

WGO GeFiTT 2010 teachers report

Background and Introduction

Fiji, together with several other island nations (e.g. Vanuatu, Solomon Islands etc), forms part of the larger Pacific subregion of Melanesia. These nations are isolated from each other by distance and ocean. Gastrointestinal diseases in Melanesia are managed by primary care physicians, general physicians and general surgeons. There are no specialist gastroenterologists in any of these island nations.

Fiji has a population of approximately 875,000, with nearly 90% of people located on its two largest islands, Viti Levu and Vanua Levu. The main ethnic groups are Fijian (51%) and Indian (44%). The major burden of gut diseases seen in Fiji is predictable for such a setting. For example, gastrointestinal infections including amoebic colitis and *Helicobacter pylori* appear prevalent, although there is limited knowledge as to the true prevalence of disease. Western gastrointestinal diseases such as inflammatory bowel disease and colonic polyps are seen, but uncommon. Viral hepatitis, in particular chronic hepatitis B, is present although the prevalence is also not clear.

The Fiji School of Medicine is integral in training medical practitioners from across the Pacific, and has a postgraduate training scheme that confers diplomas and masters in medicine. These courses include a gastroenterology module. Endoscopy is provided in two hospitals in Fiji, namely the Colonial War Memorial Hospital (CWMH) in Suva, and the smaller, regional hospital of Lautoka on the Western Coast of Viti Levu. Since 2008, formal endoscopy training has been provided at CWMH by visiting Australian gastroenterologists during a month long formal visit. This has extended to include a strong educational focus in gastroenterology and hepatology alongside the diploma and masters of medicine teaching.

There have been significant developments in endoscopy training at CWMH since the initial visit in 2008, including a generous donation of endoscopy equipment by Fujinon which was installed by the visiting team in 2009, and the inauguration of the centre by the World gastroenterology organisation (WGO). The donated equipment together with annual training visits by Australian gastroenterologist and gastroenterology specialised nurses has improved the standard of diagnostic endoscopy performed by training physicians and surgeons, and allowed several therapeutic endoscopy techniques to be achieved, including treatment of acute gastrointestinal bleeding and endoscopic variceal band ligation.

In 2010 there were 5 teachers and 2 nurse consultants that attended the Colonial War Memorial Hospital (CWMH) and the Fiji School of Medicine, both based in Suva, Fiji. They included Dr Mark Norrie, Dr Chris Hair and Mrs Lula Britten (team week 1 & 2), Dr Chris Middleton, Dr Chris Leung and Ms Kathy Pietris (team week 3,4&5) and Dr Betty Kawake. During the months of August and September, teams conducted endoscopy training, attended ward rounds and provided specialist consultation and lectures in gastroenterology at CWMH. A series of educational lectures and

bedside teachings were provided to medical trainees and some medical students. Most of the senior participants were physicians and surgeons from two sites in Fiji (Lautoka and Suva). In addition, the program provided further education and skill development to nurses from Suva and Lautoka. Whilst invitation was sent to other Pacific Island Country Doctors, unfortunately none were able to attend due to staff shortages.

The program developed upon a solid foundation that had been formulated during the past 2 years of support at the WGO SUVA gastroenterology training centre. All members of the 2010 teaching program have returned with significant enthusiasm to subsequently support the program, and a greater appreciation of the service that is being developed through the training centre in Suva. The following report provides an outline of the experience and developments during the 2010 program.

Educational Programme (August 2nd-27th)

In addition to bedside endoscopy training, team members delivered a series of grand round lectures, teaching modules for the diploma and Masters of Medicine registrars, informal teaching to surgical staff and clinical teaching rounds with the Masters of Medicine candidates. This formed the core component of education delivery of the programme (figure 1).

Grand round lectures were delivered in the CWMH auditorium to an audience of around 30-40 members consisting of senior medical staff, registrars, interns and medical students. The lecture topics delivered were an update on chronic hepatitis B, inflammatory bowel disease, gastrointestinal bleeding and noteworthy GI and liver cases. Dr Leung attended the Fiji Health Symposium and presented a plenary lecture on fatty liver disease and upper GI cancers.

Masters and Diploma of Medicine teaching was conducted in small groups (approximately 5-6 candidates) with audio conferencing to other trainees, providing coverage in other areas of Fiji. Powerpoint was available and lectures have been copied to the educational programme master drive (Dr Jioji Malani). Lectures were delivered covering approaches to liver disease, viral hepatitis, chronic liver disease, physiology of GI tract, motility and oesophageal disorders including gastro-oesophageal reflux disease, inflammatory bowel disease, clinical management of and approach to acute GI bleeding. Some of these sessions included multi-choice questions from the relevant DDSEP5 modules. Trainees were keenly engaged in the teaching sessions and seemed fairly satisfied at the conclusion of each.

Case presentations were provided at physician and surgical meetings and included H.pylori, Proton Pump Inhibitors, capsule endoscopy, and GIST tumors. Teachers provided formal bedside tutorials with masters students. Several mock clinical examinations were conducted in the fashion of RACP style short cases. Patients were willing to be examined and the level of clinical acumen of the trainees was considered to be high.

Education of endoscopy nursing staff was flagged as a priority by the visiting teams, and all teachers, especially the visiting nurses, contributed. A great deal of time was spent by Lula and Kathy providing high quality advice and teaching to all endoscopy nurses. Topics included enteral feeding (supplemented with a visit to a patient with PEG tube) and non-surgical management of GI bleeding, hand hygiene and peri-operative patient management including recovery and handover, intra-

procedural training including sclerotherapy, dilation, polypectomy, oesophageal banding and associated issues in infection control and occupational health and safety.

Endoscopy:

Endoscopy sessions were performed daily, commencing at 0830 and running until mid to late afternoon. Each session saw 7-8 patients undergo either gastroscopy or colonoscopy. There was a wide variety of cases with similar indications as seen within Australia. These included investigation of dyspepsia or abdominal pain, gastrointestinal bleeding, suspected inflammatory bowel disease or chronic diarrhoea for investigation, past colonic polyps (relatively rare as compared to Australia) and cirrhosis/variceal surveillance.

Patients were clerked on arrival by nursing staff and initially recovered in the waiting area. Peri-procedural and handover protocol, including specific post-operative instructions and patients vital signs, were further developed and successfully implemented by Lula and Kathy. A system for endoscope tracking was developed and implemented, and is available on the endoscopy worksheet. Hand hygiene, endoscope and instrument sterilisation, a working trolley for endoscopy nursing staff, and a daily and weekly checklist for environmental and equipment cleaning were implemented. A specialised box for GI bleeding emergencies was established and contained items such as sclerotherapy needles, banding devices, adrenaline and resolution clips (fig 2). A checklist for inventory of this box, as well as basic inventory was established.

A definite increase in endoscopy numbers was noted with most lists booked with 6-8 patients. During the program, 183 endoscopies were performed (108 gastroscopy and 75 colonoscopy), with some candidates performing colonoscopy to reach the caecum. Naturally, there is variability in experience in Fiji with several registrars in the very early stage of ability through to accomplished endoscopists who required minimal teaching. Overall, it was felt that colonoscopy is more difficult in Fiji than in Australia due to a combination of factors including level of patient sedation, and (probable) longer colon length. Capsule endoscopy was performed in two patients with suspected gastrointestinal bleeding. A wide range of pathology was seen; upper GI cases of interest included an elderly patient with portal hypertension and a massive, bleeding gastric fundus GIST, a young woman with severe malnutrition and a dysphagia with a complex extensive benign oesophageal stricture after accidental caustic ingestion. Interesting colonic cases involved a patient with an amoebic proctitis and a young man with severe perianal and colonic crohns disease. Functional GI complaints were seen more commonly in the Indian population.

There were a number of therapeutic cases performed. These included endoscopic variceal band ligation, injection and clipping of acute peptic ulcers, polypectomy, including giant gastric and standard colon polyps, oesophageal dilations using CRE balloons for peptic, complex caustic and scleroderma related benign strictures. Overall this was increased level of exposure to basic therapeutic endoscopy, and it is hoped that some of these skills can be further built on in the future. The limitation of endoscopic supplies does create an added clinical issue in deciding which patients best deserve use of the limited items. An example is whether or not to provide endoscopic variceal band ligation to all comers, or only as secondary treatment once a patient has bled. A similar decision must be discussed in relation to the use of donated PPI therapy.

Endoscopies were recorded using reporting software which was updated during the visit. A glitch in the previous version had created a loss of data, and it is hoped that the newer version will avert this. A stand alone PC is available for use in endoscopy (with reporting and audit software), and has a dedicated printer. No internet facility is available in the unit. A video teaching module on gastroscopy and colonoscopy was donated and left on the computer in the endoscopy room (from Cotton and Williams' textbook, Practical Gastrointestinal Endoscopy).

Helicobacter Pylori testing is well underway in the unit, with batch preparation of test kits as described in the 2009 report. Kits are kept at near zero degree temperatures after preparation and thawed on the day of use. For quality control purposes, kits were compared to donated CLO-tests and slide based rapid urease test. A good correlation was made after interrogation of the reading time frame of the prepared kit, and it was re-inforced that endoscopy staff were required to 'read' the kit preparation during the session, rather than the following day (which gave false results). Attention was directed at proper preparation and discarding of poorly prepared or thawed test kits for more accurate results (fig 3)

A wide range of endoscopy supplies is currently available including re-useable biopsy forceps, snares, clips and capsule endoscopy. The visiting teams had received donations of equipment from their own endoscopy units as well as company (Boston Scientific, Given Imaging, Cook), as well as medicines including a large supply of donated proton pump inhibitors. There is a need for supplies in variceal ligation devices, foreign body removal devices, sclerotherapy needles and dilation devices. An inventory was established to account for these devices. Unfortunately a Gold probe was not able to be used due to inadequate connections, and there is a definite need for a re-useable heater probe set for the service. Surgery is therefore used for recurrent acute GI bleeding due to PUD. Oesophageal bypass procedures are common for certain patients with benign and malignant GI obstructions. Assuming enteral stents can be obtained, there are adequate facilities available to insert these which may obviate the need for major surgery in these difficult cases

Additional Clinical Duties

There were daily ward rounds with different consultants and each visiting gastroenterologist took time out of endoscopy and educational components to undertake daily ward rounds with several of the medical consultants. The Fijian physicians were highly skilled in clinical acumen rather than relying on investigations and endured a very large patient load with great endeavour and enthusiasm. Visiting specialist encountered an excellent array of general medicine including infectious diseases (typhoid fever, rheumatic fever, TB, viral hepatitis, hookworm), cardiac failure and coronary artery disease (particularly common in young adult male Indians), haematological malignancies, chronic liver disease and cerebrovascular disease.

A pathology meeting was conducted 8-9am each Thursday, and a radiology meeting was held each Friday. Cases pertinent to gastroenterology and general medicine were presented. Specialist consultations were provided in the areas of gastroenterology whilst on ward rounds, during endoscopy sessions, and during breaks where required. It was a remarkable experience to practice medicine in such a different environment where one does not have ease of access to equipment, investigations and anaesthetic support.

Feedback

Feedback from the trainees and the training team is an integral part for the successful future development of this program. A formal questionnaire was circulated to the trainees at the completion of the training program. The majority of feedback indicated the training to be a very valuable and rewarding experience. Below is a summary of the outcomes of the questionnaire in 2010.

1. Your overall impression of the program was:

Fantastic – 73%, Very good 27%

Comments:

- 1. It was Fantastic*
- 2. The visiting gastro team was just fantastic.*
- 3. Very helpful for all levels of trainees*
- 4. Need continuing visits to maintain a good standard of endoscopy amongst our trainees*
- 5. The unit seems to be getting broadened. I have learnt more therapeutic side of the procedures which is very interesting. We can save a lot of money and time endoscopically rather than taking patients to theater especially with an acutely bleeding ulcer, varices or stricture.*
- 6. As it was my first attachment to the unit, I found it very interesting. I really learn a lot from the visiting team and from the endoscopy staff on how to wash the scope and assist doctors in all procedures.*

2. Please list the particular aspects you found valuable.

- 1. Helpful program to upskill local endoscopists*
- 2. Hands on training for colonoscopy.*
- 3. As a surgeon, my purpose of coming across to CWMH was to improve my colonoscopy skills.*
- 4. This was my first time to be exposed to endoscopy at this level. It was with great honour and privilege that I was able to see at first hand procedures being performed by great endoscopist. The knowledge passed on during the month of training was quite invaluable to me. I realize now how much impact does interventional endoscopy has. I would very much like to pursue and build on the little I have learned during this session and I can't wait for next year. As I wait for next year, I will continue to refine my skills in basic endoscopy and hopefully be experienced enough to perform some of the interventional scopes.*
- 5. I have been doing diagnostic endoscopy for several years and lacked interventional skills. After this year's training, I learned to do variceal banding, esophageal balloon dilation, and polypectomy. I watched how adrenaline injection and clipping is done to control bleeding.
I found all the members of the visiting gastro team fantastic and very helpful. However, I would like to mention Dr. Chris Leung in particular for his fantastic job in teaching and*

guiding us patiently whilst I learned those interventional endoscopic skills. His personality and mannerism gave us the confidence to carry out these special newly attained skills.

Though I have done just a handful of colonoscopies before, I was never confident in doing it alone and used to dread doing one. Thanks to this year's training, I am doing colonoscopies on my own and reaching the terminal ileum. I have also done several esophageal bandings, couple of esophageal dilations, a few polypectomies and adrenaline injections on own. Our local nurses have gained a lot too. They are more confident and skillful and that definitely make our endoscopies a success.

- 6. The sessions were well organized and there were no overbooking of cases like the previous year. I had more opportunities to put my hands on colonoscopy procedures.*
- 7. Therapeutic endoscopy training, Colonoscopy training, informal case discussions and formal presentations*
- 8. Keep the program ongoing as we train more nurses from Lautoka each year and trained nurses are responsible to the much improved endoscopy services we now offer in Lautoka Hospital.*
- 9. Maneuvering techniques and positioning of patients during difficult cases.*
- 10. Interventional endoscopies.*
- 11. Teaching sessions on GI pathologies.*
- 12. More manpower on board which make the turn over easier.*
- 13. Learn how to setup scopes in procedure room, applying abdominal pressures during colonoscopies. This was my first experience and I found it very challenging. I learned a lot from the Endoscopy Nursing Trainers.*

3. I want the following suggestions for improvement of the program.

Comment:

- 1. I wish for longer training sessions.*
- 2. To change the timetable as it clashes with our end of block exams for our medical school. Move the training month to mid-August to September.*
- 3. We were fortunate to receive some gastro consumables and drugs from your donations.*
- 4. Two gastroenterologist to come as the current program requires one to teach endoscopy and one with clinical teaching.*
- 5. Some doctors / nurses to come for subsequent visits as they know the issues/ situation here.*
- 6. Improved communications/ coordination so that special clinics for different gastroenterological cases can be organized.*
- 7. ERCP work would be novel for us and yet very relevant.*
- 8. Need recovery trolley for proper recovery of patients.*
- 9. More registrars to be attached with the team.*
- 10. We should have sufficient cases to be booked and allow more time to the nurses to have lectures and sessions with the Nursing Trainers.*

Conclusion

The trip provided a valuable self-learning experience. Dr Joji Malani was instrumental in making the visit such a positive one due to his passion, commitment and enthusiasm.

The group uniformly agreed that a number of issues require future discussion. The included:

1. Equipment supply: There is an ongoing need for equipment donations to Fiji to support the endoscopy practice. We should give consideration to doing this as an ongoing exercise rather than just at the time of the four week block . Arrangements for donated goods need to occur in advance to allow for this to be endorsed by high level management of potential sponsor companies and service providers. Lastly, the service would benefit from the donation of a heater probe and this has been requested from the WGO as well as industry.
2. Unit nurse co-ordination : Ongoing GENCA support is crucial to further Fijian nurse development (including education provision covering the basic principles in OH&S, Infection Control, endotherapy, importance and relevance of peri-procedural assessments for patient safety) as well as unit management including development and implementation of systems to ensure safety and communication in the peri-operative endoscopy period, systems organisation for equipment such as the reprocessing machinery, endoscopy processors, portable suction stations, anaesthetic equipment and diathermy. Options include increased regular visits from GENCA and perhaps their corresponding New Zealand counterparts, or sponsorship to provide an extended length of training time spent in a high volume Australian centre.
3. Equipment use: Whilst the education programme in endoscopy providence training in basic therapeutic techniques which can be used to safely improve patient clinical outcomes (such as treatments towards peptic ulcers and variceal bleeding), due to the limitation of supplies, some guidance is needed to facilitate best use of the available stock. This may also extend to encompass the best outcome use of available PPI donations.
4. Specialist endoscopist development: Whilst extra sessions during the year may assist by maintaining a standard of education and training, an alternative option may be to invite a senior Fijian specialist and a nurse manager to train in a high volume centre within Australia or New Zealand to develop 'expert' level competence. This has been flagged as an area of discussion previously and the group concurs with previous recommendations. The team repeated the discussions that were commenced in 2008 in regards to optimal numbers of endoscopy candidates and optimal turnover per lists. It is clear that patient numbers have been increased per list, however, many candidates were exposed to training during the month, rather than a few 'selected'.
5. H.pylori testing and treatment: now that an inexpensive and easily prepared rapid urease test is available, a method of quality control of the test is required on a regular basis. Furthermore, a co-written document requesting PPI based on the Asia Pacific recommendations for therapy should be formulated in order to assist the medical and surgical patients obtained access to PPI based, and hospital initiated eradication therapy. A clinical audit is being conducted and may help to serve as a future surrogate marker of prevalence of disease.

Visiting clinicians need to encourage their colleagues to volunteer their time or equipment to the initiative in Fiji as an experience that is mutually beneficial. This would ensure a greater commitment to training of Fijian specialists in endoscopy.

Acknowledgements:

The visiting GeFITT team members uniformly wish to acknowledge the assistance provided to deliver this programme by Dr Thein Htut, Dr Finaly Macrae, Dr Peter Katelaris and Dr Joji Malani. The members also acknowledge the generous donation of equipment and medicine from individual hospital sources and companies including Cook, Boston Scientific and Given Imaging.

The team acknowledges the strong support of the World gastroenterology organisation and its president, Dr Eamonn Quigley. In doing so, the WGO has assisted in the delivery of the third year of the annual programme at the SUVA WGO gastroenterology training centre for the Pacific Island Countries.

Figure 1: education timetable

	Monday	Tuesday	Wednesday	Thursday	Friday
8-11am	<p>Ward Round (Start at CCU CWMH)</p> <p>Endoscopy Session (9am – 12 MD)</p>	<p>Ward Round (Start at CCU CWMH)</p> <p>Endoscopy Session (9am – 12 MD)</p>	<p>Ward Rounds (Start at CCU CWMH)</p> <p>Endoscopy Session (9am – 12 MD)</p>	<p><u>8-9am</u> Pathology Session</p> <p><u>9-11am</u> ward round: (Start at CCU CWMH)</p> <p>Endoscopy Session (9am – 12 MD)</p>	<p><u>8-9am</u> Xray Session (Xray Department: CWMH)</p> <p><u>9-12MD</u> Ward Rounds (Start at CCU CWMH)</p>
11-12MD		<p>Bedside teaching with MMED (Mens Medical Ward)</p>		<p>Clinical rounds with the MMED candidates</p>	
1-2PM		<p>Lunch Hour CME Lecture (CWMH Auditorium)*</p>	<p>Lunch Hour CME Lecture (CWMH Auditorium)</p>		
2-4.30PM		<p>CWMH Medicine Department Meeting (Medical Registrar Room)</p>		<p>MMED Teaching Module</p>	<p>Diploma of Medicine Teaching Module</p>

Figure 2: emergency bleeder box and check list



CWMH
ENDOSCOPY Unit
EMERGENCY BOX CONTENTS

All contents of the box should be checked and replaced when missing each time the box has been used for an emergency procedure and the seal had been broken.

Six shooter banding	X2	✓
Clips	X4	✓
Injectors	X4	✓
Normal Saline ampoules	X10	
Adrenaline	X10	to dilute with n/saline for 1:10,000 dilution
10 ml syringes	X5	for the 1:10,000 solution to be injected ✓
Biopsy forceps	X2	✓
Heater / gold probes	X2	✓
Kidney dish	X1	to hold water for flushing ✓
20 ml syringes	X5	for flushing scope ✓
Infacol	X1	bottle ✓
Lubrifax	X1	bottle ✓
Gauze swabs	X20	✓
Mouth Guards	X2	✓
O2 Tubing	X2	lengths ✓
Drawing up Needles	X1	box 19 fg ✓

Date: Restocked by (name and sign)

Figure 3: H.pylori rapid urease test kit: left to right: positive, indeterminate, negative

