

"Wonderful" work

Life changing surgery made possible with determination and a little help

Melbourne Urologist Philip McCahy recently joined a urology clinical service team in a trip to the Kingdom of Tonga specifically designed to provide minimally invasive endoscopic upper urinary tract stone surgery. The trip was made under the auspice of the Pacific Islands Program (PIP), a program funded by the Commonwealth of Australia and being managed by the Royal Australasian College of Surgeons on behalf of the Australian Agency for International Development (AusAID).

The visit to Tonga was designed to broaden the range of procedures provided to the people of small island nations that often cannot afford the expensive equipment or provide the highly specialised support required for such surgery.

Until this trip in June 2013, percutaneous nephrolithotomy (PCNL) had not previously been offered as part of PIP visits because of the need for a working image intensifier in country, lack of specialised equipment and concerns about post-operative management.

However, these issues were resolved through the efforts by team members and College staff to source needed equipment, the enthusiasm of staff at the Vaiola Hospital in Tonga and the generosity of donors.

Mr McCahy said the success of the visit depended on equipment and expertise and took more than a year to organise through the determination of team leader Mr Alex Cato from the Alfred Hospital in Melbourne.

"The College already had a basic cystoscopy set for simple bladder work and resectoscopes for Trans Urethral Resection of Prostate (TURP) and bladder tumour work and the Vaiola Hospital had good quality light sources, a camera and monitor set and a working image intensifier," he said.

"However, PCNL also requires dedicated nephroscopes, other specialised instrumentation, some sort of lithotripter plus a host of disposables.

"Ultimately, the generous donation of a nephroscope set by the Storz Foundation was the catalyst that allowed the trip to go ahead.

"The success of this trip, not only in terms of patient outcomes, but also the complex logistical organisation required, should be considered a tribute to Alex Cato who has wanted to do this for years.

"This was the first time we had the surgeons, the equipment and support all coming together at the same time."

The first of many trips

Mr McCahy works at Casey Hospital in Berwick (part of Monash Health), Victoria, and was specifically asked to participate in the visit to Tonga because of the complex cohort of patients selected for surgery and his expertise in providing minimally-invasive stone urology surgery to obese patients.

He said that while obese patients were increasingly encountered in all surgical practices, they presented special problems during PCNL, but he and his colleagues had developed a new way of positioning such patients to limit complications.

"Traditionally, the operation starts in the lithotomy position and then the patient is transferred to the prone position to allow a posterior renal puncture," he said.

"However, with increasing BMI, that transfer becomes more difficult and requires additional space, equipment and staff. The prone position also has a number of downsides.

"Problems are significantly reduced by utilising a modified supine position and a vacuum bean bag to support the patient with an approximately 20-degree tilt of the torso and we were pleased to receive

the donation of an Olympic Vac-Pac to take with us for this trip."

The team arrived in Tonga in early June 2013 and spent the first two days assessing selected patients and preparing the local team and theatres for the procedures.

A total of 25 operations were conducted during the visit including those patients selected for PCNL with another 20 undergoing a range of operations including an open nephrectomy for a massive kidney tumour, open prostatectomies, TURPs, optical urethrotomies, bilateral orchidectomy and a reconstructive penile procedure.

All operations were successful except for one PCNL procedure that unfortunately had to be abandoned at an early stage.

"This trip was a great success not only because of the enthusiasm and support offered by the local surgeon and hospital staff and the fantastic hospital facilities, but perhaps even more because of the desire by everyone to find solutions to any gaps we encountered in the technology available to the team," Mr McCahy said.

"For instance, the standard stone breakers are either laser, ultrasonic or pneumatic which, as well as being expensive, are bulky pieces of equipment.

"Huge metal boxes with foot pedals, wires and tubes would have been difficult to carry halfway across the Pacific, but fortunately there have been recent developments in intracorporeal lithotripsy and at the last minute Electro Medical Systems came to the rescue and allowed the team to borrow a battery-powered Lithobreaker.

"During the week two PCNL patients with very large stones presented, but the team had no flexible nephroscope to work with.

"However, a fibre-optic bronchoscope was spotted and used for the first flexible



"Ultimately, the generous donation of a nephroscope set by the Storz Foundation was the catalyst that allowed the trip to go ahead"



Clockwise from above: Mr Alex Cato being interviewed on the PIP; the team: David Daly, Charlie Heldreich, Catherine Grenville, Philip McCahy, Alex Cato, Talosia Vakata, Saia Piukala. Front: Indra Jolayemi, Kathryn Rzetelski-West. Top left: Fellow Mr Richard Grills, College President Michael Hollands, Mr Mike Wedlock, Managing Director from Karl Storz and Mr Alex Cato after the donations of vital Storz equipment.

continue scavenging for loan equipment and disposables.

The surgeons and anaesthetists involved in the trip are keen to keep returning to help train the local surgeon and Trainees in minimally-invasive procedures.

"There is a philosophical conundrum about providing this type of surgery because while visiting teams bring modern techniques that benefit patients, there is a question as to whether they are also de-skilling the local surgeons who have to deal with the complex issues the majority of the time," he said.

"On the other hand, with repeat visits, visiting teams can teach and reinforce the new skills so that such procedures may be provided locally on a permanent basis.

"A surgeon probably needs to conduct between 50 to 100 endoscopic procedures to become comfortable with the technology. In an ideal world we would train them and find the money to purchase the equipment.

nephroscopy ever conducted in the South Pacific.

"It proved to be not quite as flexible as our standard scopes and the suction channel had to be closed off with my thumb to stop fluid leaking, but it worked.

"Another patient was found to have an unexpected 15mm stone in the distal ureter which would normally have been easily dealt with using a ureteroscope the team didn't have."

"It came out with a bit of strong pulling, a large basket, a ureteric meatotomy and a urethral meatotomy and the kidney stone followed a couple

of hours later with no unexpected issues."

"This ability of the team to adapt to challenges thrown up by a different environment made for an incredibly successful effort."

Mr McCahy said that now that the first such minimally-invasive surgical visit had been done, logistical challenges could be addressed to make such visits easier to conduct in the future.

Airlines could be approached in advance to waive excess baggage fees or that equipment could be freighted by ship in advance. The team would also

“Ultimately, the generous donation of a nephroscope set by the Storz Foundation was the catalyst that allowed the trip to go ahead”

“In the meantime, visiting teams need to continue such service trips and at least offer Pacific Island surgeons exposure to such procedures and support in their on-going professional development.”

Mr McCahy said that although he had done similar aid work in parts of Africa, the Tongan visit had been his first as part of the PIP program and was an experience that he described as “wonderful”.

“It is always nice to go somewhere and do good work for people in need without having to deal with the political problems that seem to have become a central part of any developed country’s health systems,” he said.

“The local staff could not have been more helpful and willing to learn and it was a pleasure to help the lovely patients and see their delight at being able to leave hospital in days rather than a week because of minimally-invasive surgery.”

The visiting urology team included Mr Alex Cato, Mr David Daly (Anaesthetist at the Alfred Hospital), Ms Catherine Grenville (Recovery and Ward Nurse), Ms Charlotte Heldreich (Anaesthetist), Ms Indra Jolayemi (Theatre Nurse) and Ms Kathryn Rzetelski-West (Urology Trainee).

Mr McCahy said the trip would not have been possible without the help and support of the PIP team at the College, particularly Priscilla Matters, Dr Saia Piukala, Lord Bill Tangi, Dr Bernard Tu’inukuafu, Sam Cosman, Talosia Vaketa, Mele Lutui and all the staff at Vaiola Hospital, Tongan Ministry of Health, Georgina Cook for Olympus, Angelo Pierobon and Betina Voss for Boston Scientific, Damien Rayner for EMS, Marlin Medical, Justine Moran, Karl Storz Endoscopy, Qantas and Air New Zealand.

With Karen Murphy

“Motion sickness is easier to prevent than treat once it starts”



A surgical couple, let’s call them the Neiguans, consulted me the other day about their 10 year-old child. Every flight they took was upset by motion sickness and the journey was always spoiled by anxiety about vomit, mess, and whether the child will be able to reach for and open a sick bag in time.

Their other children weren’t affected, but every journey was a nightmare. When they travelled overseas the poor child would eat and drink nothing – even on a 14-15 hour trip to Europe or the US. They would pack extra sets of spare clothes and plastic bags, and always worry about the reaction from passengers sitting close-by.

Motion sickness is easier to prevent than treat once it starts. This family had already learned to book seats over the wing and avoid the back of the plane, which is the most turbulent place to sit. Children who suffer already know not to read, nor play computer games on their lap; many feel worse looking out of the window, but generally are most comfortable looking straight ahead. It’s usually too late to take anything once you feel sick. The gastric stasis induced by the neural centres that invoke nausea and vomiting, means that any medication taken after the onset of symptoms is likely not going to be absorbed.

Back in 1860, an article in the Lancet proposed ‘tincture of belladonna’ for motion sickness. The leaf has antimuscarinic properties related to

its atropine content, which though anti-secretory also lowers the gastro-oesophageal sphincter pressure. As belladonna alkaloids are potentially toxic, I wasn’t going to recommend this. The cholinergic basis of motion sickness was only elucidated in over the past 50 years, which is why scopolamine (hyoscine) is one option which has proven effective in some clinical trials in adults though there may be other anti-cholinergic side-effects.

Antihistamines, including various promethazine preparations taken 30 minutes before travel, are the popular pharmacological option for children’s motion sickness. Yet anti-histamines are not completely safe, for in younger children, particularly those aged under two, they cause drowsiness – potentially not a bad thing for take-off, but most undesirable when landing.

The Neiguans said they’d rather avoid the side-effects of anticholinergics or antihistamines. Didn’t I have anything else to offer? Ginger (*Zingiber officinal*) has been used for centuries as an anti-emetic and even been shown to have some action in experimental studies (the revolving chair) of motion sickness. But as the evidence is scant, and it can cause gastrointestinal upsets in its own right, I said, “I wouldn’t recommend ginger or prism glasses, but why not try acupressure?”

They were incredulous! “We can’t stick needles into the poor child on a long

flight,” they exclaimed. “No,” I reassured them, “not acupuncture, acupressure.” It employs a similar principle in that the child wears bands on both wrists and presses over the P6 [P for Pericardial meridian] acupoint.

Randomised controlled trials lend support for the use of acupressure bands. They are effective in reducing radiation therapy-induced nausea, though they didn’t work for chemotherapy induced nausea in women with breast cancer. A 2011 Cochrane review confirmed the efficacy of P6 acupoint stimulation in preventing postoperative nausea and vomiting [PONV] with minimal side-effects (irritation at the site).

A study published in the British Journal of Anaesthesia also reported benefit in preventing PONV. There was no difference in the response between adults and children and the improvement obtained was similar to that achieved by anti-emetic drugs. Not every trial on motion sickness has shown their efficacy, but when there has been an effect it is positive.

The effects of acupressure are subliminal and subcortical, so stimulation at P6 in neuroscientific studies induces activity in the left superior frontal gyrus, anterior cingulate gyrus and dorsomedial nucleus of thalamus. The cerebellar vestibular neuromatrix may also be involved. The Neiguans went off deciding to give the acupressure bands a go, as well as a script for antihistamines – just in case.

A week or so ago I received a very pleasing text message.

“Bought the wrist bands, used them, first flight for years with no vomiting, great idea, it made such a difference to the family holiday, thanks for the info, having a great time.”

One swallow does not make a summer, but that’s the sort of feedback that brings warmth and sunshine to my otherwise rather dark and tedious day in the wintery Southern Hemisphere, managing expectations about antibiotics and explaining their inability to obtund the common cold or this year’s variant of flu.

Dr BB G-loved

All Younger Fellows are invited to nominate for 2014 Younger Fellows Forum.

The Forum focuses on future challenges for surgical practice and the changing face of health care delivery. The core objective is to provide an environment that encourages Younger Fellows to address challenging issues relevant to personal, professional and collegiate life through discussions and debates. It is a great opportunity to share ideas and experiences. In 2014 discussion will focus on supporting underprivileged patients through leadership and health advocacy.

Applications are open from 1 September to 6 December 2013.

Contact the College for the nomination form, and submit your nomination to the attention of the Younger Fellows Forum Coordinator by **Friday 6 December 2013**.

2-4 May 2014,

Younger Fellows Forum
Singapore

- **Post:** Royal Australasian College of Surgeons
College of Surgeons’ Gardens
250-290 Spring Street
EAST MELBOURNE VIC 3002
- **Telephone:** +61 3 9249 1122
- **Facsimile:** +61 3 9276 7432
- **Email:** PDactivities@surgeons.org