

## Kalene Mission Hospital Medical Newsletter. Quarter 1, 2011

As Kalene hospital continues to get busier and to develop, we continue to be grateful for progress made and the assistance of many people.

### Building projects

Perhaps the most significant development in the last few months has been early progress on the construction of the new theatre block and high dependency unit. This will help us to look after sick patients more effectively as well as to perform complex surgery in a more aseptic and safer environment. The initial phase of construction, including laying the foundations and brick work has been helped by a team from Brass Tacks.



Overview of the new theatre complex. At the back of the T will be the new theatres. In the limb of the T there will be a six bed high dependency unit.

A second building project, made possible by renovation funds provided from CHAZ (Churches Health Association of Zambia) has been to build an extension to the HIV block. This project has been helped by a team of 13 from Bryndwr Gospel Chapel, Christchurch, NZ, who came for three weeks. The foundations were in place on their arrival and the walls and roof were up when they left. Members of the team were also involved in a range of mission activities and an electrical engineer had an interesting initiation to working on medical equipment (including the ultrasound and anaesthetic machines).



New CHAZ HIV block, with ablutions, offices and store room

### Staff and visitors

The hospital has welcomed Dr Peter Gill, an orthopaedic surgeon from Sunderland, UK. Peter has visited Kalene for 14 years and was instrumental in the planning and development of the hydroelectric scheme. He will now be coming to Kalene for two separate three month spells each year. This will result in a further improvement in the hospital services and will also lead to a wider range of complex orthopaedic referrals.



Dr Peter and Dr John operating together. Peter is removing a fractured plate from the mandible, and John is harvesting a rib.

I have also been very grateful for the help received from our two Zambian doctors, Drs Fred Kapaya and Nkomba Chamileke, who have been a great help in the medical and on-call work of the hospital. We have also been helped in maternity by Julie Watson a midwife from Palmerston North, who visited Kalene with her husband Barry for six months. In terms of training we were also joined for three months by Drs Paul and Katy Barker from the UK, who will be joining us again in 2011.

Dr Gill has helped to supply the hospital with a wide range of orthopaedic, medical and surgical equipment. This includes a range of orthopaedic minor fragment sets, AO plates and screws, external fixators, power tools and also laparoscopic and arthroscopic surgical equipment.



External fixator

While the use of the arthroscopic equipment has been straight forward, the initial use of the laparoscopic equipment was more challenging. Following identifying and fixing a leaking washer (between the CO2 cylinder and the insufflator) there were some unwelcome anaesthetic difficulties. I thought that laparoscopy would be helpful with the diagnosis of ascites. However the first two patients, who were clinically 'reasonably well' and had no cardiorespiratory symptoms or signs, both decompensated following the initiation of anaesthesia. The diagnostic yield of the procedure was also uncertain (biopsies awaited). The algorithm for work up of 'difficult to diagnose ascites' clearly needs some more work and development!



Laparoscopy: Aspirating ascites through the Hasson cannula



Arthroscopic equipment in use

## Surgical Sign Off

### Advanced breast cancer with Latissimus Dorsi flap

Most breast cancers are advanced by the time of presentation. Screening is unavailable and there is a greater stigma associated with mastectomy here than in NZ. We have recently had further discussions with the oncology unit in Lusaka (1000km away) and are hoping to refer more patients there for chemoradiotherapy in the future.

This patient presented with a history of 'deformation and shrinking' of the left breast over five months. This process had been so extensive that there was almost no normal breast tissue remaining, and there was no tissue available for the formation of flaps.

We therefore elected to reconstruct the defect by using a latissimus dorsi flap. At mastectomy it was possible to get reasonable local clearance by resecting part of pectoralis major en bloc with the breast. The patient was then repositioned so that the myocutaneous flap could be harvested (taking as much overlying skin with the flap as practical).

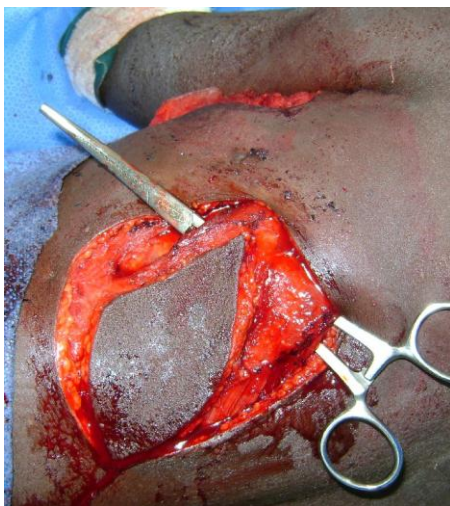
The following photos show the flap in the surgical defect before closure, and the final postoperative result.



Preoperative view



Latissimus dorsi flap sitting in the chest wall defect after mastectomy



Patient on her side with the Latissimus dorsi flap being harvested



## Soave Procedure for Hirschsprung's disease

Taking on a technically difficult procedure like this, in a young patient where things can easily go wrong, is preceded by a lot of thought, planning and the arrival of someone who can help!

The first problem was identifying the transition point in the colon, in a patient who had a stoma in place, no radiology available and no frozen section available! The solution was to do a mini laparotomy and a series of full thickness biopsies around the colon. The second problem was technical, as I had never seen the procedure done before. During our last visit to New Zealand I therefore visited the department of paediatric surgery in Christchurch to observe the procedure, and was donated a Lone Star retractor (which was very helpful). I was also able to receive advice from paediatric surgeons who had worked in Nepal and Kenya.



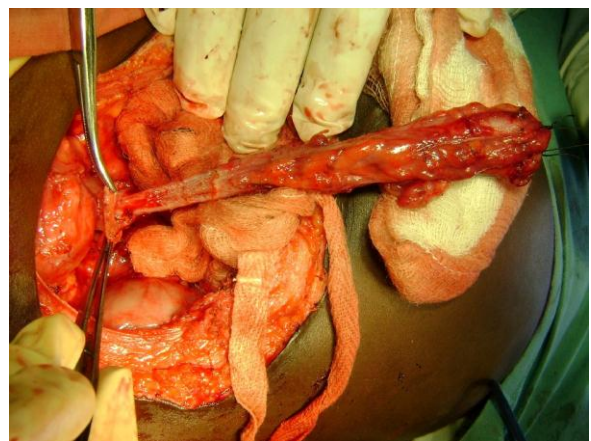
Dr Allen and Dr Paul Barker giving the anaesthetic

The third problem was having someone to help anaesthetise and look after the patient. This was made possible by the visit of Dr Raymond Allen, a paediatric anaesthetist from Northern Ireland. We managed to arrange for two patients to come when Dr Allen was available. One had to travel 300km to the hospital.

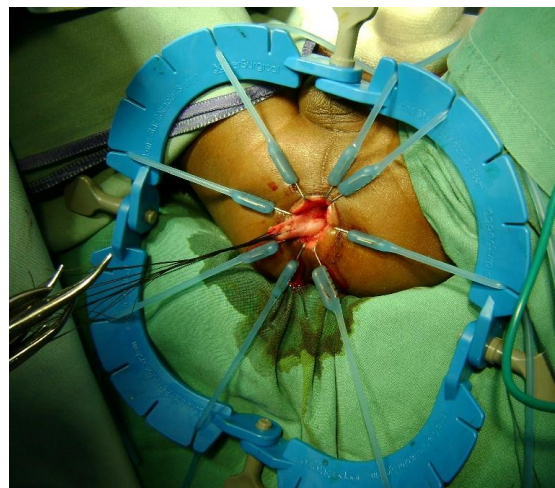
The following patient had a sigmoid loop colostomy and a transition point in the upper sigmoid colon.



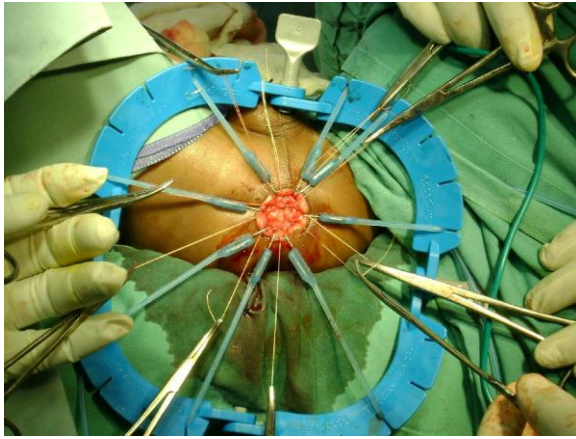
The descending colon is mobilised down to the symphysis pubis (and a little bit further)



Dissection from above between the muscular and mucosal layers of the rectum. In a young child the nerves are so close that it is reassuring to be performing the dissection inside the wall of the rectum (while in the adult you would usually be operating outside the rectal wall)



Dissection from below, starting almost 2cm above the dentate line, again in the submucosal plane. Once this meets the dissection from above the specimen can be removed trans-anally



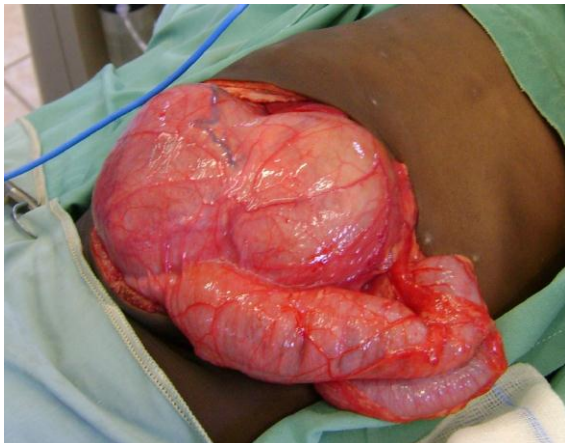
Left: Anastomosis performed from below (with the assistance of the Lone Star retractor)

The two patients who received the operation both developed fevers postoperatively, but following a course of antibiotics both made a good postoperative recovery.

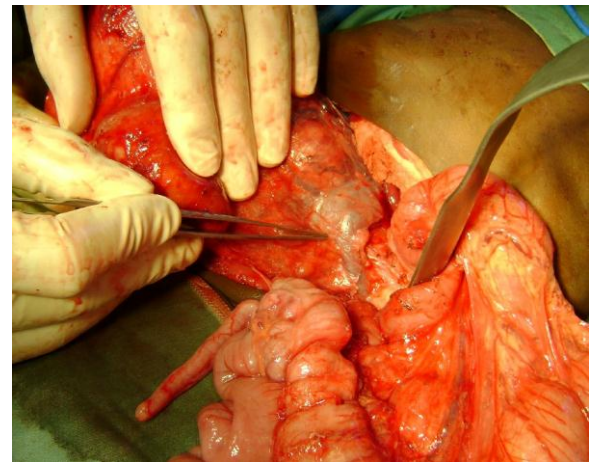
Thanks again to all those who advised, donated equipment and helped!

### Wilms' tumour

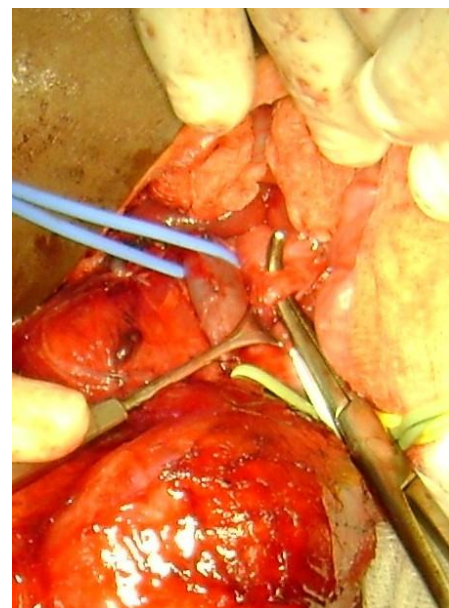
Another patient who travelled approximately 300km, was a 2 year old boy with a Wilms Tumour. A core biopsy confirmed the diagnosis. The mass was so large that we proceeded to preoperative chemotherapy (I was concerned that it was not resectable).



Initial view at laparotomy, using a transverse incision. The mass is not the liver, it is the Wilms tumour.



The tumour is behind the surgeons hand. The tissue forcep is pointing to the IVC, which was free from tumour.



The IVC is looped and retracted slightly to the right. The right angle forcep is placed around the renal artery (before it runs behind the IVC)

The boy made a good postoperative recovery and is currently on a chemotherapy regimen using vincristine and actinomycin D.

## Foreign body in the airway (2 cases)

Fortunately major airway obstructions are infrequent occurrences. We recently had two cases.

This 10 year old girl was hooked by the operculum of a fish! After catching the fish she attempted to kill the fish by biting it. However the fish ended up embedded behind the uvula in the palatine arch (pulling its tail resulted in the fish digging deeper into the arch). On initial oral examination there was nothing visible, but on coughing the tail and body of the fish could be seen 'emerging' into the oral cavity.



Tail of fish after it had been dislodged from the palatine arch



This fish didn't taste too good  
View after removal using ketamine for sedation.

A more life threatening scenario was with a 7 year old girl, who presented in a very distressed state five days after swallowing a bead (used to braid her hair). The family had travelled for four days to reach the hospital. She had decreased air entry on the right. She then had an episode of coughing which was followed by dropping her saturations and no air entry on the left (opposite) side. CPR and an emergency chest drain insertion into the left side resulted in us being able to 'retrieve the situation'. It appeared that the bead had moved from the right bronchus, blocked the trachea and that during CPR it had ended up being 'pushed down' into the left bronchus. A difficult problem with no rigid bronchoscope, and certainly no paediatric bronchoscope!

Fortunately Dr McAdam at Chitokoloki had managed a number of these cases. Following stabilisation and transfer it was fascinating to see how equipment had been modified for the problem! The bronchoscope was a 5mm laparoscopic camera, with a fine biopsy forcep and a fine suction catheter attached.



The laparoscopic bronchoscope



Grasper holding the Bead (with 'laparoscopic' light source)

With a team of doctors to look after the anaesthetic and airway we proceeded. The bead was identified low down in the left main bronchus, but could not be dislodged by a Fogarty catheter balloon, and could not be accessed by the grasper. After tracheostomy, removal was still surprisingly difficult. This was only possible after the bead slightly rotated, enabling one jaw of the tissue forceps to be inserted into the central hollow of the bead.

## Empyema

This 8 year old boy presented with a short history of fever and cough. He was hypoxic and had a massive empyema filling the right pleural cavity. At chest drain insertion, an acute bacterial empyema was identified and drained. The following CXR pictures were taken on admission, day 2 and day 4. To maintain his oxygen saturation Dr Paul Barker modified some of our paediatric anaesthetic equipment to set up a CPAP system, which helped to buy us some time for the chest drainage and antibiotics to work.



Oxygen concentrator, chest drain and CPAP set up. The sheet and blanket have been moved off the bed by the patient's family, for them to sleep on!

Wishing you all the best

John Woodfield