Teaching for change

The second part of the ATLASS program focuses on improving maternal and newborn health

Since 2001, the College has implemented several programs of service delivery and training to treat the people of East Timor and help improve the local health system through funding provided by AusAID.

Now the current ATLASS II program is working to train doctors in specialist skills appropriate to local demand in areas such as surgery, anaesthesia, obstetrics and paediatrics, with a particular focus on maternal and newborn health.

As part of the program, obstetrician Dr Alexis Shub moved to East Timor earlierthis year and now works alongside the College's in-country clinical team at the Hospital Nacional Guido Valadares (HNGV) in Dili.

She works closely with staff in the hospital's Obstetrics Department to help develop the maternal health workforce in East Timor with the ultimate aim of reducing the continuing high rates of maternal and newborn mortality and morbidity and improve access to comprehensive emergency obstetric and neonatal care. She talks to *Surgical News* about the challenges facing the women and babies of East Timor.

Where did you work before taking up the position of Long-Term Obstetrician in East Timor?

I had been working as a maternal foetal medicine subspecialist at the Mercy Hospital for Women in Melbourne, caring primarily for women with high risk pregnancies due to their underlying medical conditions, complicated obstetric history or foetal anomalies. I was also a senior lecturer at the University of Melbourne.

What appealed to you about the position and when did you arrive there?

The position appealed because of the strong emphasis on teaching and capacity building, not just service provision. Service provision is very satisfying in the short term, but I also like the aim of making my position obsolete. East Timor was also appealing as a suitable location to bring my young children for an extended period with a stable political situation, schools and great beaches. I arrived in January this year.

What are the main issues affecting pregnant women and babies and driving the high rates of maternal and newborn mortality and morbidity?

The high rates of maternal and infant mortality are multifactorial. Home birth is extremely common here, such that across the country up to 70 per cent of women deliver at home, almost all with only family members for assistance. Many obstetric complications develop and become life threatening within hours and the combination of high risk births, poor health education and difficult travel conditions makes it virtually impossible for these women to be cared for safely.

Many women, especially in the wet season when travel conditions are even more difficult, may face a long walk, and then hours of driving to access skilled health care. Limited antenatal care also contributes to the high rates with around 15 per cent of women having no antenatal care at all, and only 55 per cent having the WHO-recommended four visits. This means that important diagnoses including twins, placenta praevia and preeclampsia are often made very late or while in labour.

Residents at the Hospital Nacional Guido Valadares, Dr Elisa da Silva Belo and Dr Zélia Elisa Soares Vitorino Ximenes, with Dr Alexis Shub.

Malnutrition and anaemia are also common so women are less able to tolerate complications such as postpartum haemorrhage or eclampsia. Grand multiparity is another important contributor because women in East Timor have the highest average parity in the world, with 5.7 children for each woman. These women are more likely to deliver at home and are also more likely to have complications such as postpartum haemorrhage and abnormal presentations.

What has been the central focus of your training endeavours since your arrival?

The main focus of the program has been on teaching junior doctors in the postgraduate diploma of obstetrics. This is a new program, which started with only two candidates, and now has one. Although the numbers are small, the current candidate has made enormous progress in obstetric knowledge while also making some significant advances in medical thinking and professionalism.

Hopefully, with solid background training, she will be able to go overseas and complete specialist training successfully. My other focus has been on trying to support simple structural change in the Obstetrics Department such as encouraging the use of medication charts, whiteboards to track patients and maintaining regular documentation in the patient notes.

What are some of the difficult or life saving procedures you have conducted since your arrival?

Women in the HNGV are regularly seen with life threatening conditions. In comparison to my usual job in a tertiary hospital in Melbourne, I have seen much more eclampsia, which is rarely seen in Australia due to good antenatal care. In the best conditions, the maternal mortality from eclampsia is less than five per cent but here it is closer to 50 per cent.

I have been fortunate to be able to deliver both twins and breeches vaginally, which are much less common in obstetric practice in Australia due to the high caesarean rate and low tolerance of foetal risk. I have also been able to see the benefits of transfusion of fresh whole blood in immediately reversing DIC in a woman with a large abruption and foetal death.

I was also able to make an antenatal diagnosis of foetal duodenal atresia on ultrasound which enabled the woman to be transferred to Australia with the support of the charity ROMAC and for her baby to undergo early neonatal surgery and survive. Before the College inclusion of obstetrics in the program, this level of ultrasound and antenatal diagnosis was not possible and ROMAC had not undertaken antenatal transfer before.

Still, although such work is rewarding, the most satisfying is the introduction of simple clinical procedures, such as detecting oligohydramnios on ultrasound in a woman in spurious labour, organising an induction and knowing that a foetal death has probably been ▶

Royal Australasian College of Surgeons

Nominations invited for the

SURGEONS INTERNATIONAL AWARD

The Surgeons International Award provides for doctors, nurses or other health professionals from developing communities to undertake short term visits to one or more Australian or New Zealand hospitals to acquire the knowledge, skills and contacts needed for the promotion of improved health services in the recipient's country.

The Award may cover a return economy class airfare, necessary accommodation costs and living expenses for the recipient. The value of the award varies up to a total amount of AU $12,000, depending on the requirements of the candidate's program.

Fellows participating in the RACS International Development Program or international outreach work are encouraged to nominate worthy individuals they have identified while undertaking outreach work.

Fellows who nominate worthy individuals with whom they have had contact must be willing to accept the responsibility for arranging a suitable program and acting as a personal host to the award recipient.

NOMINATIONS MUST INCLUDE

- Personal and professional information concerning the nominee;
- Objectives of the proposed visit;
- Anticipated benefits to the nominee and their home country;
- Names of the International Development Program team members responsible for organising the visit (including accommodation, training program and travel within Australia);
- An outline of the proposed training program and activities; and
- Letters of recommendation from the nominee's hospital and/or Health Department with an indication of the local importance of any upskilling resulting from the Award.

Dr Malemo Luc Kalisya from the Democratic Republic of Congo was supported to participate at the RACS ASC 2013 in Auckland, and undertook a four week hospital attachment at Princess Alexandra Hospital under the mentorship of Dr Neil Wetzig. Dr Wetzig has been working with Dr Luc and his colleagues during annual visits to the D.R. Congo for over 10 years.

CONTACT INFORMATION

For further information or to submit an application

International Scholarships Officer
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Email: international.scholarships@surgeons.org

Dr Shub provides vital services while training in-house staff

prevented. If these processes continue beyond my time here, then that to me is more rewarding than the occasionally dramatic clinical events.

What does it mean to you personally to help the women of East Timor safely deliver their babies?

Although there are many frustrations in working here, I am endlessly inspired by the women themselves. They face pain and suffering with bravery and dignity and even when outcomes are poor, they are always polite and grateful for the help they have received. In East Timor, I regularly feel that I have made a real difference to women and their families in a way that is an unusual event in Australia.

Are there any firm expectations of how low mortality or morbidity rates could go with an adequately trained workforce and is there a time frame of when this could be achieved?

Other similar countries have halved maternal mortality rates in as little as six years. This cannot be achieved without huge changes in practice, the most significant of which would be reducing the rates of home birth. While women deliver at home, maternal and neonatal mortality will continue to be high.

The other important issue is that most births and deaths are not registered and so all data which is quoted has an element of uncertainty. Better data collection will make it possible to institute and monitor change.

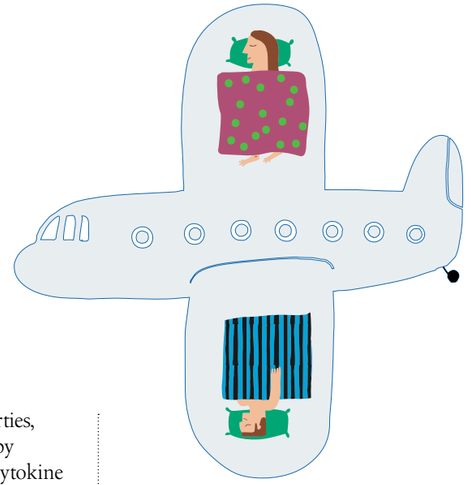
Have you felt supported by the College and the ATLASS II program?

The College and ATLASS have provided excellent support, both during the mobilisation phase and during our time in Dili. The staff in International Projects, especially Kate Moss and Kate Groves, have been endlessly helpful with all the logistics of moving a family to another country.

With Karen Murphy

Jet-lagged in want of chronobiotics

Try to adjust your body the natural way



Surgeons seem to think nothing of flying across the world through multiple time zones, playing havoc with their circadian rhythms suffering sleep deprivation with masochistic bravado. Yes, they get sick, pick up dreadful respiratory infections on planes, but it never deters them from aspiring to be a millionaire in frequent flyer points and flash [in airports] their heavy metal FF loyalty status.

The other day *Professor GL Obe Trotta* came to ask for a prescription for melatonin, a chronobiotic recommended by esteemed colleagues citing its efficacy in clinical trials.

I was hesitant. I have never taken it myself. That's not to say *Prof GL Obe Trotta* can't have it, but first I gave some contrary advice. Dr BB G-loved is no shrinking violet, not even when faced with workaholic professors bent on performance enhancing hormone supplements to advance their international renown and influence.

Melatonin (N1-acetyl-5-methoxytryptamine) is a neurohormone, synthesised from tryptophan via serotonin and secreted by the pineal under control of the suprachiasmic nucleus of the hypothalamus; secretion is inhibited by light [blue light 460-480nm] and permitted by darkness.

It has numerous physiological effects including those on blood pressure, neural, gastrointestinal, immune and endocrine, including gonadal function. Melatonin is also produced in enterochromaffin cells of the gastrointestinal tract and in the gonads. It is also present in plants (Feverfew and St John's Wort), rice, cereals, olive oil, tomatoes, and fruit – especially cherries.

It is a powerful antioxidant, counteracting the generation of oxidative stress, thus reducing mitochondrial and nuclear DNA damage. It has potent anti-inflammatory properties, modulating immune responses by regulation of T helper cells and cytokine production. Its free radical scavenging properties are being investigated in animal models of recovery from stroke. In vivo models of autoimmune disease have been established to study its efficacy for multiple sclerosis, lupus and inflammatory bowel disease.

Further clinical trials are awaited, but one has already shown efficacy in maintaining remission in ulcerative colitis. It is beneficial for the cardiovascular system, ameliorating vascular endothelial damage. Lower melatonin levels are associated with type II diabetes.

Melatonin supplementation protects neuronal cells from ageing by anti-oxidant and anti-amyloid activity, and slows down the progression of cognitive impairment in patients with Alzheimer's disease, probably by reducing tau hyperphosphorylation. Melatonin affects mental health – low levels being associated with both depression and schizophrenia.

It was approved as a pharmaceutical agent (Circadin) in Australia in 2009 and New Zealand in 2011 [2mg prolonged release] as a short-term prescription [up to three weeks] for insomnia or poor quality of sleep in patients over the age of 55. These approvals followed that of the European Medicines Agency in 2007. The FDA regards it as a dietary supplement, not as a drug, so it is obtained without prescription in the US.

It is clinically indicated for those with sleep disorders, and can be considered in those with deranged circadian rhythms due to shift work or mental illness. Surgeons crossing lines of longitude stretches my imagination, but maybe there's a parallel.

I had to admit a Cochrane Review lends support for its use in jetlag at doses of 0.5-5mg, though not the 2mg slow release tablet available on prescription. Yet it must be taken close to target bedtime, having crossed five or more time zones in an easterly direction [i.e. not for the Magi visiting Bethlehem].

But there are simpler alternatives to manage jetlag: sleep as much as you can on the plane, arrive during the morning, stay up until the early evening, no matter how hard that is [no point in taking melatonin unless you can stay up till 10pm], get out in the sun (for some natural circadian re-setting), exercise [preferably outdoors during daylight] and eat regularly.

Natural adjustment occurs at about one hour per day and whenever possible travel back in time (westwards). Back to the Future (eastwards) is harder. If you wake up at 1am, don't get up; lie in bed, breathe deeply and slowly, unburden your mind (almost impossible for professors) and don't dare start working before 5am, and then the next night you'll sleep longer.

But for those who are determined to take this multi-system neurohormone and free radical scavenger, you will be pleased to hear that no deleterious effects from its administration in humans have yet been reported in the short term.

However, I must warn you to avoid the new agonists that target melatonin receptors [ramelteon, agomelatine, tasimelteon] for which some disturbing side effects are described. As Melatonin is not actually approved to be prescribed for jet lag in ANZ, but only for sleep disorders, I'm pleased to tell you Professor GL Obe Trotta, who has friends on TGA committees, decided to go cold turkey.

Dr BB G-loved