

NEWSLETTER MAY 2000

Part 2 Twinning Project "Biomedical Engineering" in PNG by Ian Hill

CSSD

There were two large wall mounted steam sterilisers, one of which had a faulty temperature gauge. Tobias seemed to think that he was getting to the bottom of it and would have it up and running again fairly soon.



Theatre 1

The main operating room had a new Datex-Ohmeda Excel Anaesthetic Workstation with Halothane Vaporiser, 4700 Oxicap, 7000 Anaesthetic Ventilator and a Hewlett Packard MiniShot 78352C Monitor. The oxygen concentration couldn't be measured and naturally wouldn't calibrate on the Oxicap and there were no back up gas cylinders what so ever. The oxygen and nitrous oxide cylinders were free standing in the corner and there was no scavenging system. There was also a new Fisher and Paykel open resus. cot with Neopuf, Twin-O-Vac and two oxygen flowmeters (different makes, Precision and CIG). The suction unit had a clogged gauge and had low suction only. The aging operating table would not hold its height setting. The Valleylab SSE2L ESU had only a



small sticky back plate electrode that was well past its usefulness and a box full of broken diathermy pens, it was in a positively dangerous state. The pens were "hot" in either cut or coag depending which was plugged in and the only control was via the output setting knobs or turning the whole unit off. The Sigmoidoscope had a blown bulb and the Surgeon didn't know how to assemble it. The Wisap Insufflator was adorning the cupboard with no CO2 cylinder.



The Hospital asked me to convey their sincere thanks to Kevin O'Brien for the generous donation of back plates and pencils for the ESU. The GP's, now taking on the role of Surgeons, were also extremely pleased as it made their difficult task somewhat easier!! There are now no Surgeons at Mendi therefore the elective surgery list is performed by Doctors.

Theatre 2

Sterility with a boarded over broken window was non existent in our standards of healthcare and the only effort was in maintaining the number of people in either operating room to the basic minimum.



An old non pin indexed N2O Regulator connected to a very basic Boyles Anaesthetic machine hovered in the corner. The LifeScope OEC-6102K had flat batteries and the Millenium Bug; not that anyone would even notice if they used it. One of the two Halothane vaporisers was not working, the pulse oximeter needed a new probe and again the laryngoscopes were lacking a range of blades. There was a small bench mounted autoclave and a Storz Light Source with a blown bulb but no light lead. The Bird Respirators Mk7, Mk8 and Mk10 were still chuffing away but would require a major service. I found the Olympus Gastroscope in the Administration Department but no light source apart from a Fujinon unit that had a rodent population lurking inside. The Midget Anaesthetic machine was in suprisingly good condition considering the number of times it was thrown into the back



Theatre 2 (note the stained linen)

of a twin cab to attend a RTA.

Dental Department

The Ainsworth Whetstone only had one grade of grit wheel, which was not suitable. The remaining laboratory equipment was in a serviceable condition. The Ultrasonic Scaler didn't work, the motor didn't work on the belt driven polisher, the mouth rinse taps had no water flow due to blocked venturi jets. All the remaining equipment was just satisfactory.

Tobias arrived the next day and his office hadn't changed apart, from his desk, which had grown leaving even less floor space. The office was again filthy and needed cleaning out before a start could be made on servicing the well overdue oxygen regulators and flowmeters. All the oxygen regulators were serviced and I am surprised they didn't explode with the amount of contamination inside. I had noticed a marked improvement in the ward areas as we serviced each area throughout the hospital. There were isolated pockets that needed to be worked on, but in general I hadn't noticed the stench that I remembered from my last visit.

The equipment was beginning to look grubby again and hadn't been kept clean. There was no ECG cable for this machine and the appearance was indicative for most of the equipment.

This time round, I was observing and correcting how the staff were actually using the equipment plus stressing the importance of keeping everything looking like new.

The humidifiers were all full of algae and badly stained and still being passed from patient to patient. The supply and introduction of oxygen "T" piece connectors enabling two flowmeters and humidifiers to be connected to the regulator alleviated this problem, after all the bottles were scraped clean and sterilised.

I was constantly monitoring the use of the flow therapy equipment and I think that the message finally sank in after a tutorial with all the senior nursing staff, where I invited them to choose which of the "good", "bad", or the "ugly" humidifiers they would use for themselves.



The senior nursing staff decided on the best positions to mount the sphygmomans on the walls, 2 in ICU, 2 in A/E, 1 in Surgical, 1 in Delivery and 1 in the Children's Ward. I found an old mobile sphygmo stand discarded in a cupboard and this was added to one of the A/E units. During the weeks, I found more of these stands but left Tobias to sort out the remounting should he be asked. All of the laryngoscopes were repaired as too were the combination Otoscopes mainly all needing new bulbs, luckily I remembered to bring a selection of spares, or minor adjustments to make them work. The defibrillator in ICU worked, was still plugged in and covered in dust. Unfortunately due to the huge voltage fluctuation of 185 to 250 plus the lightning storms that appeared every lunchtime both fuses had blown plus damage to the battery charging circuit resulted in having to send the defib to Lae for repair as it was not possible in Mendi. The cost of spare parts in PNG is astronomic and you could pay just over \$1,100 for a pulse oximeter finger probe costing only \$400 here in Australia.

I have shown Tobias how to look after the Theatre instrumentation and to do minor repair work and cleaning. With regards to cleaning, the area behind the sterilisers was a dumping ground, as too were any non inhabited areas, and was cleared before we even attempted to start to repair the non-working steriliser also covered in decades of dust and droppings of the rodent type. The sterilisers seem to eat up heating elements at an alarming rate, they do not throw out the replaced ones and not having any service records it is hard to determine when anything had been done.

I was all set to be driven to Mount Hagen at the crack of dawn, the first weekend during my second visit, to collect the visiting AusAid/MEMP Biomedical Technician but nobody turned up. The phones were out so I assumed we weren't going and went for a walk up the road to Tari where I was welcomed by friendly locals wanting to take me off into the mountains to a cave full of bones! I wanted to see the waterfall that I had heard about and was escorted by the land owner to the spot and no further.



I was informed by the young boys that appeared (as if from thin air) and were happy to talk to me every step of the way in very good English that there were some "Rascals" about and that the land owner's daughter worked at Kiburu Lodge. She actually arranged a guided bus tour for the following week-end which was fascinating, breath taking and exciting at the same time. The driver knew everybody and we were invited into peoples homes, shown how they make fire, the lattice work for the walls of their huts and spears and arrows. We even came across a few young men with red mud stripes on their faces and carrying the biggest bush knives I've ever seen. I am glad the driver knew them as I could sense a bit of tension in the air and definitely cameras

hidden out of sight was recommended.

Fire Equipment

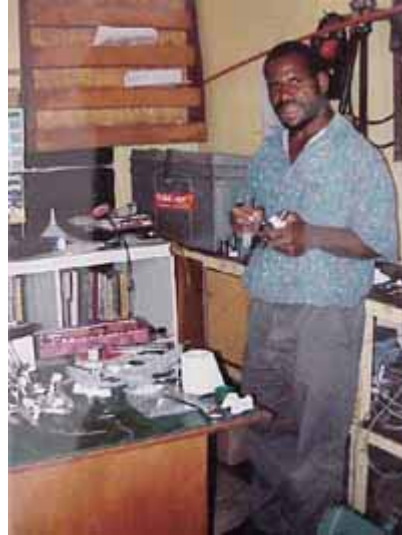
Joseph (CEO) went off to Medang for a meeting and asked me to look at the fire fighting apparatus around the hospital which, at a courtesy glance, looks very good, but on closer inspection was non existent. The covered fire hose reels were empty, the fire extinguishers were empty even though some indicated that they were full and there was no means of turning on the stand pipes to get any water.

On inquiring "what if ...?" the answers were that they would fetch buckets of water and put the fire out. However, nobody could find me a bucket nor a water supply. I did eventually find one hand wheel that fitted the stand pipes but was not game enough to try turning it on in case I couldn't turn it off again. The hoses or what remained of them had been dumped in a door way near to the cafeteria.



The biggest threat would be the resident rodent population of 300+ chewing through an electrical cable causing a fire and the whole place would be raised to the ground. The electrical fire alarm system has already been eaten away. This was a fairly well equipped and built Bush Hospital for its time but through neglect and ignorance is hanging on by its finger nails.

Steven Threlfo, the visiting AusAid Biomedical Technician finally turned up mid week on the last leg of his 5 month circuit tour of PNG and started an inventory check with Tobias. With the inventory check completed in a day and a half, it was time for an electronics and literacy skills test for Tobias. The test had been prepared by NSW TAFE for MEMP. Each selected local technician had to sit this in order to find a starting point for a future 42 week full time course in Port Moresby for a Biomedical Technician's Diploma.



Whilst Tobias was sitting his test, it gave me the opportunity to give some hands on computer tutorials to some of the staff. There is only one working computer and that was in the Inservice Coordinators Office, which I was told didn't have any more room on it. The desktop screen was covered in notepad letters, none of which had been filed in any sort of order, nor did anyone know how to. After tidying up the screen and filing it all away, some of the staff had some idea how to use it. Joseph's computer had blown its hard drive but was still under warranty which meant shipping down to Port Moresby for repair.



There is a lot of equipment that has associated hardware for example the endoscopic light source and gastroscope, one works but not the other, and unfortunately in this instance the most expensive part needs repairing. It would cost around \$4000 for a total scope rebuild and needs to be sent to the manufacturer. The Ohmeda Excel Anaesthetic machine had no oxygen sensing device what so ever and no spare filters for the Oxicap, but boxes and boxes of gas sampling tubes. By the state of the one in use I am assuming it was the original and even more surprised that it was sampling at all due to the blackened filter, whether all these problems will be addressed by MEMP, remains to be seen.

One of the most moving moments that I experienced was the open vocal mourning at death, in this case it was unfortunately a young child, all the relatives joined in the moaning and crying lasting all day until the body was taken home in the evening. You soon get use to this ceremony as there are a great number of deaths.

Tobias and I designed a large wall cabinet to house all of the newly AusAid donated theatre instrumentation (46 medium sized boxes stashed away in the boardroom). There was a suitable wall in CSSD that could house them all. The carpenter was on holiday and hopefully the unit would be built when he returns. We were going to utilise some "new" glass fronted AusAid donated cabinets. These had been stored away for years and were buried under a pile of rubbish in what is going to be the new Biomedical workshop.

Unfortunately, all of the eighteen cabinet's glass fronted doors, through poor packaging (made in India), hadn't survived. Once uncovered and cleaned up, they were spotted by the real owners (Dept. of Health) and reclaimed. We managed to rescue 6 new adjustable beds also buried and got them into use before the Department of Health had spotted them and laid claim to them.



Dept of Health

The last day seemed at first to be a bit of an anti climax as we had covered so much over the past four weeks until a truck brought in what was left of the victims and an injured 3 year old with gun shot wounds from a tribal massacre. The Biomedical workshop is next door to the mortuary and not wanting to be swept up in what was going on, I went for a final ward round. I was given very graphic details of what had taken place on my return.

A farewell afternoon tea was provided for my departure where much speech making and fond farewells were exchanged with a presentation of a wooden PNG bird of paradise carving for my office, a billum bag, some local basketry and a few trinkets for my wife (Dog's teeth necklace!).

I left Mendi feeling totally drained, emotional but extremely satisfied with what I had accomplished. I had made a lot of new friends and they had made me feel very welcome with their friendly hospitality and eagerness to learn.

Conclusion

The project was a huge success with the bonus of meeting with the visiting Biomed from MEMP in so far that I am confident that there will be continued support and training in this field. There are two full time training courses scheduled, the first for 26 weeks and

the second for 42 weeks starting in February 2000.

All the staff were pleased to see me again, giving them the added confidence that they were not alone, and throughout the weeks working with them there was a marked improvement in their working practices. The ancillary staff were actually going round, without prompting, picking up rubbish and removing dust and cobwebs. The roaming dog problem still remains so to does the open rubbish tip.



Additional areas we touched on:

Health and Safety issues, which was non existent;

Infection Control, which was minimal;

Standard Operating Procedures, never heard of, but thought to be an excellent idea;

Fire Fighting, which was non existent and;

Basic computer skills, file handling and the Millenium Bug.

First of all my thanks must go to Chris Overland (CEO) and the Mount Gambier and Districts Health Service Board of Directors for allowing me to return to Mendi. My thanks to Joseph Turian and the Mendi General Hospital Board of Directors for the lavish accommodation and sustenance supplied by Kiburu Lodge during my stay in Mendi. Apparently my previous stay at the Lodge was free of charge, so I hope they get just as good a deal this time. I would also like to thank Yellerman (a reformed mass murderer!) for transporting me back and forth each day and hopefully he gets over his bite marks from his intended inlaws. Four Pigs and K4,000 was not enough for his chosen bride.

Kiburu Lodge



Ian H. Hill

Chief Biomedical Technician December 1999

The following article from the Papua New Guinea Weekend National newspaper of February 4-6 2000 gives a insight into the not so pleasant side of PNG.

CANNIBAL SHOCKER. Police reveal horror in Madang village.

A MAN killed another man and then ate his eyes, testicles and heart in a shocking act of cannibalism in a remote part of Madang province this week.

Angry relatives, shocked at the gruesome scene, attacked and killed the alleged killer and chopped the body to pieces. Police who were treating the situation as a double murder yesterday reported the gory story of how the 35 year old man, in a fit of anger, chased his victim, killed him and then ate the body parts.

"He gorged the eyes, testicles and heart out of his 58 year old man and ate them. The villages stood and watched in shock," provincial police commander Superintendent Ben Simanjon said from Madang yesterday.

According to Supt Simanjon, an argument had erupted between the two men, Yakamp Makatu and Moropia Silkapi, at the Ono Works camp.

Mr Simanjon said Silkapi had gone to Makatu's village and burnt down his house after an argument. Makatu retaliated by chasing Silkapi into the bush where he chopped him in the face with a bushknife.

"Though Silkapi was injured and covered in blood he managed to fend off Makatu and chased him," Mr Simanjon said. He said when Silkapi eventually caught up with Makatu, he got a rock and smashed it on his head, killing him instantly.

Mr Simanjon said after killing him Silkapi committed the act of cannibalism. He said after seeing this gruesome attack, the villagers chased the killer into the bush and tied him up after catching him. He said Makatu's relatives learnt of his death and took revenge by chopping up Silkapi into pieces while he was still tied down. Police were called in to investigate the incident but the villagers had all fled into the bush taking with them the bodies.