

Project Report: Lynda Menadue, August 2008-December 2008 returned to the UK Feb 2009

I worked in the Children's Hospital Number 1 in Ho Chi Minh City in Southern Vietnam from August 2008 to December 2008. This is a large tertiary referral centre with 1000 beds and performing over 15,000 procedures a year. They perform general, urology, plastics, orthopaedic, emergency, cardiothoracic, ENT and day surgery. They do not do neurosurgery although VP shunts are readily performed. The hospital has strong links with a number of NGO's specifically "Children Action" (French NGO supplying plastic surgery to burns victims); Heartlink, an international charity based in America which provides cardiac surgery teams and East:West which is building a new cardiac wing for the hospital. Despite this it is relatively unusual for a western doctor to spend any longer than a week at the hospital. Short periods of time although of benefit to the specific children being operated on at the time do not change ways of working or benefit the hospital and community as a whole.

Figure 1: The chief anaesthesiologist and I at Children's Hospital No 1 at the entrance to the theatre suite. The food is part of a traditional feast day in Vietnam.



Figure 2: Myself and one of the anaesthetic nurses preparing for the feast day.



My contact in the hospital was the chief anaesthesiologist who was known to family working in the medical profession in Singapore. After email contact via a colleague in Singapore I was invited by the Chief anaesthesiologist to work with Children's Hospital Number 1 and develop a professional relationship between England and Vietnam. He specifically asked that I cover the first 5 points below during my stay. The sixth was added by me during my stay as I felt there was a major clinical need.

1. Act as a facilitator to training in clinical situations within the operating department environment
2. Support teaching of Basic Life support for theatre and ward nursing staff
3. Introduce teaching of Non-medical staff assistance in advanced life support
4. Support the training of medical and nursing staff in early recognition and resuscitation of critically ill children
5. Encourage development of spoken English language skills especially for medical situations to facilitate training and help local staff benefit from short term NGO visits which are common at this hospital.
6. Raise awareness of pain in children post-operatively, quantify levels and introduce ways to score pain and simple changes to decrease pain levels

I spent a considerable amount of time discussing these objectives with the Chief anaesthesiologist in email conversations before I traveled to Vietnam. I also enlisted the

help of friends and relative who had practiced medicine South East Asia in order to best understand the needs of a healthcare system so far removed from the everyday life of the NHS.

Outcomes of the project (described per aim)

1. I worked within the operating theatre department as an extra medical pair of hands from Monday to Friday 07.30-3pm. During this time I helped out in the theatre, answered any clinical questions that staff and taught medical English terms for procedures that were happening. I would also give opinions and current best practice in England when asked or it was appropriate to comment. There were many informal teaching sessions during this time as would be expected in a clinical teaching environment in England
2. I taught sessions to the operating theatre staff on BLS and teamwork in a crisis situation, particularly encouraging the concepts of preparation for any eventuality, working through consequences of actions, working with all members of the healthcare team.
3. I taught sessions to senior emergency nurses throughout the hospital including; emergency department, Neonatal unit, cardiology unit and surgical wards. These sessions covered the main topics of APLS including, BLS, ALS, Anaphylactic shock, major haemorrhage, septic shock, burns, and respiratory failure. These were 2 hour sessions once a week during November and December.
4. As above
5. During August I performed 4x1.5 hour sessions for social English per week. Adapted to 1.5 hours per week medical English and 3x1.5 social English for September, 3 hours a week medical English and 3 hours a week social English for October. During November and December there were approximately 2 hours of social English teaching per week. During October I observed and supported the staff during short term visits from foreign NGO's doing 1 week sessions of surgical lists in Burns/plastics and Cardiac. This allowed me to tailor my English teaching and also to see the results of my teaching in action.
6. See problems faced by the project below for the project on pain awareness

Anaesthetics in Vietnam

To the uninitiated an anaesthetic in Vietnam looks remarkably like an anaesthetic in the UK. The theatres although older and in need of repair in many cases are very similar otherwise. They are very much smaller though and there are no anaesthetic rooms. The scrub rooms are shared 1 between 2 and there is no "set up" space for the scrub nurse. There is no clean air policy; there is an air conditioner in every room set on 16 degrees with the swing aimed directly at the surgeon/surgical field. There is officially one anaesthetic doctor for every 2 theatres with an anaesthetic nurse in each theatre. All inductions must be performed with one anaesthetic nurse and a doctor or 2 anaesthetic nurses. There is regularly many less doctors than this and in fact 1 doctor for 5 theatres is not that unusual. Generally Theatre 1 is for major cases including upper and lower GI, liver and thoracic work. Theatre 2 is mainly lower GI in small babies such as hirshsprungs operations, mesenteric cysts and umbilical fistulas. Theatre 3 is the emergency theatre. Theatre 4 is mainly for plastics, burns and orthopaedics. Theatre 5 is

mainly urology including some urethral reconstructive surgery. The last theatre in the main block is the cardiac theatre. The day theatres and the neonatal theatres are stand alone theatres away from the main theatre suite. The neonatal theatre suite has 2 theatres – 1 is ophthalmology only and 1 is for general surgery.

Differences

- Every theatre has an anaesthetic nurse but doctors are 1 between 2 at best and 1 between 5 at worst.
- There is no gas monitoring except in the cardiac theatre
- There are 2 Infra-red inline CO2 monitors between 5 theatres and one in cardiac and one in neonatal although the neonatal CO2 cannot be connected with a filter as the connections are not compatible so is rarely used. CO2 monitoring is only used if the ventilator is used. There is one pressure control ventilator in the main general theatre – Ohmeda 7900. The remaining ventilators are Ohmeda 7100s including the one in neonatal. CO2 and iBP at the same time except in cardiac, this was noted during thoracic work.
- All the monitors can monitor ECG but usually only a SPO2 monitor will be used, due to the cost of ECG dots and perceived lack of requirement.

Figure 3: surprising modern “home from home” anaesthetic machine with rarely used monitor on top and regularly used saturation monitor.



Figure 4: surgical diathermy kit with reused patient diathermy plate, this was not changed for the duration of my visit – interestingly no burns were noted



Figure 5: extended t-piece scavenged out of the window



There was no central scavenging so cases not requiring a ventilator are hand ventilated until spontaneously breathing on a t piece with a tube attached to the hole in the bag and scavenged out of the window.

- All children are removed from their parents at the theatre department doors and most are gas induced with sevoflurane or halothane. If required (probably 30% of cases) they are restrained for this. Halothane although commonly used in day cases and in the smaller hospitals appears to be used rarely in the main theatres at

this hospital. Isoflurane is used for maintenance although staff are reluctant to move over to this until a while after intubation. This has obvious cost implications. They were very surprised to hear that hospitals in the UK often don't have sevoflurane in the operating theatre for adults and for children isoflurane would be expected for maintenance in most cases.

- There are very few LMA's and most cases are intubated, although a mask will be held for smaller cases. There was a discussion about introducing the use of LMA's more widely but we felt this was probably not a safe option for a number of reasons mainly my concerns about the ability of the anaesthetic nurses to assess depth of anaesthesia and deal with laryngospasm when a patient is light. A number of trial runs confirmed my suspicions and although I encouraged the concept of LMA's as an option in a difficult airway scenario I did not broaden their use in the main operating theatre suite.
- The day starts at 7am and lists start promptly at 8am, although the surgeon may not arrive until 08.30 or later. Lunch is at 11am (culturally normal in SE Asia) Lists are usually finished by 12-1pm. The surgeons tend to leave the hospital after this and the rest of the staff (except those covering the emergency theatre) sleep till 3pm when the day finishes and they go home.
- The canteen is very good and cheap and used by everyone!!!

Figure 6: Families of patients in the main adult hospital in Ho Chi Minh City



Figure 7: Patients queuing to use the lift in the main adult hospital in Ho Chi Minh City



Some Interesting Cases

Figure 8: One of the surprisingly few cases of malnutrition seen, Children's hospital No 1 is a state run hospital and children under 6 officially receive free healthcare (although this seems to fluctuate depending on the staff assessment of ability to pay) yet I saw far more cases of obesity than I saw malnutrition. This child is 6 years old and 10kg. He has always been small and has not lost weight recently.



Figure 9: The barium swallow of the child in figure 8.

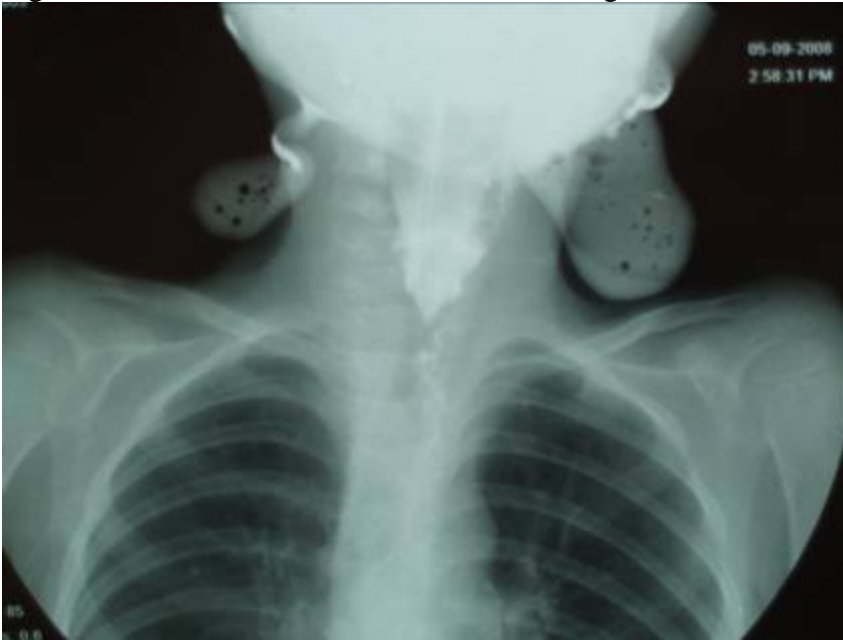


Figure 10: This child was anaesthetised for a splenectomy for splenomegaly due to Thalassaemia. I have included the picture to illustrate some of the gross pathology seen in a developing country and also to note that it was the only time the medical anaesthetists voluntarily did a RSI.



Provide details about any barriers or problems faced by the project and how they were overcome

English

On arrival it was obvious that the English Language skills of the staff within the operating department were significantly lower than originally thought. This was addressed through an intensive formal course of social and medical English lessons. I taught social English only for the first 4 weeks during August until the level of English was high enough amongst enough to allow medical English to be taught as well. During the first 4 weeks I conducted formal English lessons from 3-4.30 Monday to Thursday.

Figure 11



Figure 12:



Figures 11 and 12 show myself teaching in the staff room of the theatre suite. This area was used for teaching English and clinical subjects to the staff

Pain

I noted very early on that pain relief post-operatively was minimal. We had long discussions over how to address this. There were a number of organisational issues around giving the levels of pain relief normally expected in the UK. Firstly morphine is not given in the theatre at all. In the hospital only the burns unit and the ICU can give morphine. It is not given in recovery or on the wards due to concerns about respiratory depression and the risk of clinical incidents given the high patient to nurse ratio. Even if patients are expected to be intubated post operatively or going to ICU for a morphine infusion, they are not given morphine in theatre. NSAIDS are not used at all – reasons for this were not fully elucidated. At first the doctors appeared not to know that they were safe in children but there may be supply problems as well as concerns about renal safety. Local anaesthetic infiltration is not used and senior surgical staff seem to feel this is not a subject that is open for discussion despite senior anaesthetic staff trying to encourage its use.

There are obviously many concerns and problems faced by doctors everyday in this hospital so it is probably not unexpected that post-operative pain is not considered a high priority. In order to raise awareness of post-operative pain and try to encourage questions and consideration of how this could affect clinical outcome we performed an observational study of pain in the recovery room. The main purpose of this was to quantify pain levels; but also to raise awareness, translate and train nurses to use a simple observational pain scale (FLACC) and audit the use of simple analgesia and caudal analgesia which were the two main modes of post-operative analgesia being employed. We also introduced the concept of self reporting pain levels for older children (Wong Baker Smiley faces scale).

Results showed a marked under utilisation of paracetamol with 11.5% getting paracetamol. There was also a relative under-utilisation of caudal analgesia with 24/49 patients with surgery appropriate for caudal analgesia getting a caudal. The use of caudal analgesia varied by site of surgery with 77% of urology patients receiving a caudal but only 43% of lower limb and 20% of lower abdominal patients receiving a caudal.

Recommendations were

- Increase the use of simple analgesia and consider alternative (possibly cheaper) administration routes
- Retrain staff in caudal insertion techniques
- Produce a volume protocol for caudal analgesia

We hope to re-audit these changes later this year to see if there are any improvements in pain levels. The data were presented at the Association of Paediatric Anaesthetists conference in Brighton 2009 as a poster.

Figure 13: The recovery room



Figure 14 and 15 children of all ages including babies (and in fact adults in the main hospital) are tied to the trolleys whilst in the recovery area

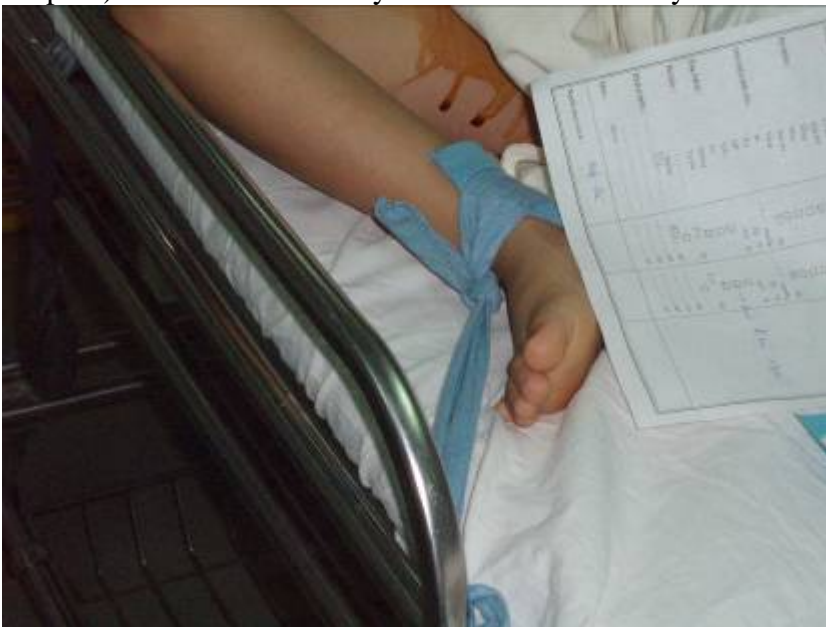


Figure 15



Temperature

At the same time as the pain audit we looked at temperature post operatively. I noticed that the theatres were significantly colder than in the UK. The air conditioners are set to 16 degrees centigrade with the swing directed at the surgeon (ie directly at the patient). These data have not been completely analysed yet but staff from the neonatal theatre are looking into repeating the temperature portion of the audit as NICU staff had noticed neonates coming back very cold from theatre.

Fluids

It was noted that most in-patients came to theatre moderately to severely dehydrated. We worked with anaesthetic staff to train them to recognise this and teach them how this might affect an anaesthetic. We gave them the standard protocol of 20ml/kg fluid bolus to those they feel are moderately or severely dehydrated as set out by APLS protocols. We also used this as a basis for teaching how to manage hypovolaemia from haemorrhage. Stressing a pro-active anticipatory plan during major haemorrhage rather than waiting for the blood pressure to drop and then acting.

Describe any lessons learnt by the project

The most important lesson learnt by doing this project is the affect culture has on how people interact especially during teaching and training. The Asian concept of “Face” although not new to me (I have an Asian Partner) was much more of a distinct barrier to teaching and learning than I had ever imagined. It is also a major barrier to cultivating the “no blame culture” so important for the reporting of critical incidents in anaesthesia and theatre departments. The chief of anaesthesia dutifully set up a critical incident book several years ago which is completely empty.

There is a lot of respect for experience in Vietnam, partly cultural and partly because of the relative lack of an older generation. This means that older voluntary doctors are

likely to be better received. It may also be true that a male doctor would be received more readily than a female. Anaesthesia as a speciality in Vietnam has very little prestige and therefore attracts few doctors and many of the anaesthetists are nurses. The person in charge of the theatre is the surgeon and there is very little communication or management plan initiated by the anaesthetist. The anaesthetist has no input outside of the theatre department doors. In future it may be worth considering taking a surgeon as part of the team even if only for a limited time, as a surgeon – (especially if older and male) would give the recommendations of the rest of the team higher regard.

The initial lack of a common language underlines the importance of communication within healthcare. Although it is worth noting that a large chunk of Asian communication is by body language.

One learns much about oneself during a trip like this – I was alone for the first 3 months of the project and am honest enough to admit that it was a difficult time. I realise now that going out without a team of people was probably the hardest thing I could have done. In future I would probably aim to pursue projects with a team of people and would suggest that other people new to voluntary work should consider doing this.

I would like to point out that for many years Vietnam has been essentially a closed country (and significant parts still are) therefore the concepts explained above are very much the undiluted Asian culture. Having visited other countries in South East Asia over the last 6 months I can say that these concepts are much diluted in many other countries.

What benefits did the project bring to individuals and the communities overseas?

- An increase in the ability to communicate in English has a number of benefits including internet searches, submitting and reading other research. The staff now understand visiting NGO teams better and therefore benefit more from their teaching.
- Increased awareness of the need for post-operative pain control will hopefully benefit every child passing through the theatre complex
- An increase in teamwork and ability to recognise a severely dehydrated or sick child will decrease the number of critical incidents in the theatre department
- An awareness of the importance of temperature control in children of all ages should decrease the rate of blood transfusions, infections and other complications of surgery especially in neonates.
- The emergency and CPR/resuscitation teaching should increase survival from critical incidents. There is consideration being given to simplifying the hospital CPR protocol to bring it more in line with that of Europe. They are also considering introducing a CPR team.
- The concepts of audit and review of practice will help the staff regulate their practice in the future

What professional benefits did I gain?

I added 150 paediatric anaesthetic cases to my logbook, most less than 3 years old. This has dramatically increased the number of paediatric cases that I have logged. I also saw a number of pathologies rarely seen in the UK such as cleft lip and bilateral cleft lip, severe burns, severe malnutrition, hepatic tumours, mediastinal tumours and bone malformations. I worked with the Singaporean cardiac surgery team when they visited to help anaesthetise for complex congenital cardiac anomalies such as Tetralogy of Fallot and total anomalous pulmonary venous drainage.

I am much more able to manage a clinical situation as well as training and management aspects of situations. I have a much better understanding of how a patient's culture affects their attitudes to seeking healthcare and their interaction with healthcare professionals. I learnt about how to change protocols in a system, although the hospital in Vietnam is obviously run very differently from hospitals in England I had my first real insight into how many people need to be contacted to change even the smallest of things.

I learnt a lot about the culture of learning and respect in an Asian country. Despite living in and around London for the last 12 years and studying and working with a significantly large number of "Asian doctors and nurses" I still had no real concept of how different another culture can be and how much that changes how people learn and interact. Religion and belief systems are very well taught in schools but the differences in culture go much deeper than this. South East Asia also has a very different culture from the Indian sub-continent where many of my friends and colleagues come from.

How might the project be sustained in the future?

I am in email contact with the chief anaesthesiologist and a number of the doctor and nurse anaesthetists at Children's Hospital Number 1. I hope to give them practical help with clinical problems and future studies/audits of practice so they can regulate their own clinical practice. It would be very useful for a repeat visit to the hospital to occur in approximately 10-18 months, to reassess pain control and resuscitation knowledge. The hospital I visited is very keen to keep up a relationship with the NHS and would like other doctors to visit.

Thanks

I am sure I relay the feeling of the staff of Children's hospital number 1 when I give my heartfelt thanks to the International Relations Committee of the Association of Anaesthetists for helping to fund my time in Vietnam. For myself I had an amazing if not at times heart wrenching and challenging time which will stay with me for the rest of my life.

Figure 16 and 17 are a couple of photos of Ho Chi Minh City. The floods are common during high tide for about 6 months of the year when the water table is high. Cholera outbreaks are common during this time as well.

Figure 16



Figure 17: This photo was taken outside a school around 4pm where the pupils are waiting to be picked up from school on a motorbike. Children with helmets are extremely uncommon.

