

## August 1999 Newsletter



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# Hospital Twinning Project

## Purpose of Visit.

Assess the Condition of the Biomedical Equipment at the Hospital.

Repair as much as possible.

Provide Training to staff in the operation, care and maintenance of the Biomedical Equipment.

**Medical Equipment Management Project.** Mr Bob Daly, Port Moresby, PNG.

## **Mendi, Southern Highlands Province, Papua New Guinea.**

### **General observations:**

Examples: General communication POOR Nobody Knew I was coming!

Viewed with suspicion

Different behavioural patterns EXAMPLE Football team

Blood Bath!

Betel Nut

Machetes were visible, even children carried them.

Communication with the outside World depended on the TeleKom Ariel on the mountain not being destroyed. Satellite phone sometimes available.

### **The Hospital:**

I was prepared for the worst, saw it, smelt it and got stuck in it. Dogs freely roamed the grounds, although there were mild ineffective gestures to keep them out. Certain areas it was not the dogs that I could smell and with an open rubbish tip 25 metres from the biomedical shed it was not too pleasant an atmosphere to work in. The drains didn't work

and any foreign body that needed to be washed out of equipment ended up floating around the hospital grounds.

I visited all the areas and they are all as bad, even theatres, with a broken boarded up window the smell still permeated into this area. At least some attempt was made to keep the theatre floor area reasonably dirt free.

### **The Equipment:**

The lack of basic equipment was quite apparent, such as thermometers, stethoscopes, blood pressure machines, laryngoscopes and basic diagnostic aids. Those that were found were soiled with human waste, bodily fluids, blood and sputum. Most of the Laryngoscopes did not have a range of blades and in most cases a large adult blade was forced down the throat of a child. Any donated equipment was only supplied with the lamp it came with and no spares for example. There was no conformity to the equipment and therefore limited cannibalising.

All suction units were misused resulting in the vast numbers that did not work and those that still had some sort of vacuum were passed from patient to patient using the same FILTHY suction tube.

I started with the basic equipment, emphasising the cleaning and returning to "as Good as New" condition, training the chosen member of staff (electrician) in the ways of biomedical engineering and safe working practices.

In the week I was there I achieved in at least ensuring that each area had a working blood pressure machine, that the Oxygen Regulators were calibrated and all areas had a working suction pump. The remainder of the time was spent in training the electrician (Tobias), Nursing and Medical staff on how to use the equipment and care for it.

The Oxygen Regulators were in a dangerous state due to the mishandling and wrongly connecting to cylinders. I went through the procedure of stripping down one regulator that was faulty and was not surprised at the contamination inside. I have given Tobias drawings of the necessary tools, that can be made locally, that are needed to safely disassemble the regulator.

I have air freighted a dozen service kits for these regulators (out of date for Australia), but perfectly good and can be used safely in PNG.

They have a new anaesthetic machine in one of the two theatres but only minimal training by the BOC Ohmeda technician that installed it. The Anaesthetist is a trained technician and not a Doctor. The oxygen sensor was faulty (no spare) and the next service visit was uncertain.

Equipment in theatre such as the diathermy machine desperately needed new patient plates and pencils, none of the pencils had both switchable functions, in fact they were

permanently ON. The Biomedical workshop had a brand new blood warmer with a dozen giving sets, no instructions, apparently a donation from AusAid which I commissioned into service to the delight of the anaesthetic technician. But that will only last as long as the disposables.

The Intensive or High Dependency Unit had a brand new Defibrillator tucked away in a corner and nobody, including the Medical staff knew how it operated. It also had a flat battery.

I conducted several, well attended training sessions on the care and use of the defibrillator. But without a manikin to shock I cannot be certain that all fully grasped the need to apply the paddles to the patient's chest. Luckily I had taken an ECG simulator with me and had to tuck it inside my shirt to simulate that I was connected! They did know about the application of ECG electrodes.

An area was chosen for the new Biomedical Workshop which was of a suitable size and would only require a concrete floor and solid walls, as there was already a serviceable roof. The layout of which needs to be planned and constructed with suitable wet, dry, clean, dirty, storage and paperwork areas otherwise it would end up being yet another dumping ground.

I was approached by Mosses Koha, Director of Mendi and District Health Division, with regards to the equipment at the Outpost Stations and First Aid Posts in the Southern Highlands. This is a fairly large area, some 400,000 people live here (about the size of the lower South East of SA.), is separately funded and not part of the hospital. This could be addressed by the local Biomed once trained to provide additional much needed revenue for the hospital.

I cannot see Mendi being everybody's "cup of tea" especially in these early stages but I would be willing to return and provide the much needed hands on help that they desperately need to at least get them out of the gutter, for want of a better word.

I have an inventory of most of their equipment plus they need basic equipment. Laryngoscopes for example are there, but they are of different makes so are not interchangeable, there has to be some sort of conformity.

It was a very intensive week and I was pleased with what was achieved in such a short time. There is much to be done especially in properly setting up a biomedical department and staff training.

Ian H. Hill

Chief Biomedical Technician

Mount Gambier and Districts Health Service Inc. 7<sup>th</sup> May 1999.

CONFERENCE CALENDAR

**October 24-28 EPSM "The Next Generation" Gold Coast QLD**

. "47th annual meeting of the cardiac society of Australia and New Zealand" August 8-11  
Wellington NZ

**"24th World Congress of the International Society of Cardiovascular Surgery" Sept 12-17  
Melbourne**

"21st Annual International Conference of the IEEE Engineering in Medicine and Biology Society"  
Oct 13-16 Atlanta Georgia USA

**"Medax-12th International Exhibition on Hospital Supplies and Medical Technology" Oct  
18-21 Tel Aviv Israel**

"50th Annual Meeting of Royal Australasian College of Radiologists" Oct 21 26 Sydney

Information on the above is available from the editor or president

E. & O.E.



The  
Institution of Engineers,  
Australia

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*THE COLLEGE OF BIOMEDICAL ENGINEERING &*

**THE NATIONAL PANEL ON CLINICAL  
ENGINEERING**

**PRESENTS**

**the 2<sup>nd</sup> ANNUAL TRAINING WORKSHOP**

**on 23<sup>rd</sup> and 24<sup>th</sup> October 1999**

**at the Watermark Hotel, Surfers Paradise**

In order to maximise opportunities for development of practitioners within Clinical Engineering, a development workshop is being held immediately prior to the EPSM '99 conference on the Gold Coast between October 25 and 28. This workshop will focus on Clinical Engineering and is being hosted by the College's National Panel on Clinical Engineering.

### **AIMS**

The workshop is intended for emerging or developing Clinical Engineering practitioners at all levels of academic qualification, currently practicing within the field of Clinical Engineering. It aims to provide the forum and opportunity for these individuals to extend both themselves and their Biomedical Engineering knowledge, to mentor with experienced Clinical Engineers and to establish or enhance networking opportunities amongst their peers.

Participants are expected to provide significant input in terms of presenting on a chosen topic and hence must be sufficiently motivated so as to participate successfully.

### **DETAILS**

The workshop is planned to be of one and a half days duration on the Saturday afternoon and Sunday immediately preceding EPSM '99. The venue has been chosen to be separate from the conference venue, with accommodation for the Saturday evening and meals provided. It is expected that travel to and from the Gold Coast and conference attendance will be funded by the attendee or their employer. Full details of the venue and arrangements will be forwarded to participants, but they must be able to arrive prior to midday on the 23<sup>rd</sup> October.

### **APPLICATIONS**

Application forms and further details can be obtained from Ms Trish Grice at IEAust on

02 6270 6548.