozambique, along with an article by Rajabo Issufo, one of her former trainees.

The World Anaesthesia Society has had an active year, with a well-attended seminar in London in June, and a lunchtime symposium and workshop at the AAGBI Annual Meeting in Dublin. We feature a short report on the Dublin meeting and hope to cover some of the topics in more detail in a future issue. This year will see the inaugural Trainees Study Day in February. This promises to be a fantastic day. Book your study leave now!

This is your society and your magazine, and we would welcome contributions and news from around the world. If you have any articles or ideas you would like to share, please do get in touch with us at worldanaesthesianews@gmail.com. We hope you enjoy this edition.

Sarah O’Neill and Gordon Yuill
Editors
Dublin is not a bad place to find yourself in the Autumn, and there could be no better way to spend the days than listening to and interacting with the World Anaesthesia Society.

The Association of Anaesthetists of Great Britain and Ireland (AAGBI) Annual Congress was a busy time for the World Anaesthesia Society with a lunchtime session and a workshop successfully packed in to the opening day.

**Lunchtime seminar**
The lunchtime session was bursting at the seams to hear two fascinating presentations.

Dr Emma Lillie gave an educational and experiential insight into her six months at a Zambian Teaching hospital as the first Zambian Anaesthetic Development Program (ZADP) Trainee. The ZADP is a new international healthcare partnership with the UK, designed to support local anaesthesia specialist training as well as develop a senior UK anaesthetic registrar in aspects of developing world anaesthesia, teaching, clinical governance, leadership and management. Emma described how she coped with the challenges of working in a foreign environment and encountering many cultures and languages, by being respectful, mindful, patient, flexible, and adapting to the unique needs of the local hospital and staff. She found that by listening to the local voice, developing trusting relationships, taking time to understand hospital systems, identifying local champions, and by being dynamic, clear and discerning in what was achievable she released some of the huge potential for reward, achievement and fun!

Dr Rola Hallam was on the ground in Syria as one of the doctors treating the dozens of people and children who were being brought in with ‘napalm-like’ burns, which was highlighted by the BBC’s Panorama. Rola gave a very graphic, and at times harrowing, presentation as she described and showed video of the current humanitarian situation in Syria. The scale of the problem is almost unimaginable – over 80,000 dead, over 1.5 million refugees, 2 million people internally displaced, and 4.5 million...
are in need of immediate assistance inside Syria. International aid remains insufficient, with most medical and humanitarian support being delivered by the Syrian expatriate community in conjunction with contacts inside the country. This is all going on against a backdrop of civilians, hospital staff, and patients being targeted, resulting in poor access to healthcare, poor nutrition and poor sanitation. The audience was left in awe of those who are working in such conditions. Further information can be found at handinhandforsyria.org.uk.

Working Abroad Workshop
The World Anaesthesia Society aims to encourage, assist and advise those thinking of working in developing countries, as well as supporting the education of anaesthetists abroad. The expert faculty of Consultants and senior Trainees discussed some of the key questions about working in a developing country; what are the possibilities, why go, and how to ‘fit it in’? Experiences were shared and break-out groups considered some of the ethical topics and equipment dilemmas that may be encountered abroad, as well as how to plan an overseas development project. It was great to see so many people leaving inspired to start or seek out an overseas project.

Keep up-to-date with the World Anaesthesia Society via our facebook page.

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www.aagbi.org/international/international-relations-committee/world-anaesthesia-society
The World Anaesthesia Society Ugandan Fellowship Programme

Mary Nabukenya is a doctor in Uganda who wanted to become an anaesthetist. Before the World Anaesthesia Society Ugandan Fellowship programme she would have had to work and save for at least two years before starting her anaesthetic training. After that she probably would have had to moonlight in private hospitals to continue to fund her studies. Because of the World Anaesthesia Fellowship Mary has now been able to complete her postgraduate training and achieve an MMed in Anaesthesia.

Uganda is a low-income country with a severe anaesthetic workforce crisis. Physician salaries are low and many postgraduate trainees leave the country or are attracted into externally supported specialities such as public health or HIV. Anaesthesia has not attracted postgraduate doctors into the speciality in recent years and there are now fewer than 20 physician anaesthetists (350 non-physician anaesthetic officers) for a population of 30 million. In 2006 there was only one physician training in anaesthesia in Uganda.

The AAGBI/GPAS Uganda Anaesthesia Fellowship has been established as a collaborative project between the Association of Anaesthetists of Great Britain and Ireland and the University of San Francisco California Global Partnerships in Anaesthesia and Surgery. The aim of the project is to increase the number of physician anaesthetists in Uganda necessary for the development of the specialty and to train the physician and non-physician workforce of the future.

Postgraduate training in anaesthesia in Uganda
There are two three-year MMed programmes in anaesthesia in Uganda at present, one at Mulago Hospital in the capital Kampala, the other at Mbarara University Hospital in the West of the country. Postgraduate trainees in Uganda are required to pay university fees, and most do not receive a salary whilst they are training.

The aim of the AAGBI/GPAS Fellowship programme is to provide trainees with an income to pay their university fees and to provide moderate support for living costs when the trainee does not receive a salary from the employing hospital. The Fellowship funds trainees to a maximum of £3000 per annum for each year of training.

Trainees are appointed by interview after their internship year. They have regular assessments, annual written and oral examinations, and are required to complete a research project in their final year. They have an annual appraisal with a member of the AAGBI or GPAS. When accepting a fellowship, trainees sign an agreement to work following training in sub-Saharan Africa for the period of time that they receive funding from AAGBI/GPAS.

Outcome of the Fellowship training programme
The first trainee Arthur Kwizera graduated in 2009 and is now employed in Mulago hospital. He has actively recruited trainees into the programme and there are now 12 postgraduate trainees in anaesthesia, seven fully funded and four partially funded by the Fellowship programme. The aim of the Ugandan Society of Anaesthesia is to recruit ten trainee anaesthetists per year over the next five years, and the World Anaesthesia Society would like to support them in this aim.

The World Anaesthesia Society agreed to join forces with the AAGBI/GPAS programme and fund an anaesthetic fellow, Mary Nambukenya. We recently received this encouraging email (below) from her updating us on her successful completion of the MMed in anaesthesia.

Your subscriptions to the World Anaesthesia Society provide Mary with this funding and help secure the future of anaesthesia in Uganda.
Dear World
Anaesthesia Members

I hope you are well.

I have indeed completed my training in MMed Anaesthesia, and I still have no regrets. It has been a wonderful journey on the whole, except for a few trying moments which were made bearable by the support and encouragement of friends, family, and the close-knit family of Anaesthesia at Mulago Hospital.

During my final year, I spent time in the orthopaedics theatre, and also in paediatrics theatre and ICU. Most of the time however, was dedicated to research, which is a requirement by the university for the award of a masters degree. My thesis was titled “Knowledge, Attitudes and Use of Labour Analgesia by Mothers Attending the Antenatal Clinic in Mulago National Referral Hospital.” The study was successfully completed and presented. I am currently working on turning it into a manuscript for publishing.

I was fortunate to get employment as an assistant lecturer in the Department of Anaesthesia, Makerere University College of Health Sciences during my training. Apart from the academic duties of this position, I also have to provide clinical services in the hospital (Mulago Hospital).

Now that I am done with my masters, I hope to do a fellowship in Paediatric Anaesthesia and Critical Care. My interest in regional anaesthesia (and pain) has not died, though.

I am ever so grateful to World Anaesthesia Society, the Association of Anaesthetists of Great Britain and Ireland (AAGBI) and Global Partners in Anesthesia and Surgery (GPAS) for the opportunity I was given. I intend for my training to be beneficial to the discipline of anaesthesia in Uganda.

Mary Nabukenya
I was lucky enough to get a deferred start to my Anaesthetics ST3 Registrar post and to be able to spend some of this time off involved in the donation and follow-up of 79 “Lifebox” pulse oximeters by the Association of Anaesthetists of Great Britain and Ireland (AAGBI) to Ugandan anaesthetic providers. Hopefully many readers will already have heard of the Lifebox project but I will try and explain a little about it and my experience of it.

If you could only have one piece of monitoring next time you gave an anaesthetic, what would you choose? A hypothetical question for those of us fortunate enough to work in the developed world but there are anaesthetics still being undertaken in other parts of the world with a finger on the pulse and possibly a pre-cordial stethoscope and manual BP cuff. As part of the Second Global Safety Challenge (“Safe Surgery Saves Lives”), the WHO state that a pulse oximeter is essential for all patients undergoing anaesthesia – this is probably the piece of kit that most of us would choose if we had to, given its ability to provide us not only with our patient’s oxygen saturation, but also their heart rate and an indication of their peripheral perfusion. A key component of the WHO campaign is the Surgical Safety Checklist that we’re all familiar with in our own hospitals. The original version (which surgical areas are encouraged to modify to make it more appropriate for their own particular site) includes the question “Is there a pulse oximeter on the patient and functioning?” This question doesn’t appear on the version modified for England and Wales, perhaps because it seems inconceivable that an anaesthetic would be given without such a vital piece of monitoring.

Lifebox is a charitable organisation set up by the World Federation of Anaesthesiologists, the AAGBI and Harvard School of Public Health to try and address the “oximeter gap” – the number of anaesthetic providers working worldwide without access to an oximeter – by supplying pulse oximeters to healthcare providers in the developing world. The Lifebox oximeters are robust, easy to use, portable, reliable and affordable (£160/$250 compared to the typical cost of >$2000). Thus far 1500 have been purchased or donated.

Uganda is a landlocked country of 33 million inhabitants in east Africa. There are currently only 35 physician anaesthetists in the country and so anaesthesia is mostly provided by nurses who have undergone either six months or two years of further training.

In June of 2011, I joined a group of 11 other trainee and consultant anaesthetists going out to Mbarara in Southwest Uganda, coinciding with the annual conference of the Uganda Society of Anaesthesia. 120 Ugandan anaesthetic officers (non-physician anaesthetic providers) travelled to attend our training course (approximately a third of all those in the country). That it took some of them up to three days to reach us and cost them up to a third of their monthly salary (not all could get funding) is testament to their dedication and enthusiasm for their work, as well as a reflection of how hard it is for them to access ongoing training.

The aim of the trip was to teach two overlapping courses. The first was the SAFE obstetric anaesthesia course; the second was the Lifebox day that covered pulse oximetry and how to use...
the WHO checklist. The courses were taught mostly via small group discussions and role play scenarios. We covered how to use and interpret a pulse oximeter, very basic oxygen physiology and what to do in the event of hypoxia, as well as more specific teaching on how to use a Lifebox oximeter and its particular functions. We then went through what the Surgical Safety Checklist was, the evidence behind its use and how to try and introduce it in their places of work.

Oximeters were then donated to the anaesthetic officers (AOs) who were at that point working without one.

I returned to Uganda in the following September and spent three months travelling around the country visiting those who had received the donated equipment. Although a lot of thought and research had gone into the production of the Lifebox oximeters, it was important to find out if they actually arrived at and worked in their intended settings.

Contacting the anaesthetic officers was relatively straightforward as mobile phones are ubiquitous with most Ugandans having one, if not two or three. However, actually reaching the AOs was a bit more of an adventure. I was driven to the hospitals by a local driver after a very short-lived attempt at getting around on public transport - a somewhat uncomfortable option but, more importantly, completely impractical. It took far too long and many of the places I needed to get to had only intermittent and unpredictable transport. Most of the main highways are tarmaced (in varying degrees of condition) but I spent several hours a day driving along bumpy, slow and sometimes completely impassable roads.

Although it had been apparent from talking to the AOs during the initial teaching session how little they had to work with, I don't think I had fully appreciated the difficulties of their jobs until I met them at their work places and spent more time with them. They are often the only anaesthetic provider in the hospital so have no “second opinion” to consult or anyone else around who understands the particular stresses of anaesthetics. This means they are on call 24/7 and unable to take leave. Many get sent to work in hospitals far from their families and are only able to see them about once a month due to the slow public transport and the expense relative to their low salaries.

The oximeters were being well used and, importantly, seemed to function well in the hospitals and healthcare centres that they had arrived in. I saw many wasted donations on my travels - the well-polished anaesthetic machine was often the AO’s most prized piece of equipment but, due to the lack of a pressurised gas supply or electricity, functioned only as an overly bulky table to put their significantly more practical, if more basic, drawover vaporiser on.

Being able to spend a couple of hours with each AO was (hopefully) very helpful for them as I was able to fill in gaps in their knowledge that hadn’t been covered by the training course or that had been forgotten. It was also very helpful for future training programmes as a few issues came up repeatedly, making it easier to focus on these gaps for future courses. Encouragingly, I heard several stories of changes in practice arising from what they had seen using their oximeters – for example some had noticed the beneficial effect of a left tilt in
their many pregnant patients and were now much more insistent on it.

The gratitude shown to me by the anaesthetic officers not just for the oximeter itself but also for the education provided was humbling and sometimes quite overwhelming. I was invariably verbally thanked not only by the AO but by the medical officer in charge of the hospital and also by the AO’s families who I was often taken to meet (one AO’s daughter had travelled back an hour from her school just to meet and thank me). One AO presented me with several rather large sticks of sugar cane and another offered me one of her chickens, which I politely declined, not least because I had a four hour bus trip ahead of me and didn’t want to share my already small and uncomfortable seat with some poultry.

Away from work, I had a wonderful time exploring the country with friends that I met there and those who came to visit me. Spending my weekends in the safari parks or white water rafting certainly made up for the long hours spent in the car in the week!

I came away from my time in vowing never to feel hard done by again when I get woken up in the middle of the night to put an epidural in, ably assisted by my Operating Department Practitioner, taking my kit from a well-stocked trolley, in a well-lit hospital, knowing I can go home at the end of the shift. I am convinced that the Lifebox initiative is a worthwhile one, providing as it does, education and a well thought-out piece of kit that which will be used in hundreds of operations and which, it would seem, cannot fail to improve the safety of anaesthesia.

Thanks to:
The International Relations Committee of the AAGBI for generously funding my trip.
Dr Iain Wilson for getting me involved in the project in the first place.
Dr Isabeau Walker who organised and coordinating the project and who, with Dr Wilson provided much support and encouragement whilst I was away.

2. www.who.int/patientsafety/safesurgery/en/
3. www.lifebox.org/
4. www.unicef.org/infobycountry/uganda_statistics.html
Anaesthesia in Developing Countries Course

Equipping anaesthetists for work in the developing world
Held at Makindye Country Club and local hospitals in Kampala, Uganda

This annual residential five-day course offers the opportunity for anaesthetists from the developed world to learn about the specific challenges of working in resource-poor environments. It has run for over thirty years in Oxford and Uganda and is particularly recommended for those planning visits to the developing world in short and long-term contexts.

The registration fee includes accommodation, food and transfers as well as the conference costs. Flights are not included.

To be added to the mailing list for early notice of course dates please email events@ndcn.ox.ac.uk.

Further information: www.nda.ox.ac.uk
www.oxfordanaesthesia.org.uk
The World Federation of Societies of Anaesthesiologists (WFSA) and its links with this LOAN

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In common parlance a loan is linked to the act of lending. In this particular instance LOAN is the acronym for the recently formed League of Obstetric Anaesthetists of Nigeria, which held its inaugural meeting in September 2011 in Port Harcourt.

So what is the link between the WFSA and this event?

The story is that not so long ago, 2008 to be precise, an enthusiastic Nigerian anaesthetist with a budding interest in obstetric anaesthesia applied for a WFSA fellowship training programme. After the six month training programme at the Wolfson Medical Centre in Israel, Dr Sotonye Fyneface-Ogan returned and started developing obstetric anaesthesia as a subspecialty in his base university teaching hospital. Other budding obstetric anaesthetists were soon to follow in his footsteps. A journey similarly facilitated by WFSA sponsorship. Many of the lead instigators in what culminated in September 2011 were products of this effort. Is this news? Especially when one considers that similar associations like the Obstetric Anaesthetists Association (OAA) have been in existence since 1969?

However, when seen in the context of this being the first association of obstetric anaesthetists in Africa, the event begins to assume its rightful significance. Sub-Saharan Africa is a region with horrendous maternal mortality figures. Nigeria still remains in the shocking ‘red zone’ – countries where for every 100 live births at least one mother will die. Contrast this with countries in the ‘blue zone’ such as the U.K where the maternal mortality ratio is < ten per 100,000 live births. What anaesthesia or perhaps lack of it contributes to this pool of maternal mortality is often difficult to quantify due to the lack of accurate data.

The Centre for Maternal and Child Enquiries (CMACE) report in the UK is an invaluable tool in tracking anaesthetic related maternal mortality/morbidity. In the last report seven women (three per cent) died from direct anaesthetic causes. Similar anaesthetic-related maternal mortality...
figures in developing countries can sometimes be accounted for by just one hospital. The United Nations has set reducing maternal mortality as the 5th Millennium Development Goal. Against this backdrop, the evolution of obstetric anaesthesia into a subspecialty worthy of its own association in Nigeria is a welcome development that could not have come too soon.

LOAN has set itself general and specific goals. The obvious primary goal is to improve the standard and delivery of obstetric anaesthesia services as well as upgrade labour analgesia services.

In 2012 there is still no teaching hospital in Nigeria that offers a 24-hour labour epidural service. Cell salvage in obstetric haemorrhage is in its rudimentary state. The challenges are many and there is the real danger that LOAN may become just another ‘talk shop’.

References
Many people think of Cambodia as a gateway to the magnificent temples of Angkor, but it is the people who are its greatest treasure, struggling through poverty with a contagious enthusiasm for life and dedicated to moving it forward from its dark past.

Cambodia ranks as one of the poorest countries in Asia with the majority of the population surviving on an income of less than $1.25 US a day and relying heavily on foreign aid and investment. Decades of conflict from the Vietnam War spilling over the border, followed by the brutal dictatorship of the Khmer Rouge (1975 to 1979) left the population without access to basic healthcare, education and sanitation. In recent years, Cambodia has made great strides in socioeconomic progress accompanied by improvements in many health indicators, although recent statistics have shown one child in 15 dies before his or her 5th birthday, often from preventable illness.

For my out of programme experience, I chose to volunteer at a non-governmental hospital in Siem Reap and unexpectedly found myself at the forefront of one of Cambodia's leading Medical Education facilities in Paediatric Healthcare.

The Angkor Hospital for Children

Angkor Hospital for Children (AHC) is a Paediatric teaching hospital founded in 1999 by an American Japanese photographer, Kenro Izu and the non-governmental organisation Friends Without a Border.

The hospital provides free healthcare to approximately 400 children every day and has recently treated its one-millionth patient! The hospital comprises a 26 bed in-patient department, 4 bed intensive care unit and dedicated dental and eye clinics. The Medical Education Centre provides high quality training to hundreds of Cambodian nurses and doctors every year.

Facilities

The Operating Theatre (OT) is staffed by a Paediatric team of 3 nurse anaesthetists, 3 surgeons and 5 theatre nurses; as is typical for many developing countries, the majority of anaesthesia provision is by nursing staff.

As well as the OT, anaesthesia can also be administered in the Minor Procedure Room, Eye Clinic and Emergency Room. In 2011 alone, 5750 anaesthetics were administered at the hospital and since opening in 1999 there has not been an anaesthesia-related death.

All the staff are fluent in English as this is the first language of AHC, including documentation for medical notes. I attended regular Khmer lessons provided by the hospital and picked up many phrases, which helped me to build rapport with patients and staff alike. I was pleasantly surprised to recognise the donated anaesthetic machine in the operating theatre (Datex Ohmeda, Aestiva 5) and the use of full monitoring, including the facilities for invasive pressure monitoring if required; this was usually reserved for visiting cardiac surgery teams to use. Access to drugs was also similar to an anaesthetic in the UK, with propofol, inhalational agents, fentanyl and bupivicaine available for use but carefully divided to avoid any waste. There was a limited supply of LMA's and steam auto-claving facilities to allow their re-use.

Workload

A typical day would start...
at 7 am with preparation of the anaesthetic drugs and equipment including machine checks, changing circuits and ensuring there was enough oxygen and air in the cylinders. All children scheduled for surgery were seen by a pre-assessment nurse who would start a checklist, insert an intravenous cannula and help co-ordinate the cases for the day. The majority of children had an intravenous induction with propofol and maintenance with either halothane or isoflurane. If possible, every child would have a regional block or local infiltration to allow rapid recovery and discharge the same day. As the majority of Cambodian families use a motorbike for transport, a requirement of discharge was that the child was able to sit upright and have two adults supporting from front and back to allow a safe journey home. There were no nerve stimulators but the Cambodian anaesthesia nurses were experts at performing ilioinguinal, rectus sheath, popliteal, femoral and supraclavicular nerve blocks with a very high success rate and minimal complications.

In just under 3 months at AHC I added over 400 paediatric cases to my logbook, including 23 neonates. The majority of the morning cases consisted of elective work such as hernia repairs, tonsillectomy, skin grafts, eye surgery, dental extractions and occasionally PDA ligations. The afternoon was often reserved for emergency cases including laparotomy, appendicectomy, open reduction of fractures and wound debridements. Many children were underweight, malnourished and often grossly septic from presenting so late. Large abscesses, tumours, pig bites and removing foreign bodies (which were often insects or rice granules) became the norm. Despite the busy schedule, we always stopped for an hour and a half lunch break every day, which I soon became accustomed to!

The hospital had a schedule of surgeons visiting from all over the world, which at times provided some anaesthetic challenges. For example, a consultant maxillo-facial surgeon from Japan operated on many cases with challenging airways including two patients with large maxillary tumours. An orthopaedic surgeon from the USA had several complex cases scheduled for his yearly visit and a cardiac surgery team from Singapore visited twice. The Singapore team have been training the local staff since 2006 with the aim of one day opening up a dedicated Paediatric Cardiac Centre at AHC run by Cambodian staff.

My role
I spent the first couple of weeks working alongside the Cambodian nurse anaesthetists, exchanging ideas and experiences and gauging their level of knowledge and needs.

We discussed a list of relevant topics and I began a regular teaching programme. This included management of children with Down’s Syndrome, intestinal obstruction, burns, electrolyte disturbance, major haemorrhage, intubation of sick children and congenital cardiac disease, to name but a few. I encouraged the use of nerve stimulators but there were no nerve stimulators available. The Cambodian anaesthesia nurses were experts at performing ilioinguinal, rectus sheath, popliteal, femoral and supraclavicular nerve blocks with a very high success rate and minimal complications.

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Anaesthesia around the world

of caudal blocks and active warming of children during longer cases.

I also had the opportunity to work in the Minor Procedure Room, which was mainly reserved for short cases such as dressing changes, incision and drainage of abscesses and suturing. A pulse oximeter and T-piece were available but I highlighted a few concerns including the need for a dedicated recovery area, a guideline on minimum age/weight limit and adherence to the fasting guideline, which was often overlooked (and on further inspection out of date). After discussion with the Cambodian anaesthetists, I set up an anaesthetic guidelines folder, containing quick reference cards for managing anaesthetic emergencies. Posters were displayed for updated fasting guidelines and the WHO checklist, which I actively encouraged. Towards the end of my stay, I soon had everyone repeating ‘no mark, no operation’ and was proud to see the staff adhere to this with regard to correct site surgery.

The hospital regularly teaches and trains anaesthetic nurses from all over Cambodia in paediatric anaesthesia. I had the opportunity to work with a nurse from a government hospital in a very remote province called Mondulkiri. I learnt about the very basic facilities they had available for administering anaesthesia, although a modern anaesthetic machine had been purchased but not used in the six months since its arrival. I arranged a four-day visit to Sen Monorom Hospital in Mondulkiri, accompanied by two staff from AHC. During our visit we were able to assess the equipment and facilities they had available and provide guidance, support and recommendations on setting up the machine safely. A list of drugs and equipment they were in need of was noted and on my return to AHC, I gave a short presentation about our visit to the staff. A team from AHC are planning a further visit in six months time to take equipment and provide ongoing follow up and support.

Summary

The staff at AHC are a real testament to volunteers and donations being utilised in a resourceful and sustainable way, providing them with the skills and knowledge to pass onto future generations and eventually becoming self-sufficient. Hearing stories about terrifying childhoods during the Khmer Rouge years and the obstacles that many of the doctors and nurses have had to overcome to become the skilled professionals of today, has been an extremely humbling and life-changing experience. I feel an overwhelming obligation to continue to provide support from the UK and I hope to return to Cambodia again in the near future and remain part of this incredible organisation.

I would like to express my sincere thanks to the IRC and WAS for donating £1000 towards my expenses as this trip was completely self-funded.

Donations to the organisation can be made via the hospital website https://angkorhospital.org/.

If you happen to visit Siem Reap, please consider donating much-needed blood. I can vouch for it being quick, painless and taken using sterile equipment.

References:

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www.dwasouthwest.org for further details
Teresa Schwalbach

Roger Eltringham

Teresa was born in Portugal but moved to Mozambique as a child when her parents emigrated there in 1951 and has lived there ever since. She now lives in Maputo with her husband, three children and six grandchildren.

After her early education in Maputo she enrolled in the faculty of Medicine at Lourenco Marques University (the name of the University before independence) in 1964, graduating in 1970.

Training in anaesthesia for undergraduates was virtually non-existent at the time so it was not until she qualified as a doctor and began working in the operating theatres that she became aware of the important role played by anaesthetists. Encouraged by colleagues she enrolled on a three year postgraduate training program in anaesthesia at the University hospital in Maputo in 1972. She gained experience in anaesthesia for a wide range of surgical specialties in Maputo and this was supplemented by further training in Portugal and France.

In 1975, just as she was completing her postgraduate anaesthesia training, Mozambique gained independence from Portugal. Tragically, the granting of independence was followed by a prolonged civil war, which continued unabated for nearly 20 years. This had disastrous consequences for the economy and also on the medical services, which came under severe and sustained pressure. To make matters worse, most of the Portuguese doctors fled the country and she was the only trained anaesthetist remaining. As such, she was required to advise on the running of the anaesthesia service for an entire country which is four times the size of the UK has a population of 20 million.

In the absence of any other Mozambican anaesthetists Teresa had to recruit anaesthetists from a range of other countries including Bulgaria, Soviet Union, Cuba, China and Portugal in order to maintain the service throughout the nation.

On top of her heavy clinical workload and with the aid of an Italian colleague, Dr Valeria Magni, she set up the national program for anaesthesia and re-animation (PNAR). This included responsibility for the service in all the provincial and rural hospitals, standardization of equipment, and organization of training programs. She also masterminded regular refresher courses as well as editing the national anaesthesia journal (Anestesia Hoje).

Teresa pointed out to the authorities that their work was severely inhibited by the lack of suitable anaesthetic equipment. The anaesthetic machines they were using were obsolete. They were very extravagant in their use of oxygen, which was supplied in cylinders by road over long distances. This was not only very expensive but, as the roads were frequently impassable especially during the rainy season, it was not uncommon for hospitals to be without oxygen altogether.

The old equipment was also dependent on electricity but supplies were frequently interrupted with little or no warning. Furthermore there were no reliable ventilators and no soda lime so the use of the circle system was impractical.

After surveying the alternatives available they decided that the Glostavent anaesthetic machine best suited their requirements as it was specifically designed for difficult situations. Following a grant from the Department for International Development (DFID), 8 Glostavents arrived in Maputo in 2002 and she and Dr Magni supervised the distribution of machines and the training of staff throughout the rural hospitals involved.

This was the first time that a purpose-built anaesthetic machine was formally trialled on such a large scale and involved a huge and sustained effort over the course of the next 12 months. The trial was an unqualified success and she presented her findings at the World Congress of Anaesthesia in Cape Town in 2008. As a result of her practical experience she made valuable suggestions for the improvement of the Glostavent, which have subsequently been adapted by the manufacturers. Her emphasis to the users that they must take responsibility for care and maintenance of their own machines has had spectacular results, some of them having been in use for more than ten years without the need for any outside intervention.

In 2007 she eventually stepped down from her post of head of the anaesthetic department.
Profile

having led it successfully through a most turbulent period for over 30 years. Some might have thought she would opt for a peaceful retirement well away from the trials and tribulations of a busy anaesthetic department. This is certainly what she deserves but nothing could be further from her mind.

She remains very active in the department, not only administering anaesthetics but more often she is to be found in the pain clinic where she has introduced patient controlled analgesia and has plans to introduce ultra sound scan peripheral blocks. She also remains heavily involved in the teaching of anaesthesia to both medical and nursing practitioners.

As an example of a dedicated and worthwhile career Dr Teresa Schwalbach is exceptional, and her commitment to the advancement of the specialty has been remarkable. It has been both a privilege and a pleasure to work with such an admirable anaesthetist who has brought distinction to our specialty in exceptionally difficult circumstances.

The World Anaesthesia Society Travel Grant

The World Anaesthesia Society has recently awarded another travel grant. Details of the grant are below and we will publish a report of the project in a later issue.

Out of Programme Career Break (OOPC): August 2013-August 2014

Dr Polly Marshall-Brown

Project details

I am currently volunteering in the anaesthetics department of Queen Elizabeth hospital in Blantyre, Malawi. I had started a CT1 training program in anaesthetics when my partner, an orthopaedic trainee, was offered a paediatric deformity correction fellowship at the Beit Cure Hospital. I discussed the possibility of taking a year out to go to Malawi with my educational supervisor who was very encouraging and helped me to get the relevant signatures from the deanery to take an OOPC (Out Of Program Career Break).

Having got approval to take the year out of my training program I contacted the head of the anaesthetics at Queen Elizabeth Hospital who was happy for me to come and volunteer in the department. I then began saving towards a year away and was also lucky enough to be awarded a travel grant from the World Anaesthesia Society.

Queen Elizabeth is a government run, tertiary referral hospital located in Blantyre. It is the largest hospital in Malawi with around 1000 bed. There are 8 theatres that cover general surgery, orthopaedics, ENT, urology, dental, paediatric, plastics and burns and obstetrics and gynaecology. Maternity provides a significant amount of work for the anaesthetists with 12,000 deliveries a year (6-7 caesarean sections per day). There is a four bed ITU department.

During my time at Queen Elizabeth Hospital I will be helping out alongside the physicians and clinical officers in both theatres and ITU. Being early on in my anaesthetics training initially I will be learning how to deliver safe anaesthesia in a developing world setting and familiarizing myself with different drugs to those which I am used to using, then as my knowledge and skills increase I hope to take on more responsibility. Alongside the clinical experience in theatre there is the opportunity for teaching, audit and research that is being conducted within the department.

I feel that this opportunity is an invaluable experience and will give a great insight into healthcare in a developing world setting. It will greatly benefit my training with lots of hands on experience, learning new skills and knowledge along with developing my decision making, teaching and leadership skills.
My name is Rajabo Issufo and I am an anaesthetist in the Chicuque Hospital in Maxixe, a town in Mozambique about 250 miles north of the capital, Maputo. I recently had a visit from Dr Teresa Schwalbach, who had been my anaesthesia teacher in Maputo more than ten years ago. She was so pleased with the progress we have made in the anaesthetic service at this hospital that she suggested that I should write an article as it might give encouragement to others.

My story is typical of those providing the anaesthetic service in my country and probably throughout much of Africa.

After I left school at the age of 18 I trained as a general nurse at Maputo Health Science Institute qualifying in 1977. I then moved to the hospital in Chimoio in the centre of the country where I had my first experience of working in the operating theatre. When I became more experienced, as part of my duties, I was occasionally required to help the anaesthetist. He would give me instructions such as ‘find a vein’, ‘put up a drip’, ‘take the blood pressure and record the heart rate’ etc.

I began to appreciate that this was an important job, and although it was not a popular specialty at the time, I enrolled in the school of anaesthesia at the Central Hospital in Maputo in 1996, under the supervision of Dr Teresa Schwalbach. The 18-month training course consisted of 6 hours of theoretical teaching and 30 hours practical each week. I was successful in the final examination and returned to the Chicuque Hospital in the year 1998.

For the next seven years I was the only trained anaesthetist in the entire hospital. It is a very busy hospital with 154 beds serving a population of over 100,000 and performing more than 2000 operations annually. I had several assistants who also gave some of the routine anaesthetics but I had to be present at every difficult operation and I was on call every night because there was no one else. If I wanted to be away I had to arrange for a colleague from the provincial hospital to deputise for me.

Chicukwe is a general hospital where the range of surgical operations performed is wide. Since it is close to the main road linking the north and south of the country, trauma from road accidents produces a large percentage of the workload. General surgery, gynaecology and obstetrics are also very busy (approximately 1800 deliveries per year). Paediatric surgery is also performed but smaller children and infants are generally referred to the provincial hospital where there is a physician anaesthetist.

When I first began working in Chicuque as an anaesthetist most of the operations were performed under general anaesthesia using a face mask and spontaneous respiration. Initially we used an old Boyle’s anaesthetic machine with cylinders of oxygen and halothane as the volatile agent. There was no nitrous oxide. When muscle relaxation was required we used succinyl choline for intubation and for short procedures, and pancuronium for longer procedures. Analgesia was usually provided by fentanyl. Patients were ventilated manually because there was no ventilator. There was no recovery unit or intensive care ward so if there were problems postoperatively we had to stay with patients until they had completely recovered from their anaesthetic.

Ketamine was used in shocked patients and spinal anaesthesia was also used, especially for caesarean sections, with bupivacaine as the anaesthetic agent.

A brand new anaesthetic machine had previously been donated to the hospital by an aid agency but it was completely unsatisfactory. It seemed very complicated, there were no clear instructions and on the rare occasions it was used it broke down rapidly because of voltage fluctuations and frequent power cuts. There was no one to show us how to use it or how to service and maintain it so it was transferred to a storeroom and has never been used since. No one from the manufacturers or the donors has ever contacted us or offered to help us.

At that time all our oxygen was supplied in cylinders, which were delivered by road from Maputo. Occasionally, especially during the rainy season we ran out of oxygen completely and operations frequently had to be cancelled.
In 2002 it was announced that Mozambique was to receive six anaesthetic machines of a new type as part of a trial being carried out in several countries in southern Africa. The machines, called Glostavents, were donated by the Department of International Development (DFID) in the UK. We were all very excited when we were selected as one of the hospitals to receive the Glostavent.

As we had not seen this type of machine before, a five-day course in Maputo was organized by Dr Schwalbach. During the course we were shown how to use this new type of anaesthetic machine, how to look after it ourselves and how to provide basic servicing and maintenance. With the instructions I had already received on the training course in Maputo I soon became confident in its use. All of us found the Glostavent to be easy to understand and operate especially with the aid of the manual and check list provided.

The Glostavent has the advantage of having a mechanical ventilator, which I found very useful as it enables the anaesthetist to be ‘hands free’ when working alone. There are several other advantages. One is that by using the oxygen concentrator, our requirement for oxygen cylinders has decreased dramatically, and we have saved a great deal of money. The only time we use the cylinders now is when the electricity fails, which is once or twice per week. The oxygen cylinder on the Glostavent then automatically takes over and there is nothing more I have to do. The surgeons are also very pleased with the new system because it means that operations rarely have to be cancelled.

With the improved equipment the administration of anaesthesia has become much less stressful and more enjoyable in our hospital and we are beginning to attract new recruits. I now have two colleagues to share the workload and hope for more.

We have now been using the Glostavent for nearly ten years in our hospital. It has been completely reliable and we have been able to maintain and service it ourselves without having to call for help from outside. I have spoken to anaesthetists from other hospitals that are using it and they also like it.

During her recent visit here I thanked Dr Schwalbach for making the Glostavent available to our hospital and I asked if there was anything we didn’t like about the current model which we would like to see changed in future. My colleagues and I listed three changes we would like to see.

1. We would like the oxygen concentrator to have a higher output. The present maximum of 5 l/min is not enough for satisfactory pre-oxygenation.

2. We would like a method of scavenging of expired gases as at present the anaesthetist has to inhale much of the anaesthetic himself and it makes us feel dizzy and tired.

3. We would like a shelf on top of the machine to support the monitors and get them out of the way.

I would like to express my thanks to Dr Schwalbach for her help and encouragement in the preparation of this paper, to DFID for supplying such a good machine, and to Diamedica for listening to the opinions of African anaesthetists as we frequently feel alone and isolated.

Footnote

This report has been shown to DFID with a request that further Glostavents are made available and a recommendation that every hospital in Mozambique should have them. It has also been shown to Diamedica who manufacture the Glostavent. They responded to the comments by thanking the anaesthetists for their suggestions, which have already been taken on board as follows:

The basic design of the Glostavent has remained unchanged but a new model is now available with an oxygen concentrator capable of delivering 8 l/min of oxygen, a new valve to facilitate effective scavenging and a shelf above the Glostavent to accommodate monitors.
Letters to the Editor

Use of coins in electrocardiographic monitoring

Patrick Martens, MD

Dept. Anaesthesia and Critical Care, St Jan Hospital, Ruddershove 10, 8000 Brugge, Belgium Tel. 00 32 50 453157

We would like to remind readers that coins can be used as ECG electrodes without significantly affecting baseline stability (Fig 1,2).

The primary advantages of this alternative are its availability and economy. Satisfactory readings can be obtained using K-Y jelly, mustard, tomato ketchup, hand cream, or toothpaste as makeshift electrode gels; however, the use of water-based conductors is not obligatory.1

This unusual alternative should be kept in mind during anaesthetic procedures in the developing countries or disaster situations.

Reference
Useful Information

Courses in Anaesthesia for the Developing World

Anaesthesia for Developing countries - 5 day course Kampala Uganda (annually)

Contact: Dr Hilary Edgcombe, Nuffield Dept of Anaesthesia, John Radcliffe Hospital
Headley Way, Headington, Oxford OX3 9DU, UK
Tel: (+44) 01865 221590  E-mail: events@ndcn.ox.ac.uk

Organisations

The International Relations Committee (IRC) of the Association of Anaesthetists of Great Britain and Ireland (AAGBI)
The IRC has a major role in co-ordinating and facilitating overseas anaesthetic training programmes, visiting lecturerships for refresher courses and distribution of limited supplies of textbooks and equipment to developing countries. It administers the Overseas Anaesthesia Fund to facilitate donations to assist in this type of work. It runs the Ugandan Anaesthetic fellowship programme and is involved in the global oximetry project, which has informed Lifebox.

www.aagbi.org

World Federation of Societies of Anaesthesiologists (WFSA)
The World Federation of Societies of Anaesthesiologists (WFSA) is a unique organization in that it is a society of societies. By virtue of membership in a national society, an anesthesiologist is automatically a member of WFSA. The objectives of the WFSA are to make available the highest standards of anesthesia, pain treatment, trauma management and resuscitation to all peoples of the world.

21 Portland Place, London, W1B 1PY
United Kingdom
Tel: (+44) 0207 631 1650
Fax: (+44) 0207 631 4352
www.anaesthesiologists.org

Lifebox
Lifebox is a not-for-profit organization saving lives by improving the safety and quality of surgical care in low-resource countries by ensuring that every operating room in the world has a simple pulse oximeter.

www.lifebox.org

Primary Trauma Care Foundation
An organisation training doctors and nurses in the management of severely injured patients in the district hospital.

PTC Foundation
313 Woodstock Rd
Oxford, OX2 7NY
United Kingdom

www.primarytraumacare.org

PTC Chairman:
Dr Douglas Wilkinson
douglas.wilkinson@nda.ox.ac.uk

PTC Administrator:
Annette Clack
admin@primarytraumacare.org

Technical Assistance at Low Cost (TALC)
A unique charity that supplies low cost healthcare training and teaching materials to raise the standard of healthcare and reduce poverty worldwide.

PO Box 49
St Albans
Herts AL1 5TX
United Kingdom
Tel: +44 (0) 1727 853869
Tel: +44 (0) 1727 846852
E-mail: info@talcuk.org
www.talcuk.org

Durbin plc
This organisation has bought ECHO and now supplies drugs and equipment to developing countries.

Durbin House
180 Northolt Rd
South Harrow, Middx.
HA2 0LT United Kingdom
www.durbin.co.uk
Useful Information continued

REMEDY (Recovered Medical Equipment for the Developing World)
Collects equipment and distribution to the developing world
3-TMP, 333 Cedar Street
P.O. Box 208051
New Haven
CT 06520-8051
USA
www.remedyinc.org
Remedy@Yale.edu
Tel: (203) 737 5356
Fax (203) 785 5241

Society for Education in Anesthesia
International members are invited to join this Society
that promotes techniques and excellence in the teaching of
anaesthesia.
520N Northwest Highway
Park Ridge,
Illinois 60069-2573
USA
Tel: (847) 825 5586
Fax: (847) 825 5658
E-mail: sea@asahq.org
www.seahq.org

Douleurs san Frontieres (DSF)
A French NGO that aims to create or to encourage any structure involved in the treatment of pain and suffering (cancer pain, AIDS, acute pain, etc.)
Douleurs sans Frontieres
Hôpital Lariboisière
2, rue Ambroise Paré
75475 Paris, Cedex 10, France
E-mail: dsf.france@douleurs.org
www.douleurs.org

International Anesthesia Research Society (IARS)
A non-political medical society founded in 1922 to advance and support anaesthesia and research and education.
100 Pine Street
Suite 230
San Francisco
CA 94111
USA
Tel: 415 296 6900
Fax: 415 296 6901
E-mail: info@iars.org
www.iars.org

The International Committee of the Red Cross (ICRC)
The ICRC acts to help all victims of war and internal violence, attempting to ensure implementation of humanitarian rules restricting armed violence.
ICRC Headquarters
19 Ave. de la Paix
CH-1202
Geneva
Switzerland
Tel: +41 22 734 60 01
Fax: +41 22 733 20 57
www.icrc.org

Medical Training Initiative (UK)
Anaesthetists seeking posts in the UK should contact:
International Programme Administrator
Royal College of Anaesthetists
35 Red Lion Square
London WC1R 4SG
UK
(+44) 020 7092 1552
Email: IP@rcoa.ac.uk
www.rcoa.ac.uk

REDR
RedR is an international charity that improves the effectiveness of disaster relief, helping rebuild the lives of those affected.
They do this by training relief workers and providing skilled professionals to humanitarian programmes worldwide.
www.redr.org.uk

Going Overseas Network
A multi-disciplinary, multi-professional network, which facilitates and encourages UK healthcare staff to participate in training and service visits to the less developed world.
www.goingoverseasnetwork.org

Health Volunteers Overseas
Private non-profit organization dedicated to improving the availability and quality of health care in developing countries
www.hvousa.org/

Medecins Sans Frontieres (MSF) offers assistance to populations in distress, to victims of natural and man-made disasters and to victims of armed conflict. They require volunteers for both long and short-term projects. If you are interested in obtaining more information, contact them at:
64-74 Saffron Hill
London ECIN 8QX
United Kingdom
Tel: (+44) 020 7404 6600
E-mail: office-ldn@london.msf.org
www.msf.org.uk
Mercy Flyers
Mercy Flyers is a not-for-profit organisation whose mission is to take specialist medical care to those who are geographically remote and living in poverty in southern African countries.
www.mercyflyers.org

Mercy Ships
Mercy Ships provides free surgery and medical care, and partners with local communities to improve health care, offering training and advice, materials and hands-on assistance.
www.mercyships.org.uk

THET (Tropical health and Education Trust)
THET is committed to improving health services in developing countries through building long-term capacity.
www.thet.org

HINARI
The HINARI Programme, set up by WHO together with major publishers, enables developing countries to gain access to one of the world’s largest collections of biomedical and health literature.
More than 7,500 information resources are now available to health institutions in 105 countries
www.who.int/hinari

Mothers of Africa
Mothers for Africa is a medical educational charity that trains medical staff in Sub-Sahara Africa to care for mothers during pregnancy and childbirth.
www.mothersofafrica.org

VSO
VSO is a leading development charity that sends volunteers to work abroad with full financial support.
www.vso.org.uk

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World Anaesthesia
Society Travel Grant

The World Anaesthesia Society is offering a grant of up to £1000 for trainee anaesthetists wishing to work or teach in a developing country.

Application and award of these grants will be through the travel grant system run by the International Relations Committee of the AAGBI with two grants awarded each year.

Further information and application forms available at www.aagbi.org
# Application Form

The current subscription is £35 per annum (60, 50) and we encourage all our UK based members to pay by direct debit. Contact us via the website (www.aagbi.org/international/international-relations-committee/world-anaesthesia-society) or return the form below.

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