

**ANAESTHETIC REPORT**  
**St JOSEPH'S HOSPITAL, KOFORIDUA**  
**JUNE 2007**

**Introduction**

The Motec team spent two weeks at St Joseph's Hospital, Koforidua in June 2007. This was the fourth working trip to the hospital. Dr Edward Acquah, a Consultant Anaesthetist in Oswestry, U.K. made the maiden anaesthetic visit in October 2006 with the Motec Team which prompted the process of change in anaesthetic practice through education and transfer of skills at Koforidua.

There are two experienced Nurse Anaesthetists at St Joseph's who perform all the anaesthetics. The majority of my contact with them was in the orthopaedic theatre where the bulk of procedures are carried out under regional anaesthesia i.e. spinal anaesthesia. I spent a total of 3 working days with them to assess the needs of the department and areas of practice that could be improved.

**Equipment**

*Anaesthetic machines:*

Each theatre has a functional anaesthetic machine with a working ventilator. Although old models, both are in good working order. There is mains electricity with a back-up generator when the main power supply fails, although the generator does occasionally fail and we lost a full day's operating due to this!

Suction is generated through a mains supply and shared with the Surgical team and although not ideal, is an adequate compromise.

*Monitoring:*

The saturation probe does not 'grip' the digit that it is put on properly and the leads are old with the insulation damaged in areas. It does not work consistently with readings randomly varying from 95% to 62% when I checked it on myself.

ECG monitoring is not used unless there is a history of cardiac disease due to the limited supply of ECG 'dots'. My concern with this is that the only inhalational agent used is Halothane which is known to induce cardiac ischaemia & arrhythmias. Early signs of cardiac ischaemia are easily missed without ECG monitoring. I think it would be worth using ECG monitoring in all patients undergoing general anaesthesia.

Blood pressure monitoring is used appropriately in all patients. Capnography is used although the sample lines are not changed as often as they should be due to limited availability.

There is no monitoring for anaesthetic gas concentrations. This would be particularly useful to prevent overdose of halothane and occurrence of adverse effects (predominantly cardiac and hepatic).

*Gas supply:*

There is piped nitrous air available in theatres whereas the oxygen is supplied from large cylinders that are changed as required. My concern here was that the oxygen cylinders were not checked prior to starting each list. On the 2 occasions that we carried out general anaesthetics, the cylinders were empty and needed replacing. This obviously delayed the list but more importantly meant that if there had been any complications during regional anaesthetics, there would have been no oxygen available.

*Airway equipment:*

There is a range of basic and advanced airway equipment in use in theatres. Basic airways such as masks and Guedel airways are available in different sizes. The masks

that I used were not suitable for use. The cuffs were damaged which meant that the seal around the patient's mouth and nose was not adequate and excess pressure could cause injury to the patient. Laryngeal mask airways (LMA) left on previous visits were being used appropriately with good technique. Although I did not use the endotracheal tubes(ETT), a range of sizes were available and the cuffs were not damaged. Laryngoscopes were in working order. Heat and moisture exchange filters were not in use at all. This meant that the circuit and machine were not protected from contamination by the patient's saliva/ sputum. Also this increases the risk of cross contamination between patients. As the main form of anaesthesia is regional/ local anaesthesia, the number of filters required would be limited to those having a general anaesthetic.

My worry here is mainly with the sterilisation/ cleaning of the equipment. The masks and LMAs are soaked in a disinfectant solution. I appreciate that single-use airway equipment is not an option, but I feel that existing equipment could be cleaned more thoroughly. The masks should be cleaned with either a brush or scouring pad to ensure all skin debris and saliva is removed from the mask. The LMAs and endotracheal tubes (ETT) should be cleaned in the same way with an additional brush being used to clean the inside of the shaft of the LMA/ ETT to ensure that any saliva/ sputum coughed up by the patient is removed. Currently, the LMAs and ETTs are being rinsed under running water which is inadequate for cleaning the airways.

#### Sharps disposal:

Following our last visit, new sharps disposal bins have been installed which are well designed and would prevent any accidental spillage and have the added feature of not allowing over-filling. Unfortunately there is also a cardboard bin next to it, into which I saw sharps being disposed of occasionally. There are also a lot of sharps lying around the anaesthetic area and in the airway trolley, which should be entirely free of any sharps. In case of emergency, the anaesthetist is at greater risk of accidental sharps injury.

#### Drug administration:

Drugs are drawn up and diluted as required which is appropriate as emergency drugs are immediately available if required. However, the same syringe is used to administer the drug to different patients. Also the diluted drug is kept indefinitely in the syringe for further use. What I would suggest is that the amount of drug being given to a patient should be removed from the 'main' syringe into a smaller syringe for administration. This would reduce the risk of cross-infection. Also, the syringes should be labelled with the name of the drug, the concentration in mg/ml and the date & time it was drawn up. The syringe should then only be kept for the day as there is a risk of bacterial contamination when stored at room temperature for prolonged periods of time.

### **Patient care**

#### Pre-operative assessment and care:

It was difficult to assess where the pre-operative assessment was carried out. The Nurses were surprised to see me on the Ward prior to theatres to assess the patients. This would be the best place to see patients as they are admitted before their procedures and have the opportunity to voice their concerns and ask any questions. Also the Anaesthetist would have the time to address and deal with any medical issues that are identified.

The anaesthetic chart was used for documentation of pre-operative assessment. Although a new chart has been introduced, there are still improvements that can be made. I am including a copy of an anaesthetic chart that could be used as presented or altered to suit the population at St. Joseph's.

Once the patients arrive in theatre, they are correctly attached to monitoring and intravenous access is obtained before the anaesthetic is started. However before any of this, the patient is made to empty their bladder in theatre with staff walking in and out of theatre. This is neither appropriate, taking into account the patient's right to privacy and dignity or clean, considering the care required in maintaining a sterile environment for orthopaedic cases. The patient can empty their bladder either on the ward before coming to theatre or in the recovery area where there is a toilet for patients.

*Intra-operative care:*

I was impressed with the intra-operative care the patients received. The Nurse anaesthetists were attentive to the patient's questions and needs and responded to them appropriately. Regional anaesthetic techniques were performed proficiently. Monitoring, where used, was interpreted correctly. Consideration was given details such as covering the suction container with blood from the procedure with a cloth so the patient did not see their own blood and become distressed by it.

Improvements could be made by simple actions, for example, covering the patients with a sheet of cloth intra-operatively. Every patient that we performed a regional anaesthetic on complained of feeling cold. This is to be expected as patients lose a lot of heat with the vaso-dilation that accompanies regional techniques. Although the environmental temperature is high, the temperature in the orthopaedic theatre is still cooler than patients can tolerate.

Ideally, regional techniques should be carried out in a sterile fashion i.e. with sterile gloves, an antiseptic solution being used to clean the skin and a sterile field to lay out all the equipment and drugs. I appreciate that this may be limited by cost but efforts should be made to carry out this procedure in as clean a manner as possible.

*Post-operative care:*

This was an area of great concern for me. There seems to be no post-operative monitoring of patients prior to them returning to the ward. There is a clearly designated 'Recovery' room with 2 beds that seems to be currently used for patients waiting for their procedures. Patients are left in the corridor whilst waiting for the ward Nurses to collect them. The patients are taken back to the ward even if they are not fully awake. This includes patients who have had general anaesthetics who are left in the corridor on their backs with a Guedel airway and no oxygen. My concern is that these patients are not protecting their airway (if they can tolerate a Guedel, they have a GCS of less than 8 and therefore are not protecting their airways) and have with a high risk of regurgitation and aspiration. If they must be left unaccompanied, they should be left on their side i.e. recovery position, to reduce the risk of aspiration.

The other issue is that patients can experience acute airway obstruction during emergence of anaesthesia which cannot be treated without oxygen and airway supports e.g. an Ambubag. Neither of these are available in the corridor.

The recovery period after a general anaesthetic is time where the patient is also at high risk of hypoxia without additional oxygen. As there is no monitoring carried out during this period there is no way of knowing about or treating any sustained periods of hypoxia.

The 'Recovery' room could easily be used for the purpose that it has been designed for. It would need a member of staff to be present whenever a patient is in the Recovery room and also an oxygen supply/ suction and a minimum of a saturation probe in terms of monitoring. Observations should be carried out while the patient is in recovery or until they are fully conscious after a general anaesthetic. The patient should not return to the Ward until they can maintain their own airway.

There is no clear hand-over between theatre staff and ward staff which means that the ward staff have no safe and reliable information about what has been done to

their patient, any intra-operative complications or if there is anything specific they need to monitor. The Surgeons write their post-operative instructions in the notes which are sometime indecipherable. As mentioned in previous reports, drugs are prescribed in the notes and not on a drug chart. This means that during post-operative follow-ups, it was near impossible to know whether a patient had received the right drug at the right time from the ticks that were seen next to the drug prescription in the notes. This needs to be addressed and we could possibly send a format of the drug similar to the UK but modified to suit local situations with reasonable safety features to be adapted.

### **Summary and Acknowledgements**

I have tried to identify areas for improvement and made suggestions in the relevant sections of this report. I will be happy to communicate with the Anaesthetic team and the hospital administrators at St Joseph's either by email or by post (via Mr George Asamoah/Bro. John Oppong) if they have any comments/ questions/ suggestions.

I would like to thank Esther and Julius (Nurse Anaesthetists) for their warm welcome. I would also like to highlight the diligent manner that they carry out their jobs with. Working in a difficult environment, they have still managed to take on board some of the ideas discussed on Motec's first visit and I am sure that the improvements will continue. I fully understand the difficulties faced when trying to implement these changes, but even a few changes at a time will result in a safer and more pleasant experience for the patient who is at the centre of our work in St Joseph's.

**Dr Ami Kotecha. Educational Committee, MOTEC**