ELECTIVES REPORT

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Electives: Anaesthetics & Intensive Care at Prince of Wales hospital, Hong Kong  
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Prince of Wales is one of the largest hospitals in Hong Kong and with the new addition of the Main Clinical Block and Trauma building, averages over 40,000 operations and 120,000 admissions each year. It is a quaternary centre that both adult and pediatric medical services the New Territories area of Hong Kong and is also a major teaching hospital for medical students from the Chinese University of Hong Kong. I spent eight weeks in the department of anaesthesia and intensive care, where the main objective was to gain clinical exposure and skills important in the respective fields; and to broaden my exposure to different approaches in health care abroad (especially since first year options project was primarily spent at Renji hospital, Shanghai).

In total, five of the eight weeks was dedicated to anaesthesia. The first two weeks were spent in a formal, intensive anaesthetics course designed for the local students rotating through their surgical attachment and thus provided an ideal introduction into the specialty. This involved a combination of lectures to introduce or strengthen both theoretical and clinical knowledge and practice sessions with time shadowing an anaesthetist in the operation theatre each morning. The lectures covered topics including introduction to anaesthetics, pre operative assessment, anaesthetic drugs, safe use of local anaesthetics, fluids, electrolytes and acid base balance, evaluation and management of hypoxia and blood product uses and precautions. The teaching and cases regarding the use of local anaesthetics was particularly useful, as there is not much teaching on this topic in the home medical program but is a commonly used in procedures (such as wound management, local excisions) and anaesthesia settings. These lecture sessions were complimented by simulation and computer based learning during the two weeks.

During the simulator session, an artificial patient was used to test student’s approach and immediate management of an unconscious patient and would be valuable tool for medical students if available at all the teaching hospitals of Sydney Medical School. Complimenting the lectures were online resources, including the FACS cases, which guided the student through various clinical scenarios while quizzing the student on important concepts and presumed knowledge. This was an ideal method to consolidate learning and to detect gaps in the student’s learning, much like the online quizzes provided through the first two years of the home program. There was also a computer based virtual patient, composed of several modules which directed the student from pre operative assessment to the post operative recovery room and was valuable to gain an overview of the importance of planning of anaesthetics and the potential pitfalls facing anaesthetists.

As mentioned, during the two weeks, there were scheduled theatre time shadowing an anaesthetist and was a chance to understand the drugs which were used for balanced anaesthesia, as well as emergency medications or instruments for difficult intubation or sudden disruption of homeostasis. It was an opportunity to polish skills of bag and mask ventilation, which is no doubt the one of the most important skills for students and junior doctors to be proficient at. I now also can appreciate the difference to airway resistance and ventilation that head/neck position and adjunct airways (oropharyngeal masks) make. I also had the opportunity to intubate several patients and for one, used a ‘bougie’ or elastic/plastic stylet used to assist tracheal intubation when there is difficulty visualising the vocal folds. There were also ample opportunities to observe and receive teaching regarding regional anaesthesia (spinal block, epidurals and paravertebral blocks) and also for difficult intubation including fibre optic intubation via the nasal passage. There were also several cases requiring rapid sequence intubation. Although cricoid pressure was mainly for the prevention of aspiration during emergency intubation, I found that it also helped in addition to head position to help visualise the vocal cords.

Furthermore, during these two weeks, there were also scheduled visits to the pre operative assessment clinic to observe an anaesthetist perform a focused history and exam in preparedness for anaesthesia; and also a session with the acute pain team. The morning with the pain team was valuable since measures to measure degree or effectiveness of pain relief, the modes and types of pain relief given were well covered for immediate post operative cases and no doubt useful for when I am a medical officer. In addition, this acute pain attachment, along with the excellent pain lecture was good preparation for the one week that was attached to pain medicine, which will be elaborated later on.

The remaining time in anaesthesia was spent predominantly in the operating theatres for elective or emergency surgeries. This mix allowed me to observe and participate in a large variety of cases ranging from adult and paediatric burns patients, other plastics surgeries, orthopaedics, neurosurgery, cardiothoracic surgery, obstetric and gynaecological surgeries, hepatobiliary and general surgery. As elective case schedules were published one day in advance of the procedure, it was an opportunity to choose cases which were interesting or involved procedures I hadn’t yet seen on my surgical rotation at home. Some cases were particularly memorable, including plastic surgery to...
remove a woman’s nose for nasal basal cell carcinoma, peri operative anaesthetic and post operative management (either in the recovery room or in intensive care) for neurosurgery patients, such as those presenting for evacuation of a subdural hematoma or embolisation of cerebral aneurysms. I was also able to prepare for the case by reading up on the disease or procedure and practice performing a focused history and examination if they were in-patients, not to mention the fact that many of these patients had obvious signs or abnormalities on investigations that even a medical student could detect. Hence, this was one of the most valuable learning activities of the elective.

As mentioned, one week was attached to the pain medicine team which included both acute and chronic pain settings. The morning acute pain rounds were as mentioned previously. In addition though, there were opportunities to attend a chronic pain round and pain clinics. Most valuable was the day clinic at Nethersole Hospital in Tai Po, which is a peripheral hospital which also services the eastern New Territories region of Hong Kong. The morning session involved multidisciplinary team assessment of chronic pain patients for their suitability to attend a group cognitive behavioural therapy program, which has achieved promising results for many. It was a great opportunity to watch the line of questioning and approach to a long term issue and teasing out answers from patients whom may have underlying psychosocial burdens. It was quite a different experience observing the range of patients and also their response to being interviewed simultaneously by the different disciplines with so many people in the room. This is also another observation of hospital teaching in Hong Kong, where it seems that patients are quite comfortable with large group teaching sessions. The afternoon session at the clinic focused more on chronic pain follow up and was an opportunity to review the approach to long term non-surgical (or post surgical) management of neuropathic pain.

There was also an opportunity to go into theatre with the pain team. For this, I observed a case involving sympathectomy for severe pain associated with an arterial ulcer in an elderly woman. This was quite different, as my surgical exposure mainly has seen patients directly under the care of the vascular team with revascularization or bypass grafting as the mainstay of treatment. With the chronic pain round back at Prince of Wales, there was one particular patient whom was in hospital after a suicide attempt and was initially guarded and unforthcoming with information. The most valuable learning outcome was watching the doctor’s approach was questioning and interaction with the patient, she subsequently volunteered more information including admitting the suicidal intent and also the underlying reasons, which were related to loss of hope after failed treatment to relieve her pain, which was caused by wide spread bony metastasis. Hence, the pain week was a valuable experience and I now have greater appreciation of the importance of the psychosocial emphasis on chronic care.

One week was spent solely in the intensive care unit and provided a great opportunity to learn about acute management and life support principles. The complexity of cases not only tested my knowledge and recall of general medicine, but also provided a setting to learn about the severe complications or the considerations and impact on treatment in the emergency setting. The cases ranged from complications of acute heart failure (not uncommonly seen by students on cardiology or critical care rotations) to multi organ failure as a result of septic shock and post cardiac arrest. It was an opportunity to appreciate the multi-system, physiological disturbances that occur even with only ten minutes down time in a cardiac arrest situation, even if immediate advanced life support was administered.

Another example would be of a previously fit, young lady whom presented with status epilepticus with preceding complaints of flu like symptoms for a few days. From this case, I saw in practice how the initial focus was obviously to limit the seizure activity with anticonvulsants and sedation; and to protect her airway via intubation. Subsequent investigations were focused on neurological studies including brain imaging and lumbar punction which showed no signs of trauma, acute intra-cerebral injury or evidence of meningitis. During the week, I observed that the woman subsequently develop muscle twitches and having one further seizure episode. A neurologist review could not capture any evidence of seizures on an electroencephalogram (EEG) and continuous EEG monitoring was suggested along with recommended investigations. This provided an ideal opportunity to test myself with differentials of her problems and compare it to a neurologist’s approach. Largely, I had correctly identified the major differentials and investigations but due to her young age, sudden onset of problems, development of movement disorder and exclusion of other causes, the neurologists suspected that she may in fact have a paraneoplastic autoimmune disorder - NMDA receptor antibody encephalitis. From this case, another issue was brought up, an issue of cost and communication with the patient’s family. Although this disorder is a diagnosis of exclusion, a discussion was initiated about the possibility of sending a blood sample to the United States for specific antibody testing, which would not only cost the family a significant amount of money, but also even if the test was positive, there was no cure, only supportive treatment with a poor prognosis. One could only begin to imagine the impact of this on the family, especially since the patient is young and previously in good health. Also, it was interesting to note that specialists had sought to rule out swine flu early on in the case, as this was the peak flu season in Hong Kong and there had
been several swine flu cases with reported episodes of seizure.

As mentioned, it is the peak flu season in Hong Kong, so the week in intensive care allowed me to see the clinical spectrum of swine flu (or influenza A). In total, there were five swine flu cases in the period and all presenting with respiratory symptoms, most commonly cough and shortness of breath with previous good health. One was transferred from a paediatric hospital after spending the week with her young child, who was the first member of her family diagnosed with swine flu. From my limited experience, influenza patients in the intensive care ward back at Westmead hospital were usually of the elderly or immunocompromised population but these patients were all young and with almost pristine premorbid health. Even though most of these patients had similar chest x-ray findings with respect to bilateral lung infiltrates, there were marked differences in clinical appearances. After initial resuscitation and ventilation, one was able to tolerate oxygen via nasal prongs and was out of bed and sitting in his chair, one needed high percentage of oxygen via an oxygen rebreathing mask and had significant desaturations with movement, while another required extra-corporeal membrane oxygenation and looked quite plethoric, with suggestions of either septic shock or a superimposed infection. These cases also highlighted difficulties in clinical decision making, with uncertainty over the dosage and duration of anti-virals and the decision to deisolate these patients based on laboratory results (viral PCR and immunofluorescence) was uncertain and a topic of discussion between both intensivists and infectious disease specialists.

There was also one week spent with the burns unit and was extremely educational, especially since I have had little exposure to plastics or burns cases so far in the course. Activities included morning rounds to see the plans or progress for patients whom were either burns victims or post-operative head and neck or ENT cases. Time on the burns ward allowed me to see the different stages of injury; and the progress using different modalities of treatment such as surgical debridement, skin grafts (including autologous and porcine) and repeated dressings. I was also allowed to attend theatres, where I was actually taken aback by the extent of damage sustained by a patient whom had 40% burns, predominantly at the abdomen and lower limbs and she also required amputation of her left hand due to injuries sustained during her suicide attempt. I also attended surgery to remove a large hemangioma with suspected additional vascular malformations in a nine month old and to see the pathology and correlation of anatomy with the digital subtraction scan was an opportunity to appreciate the importance of technological advances and pre-operative planning.

There were also follow up patients, so I was able to personally observe or assess the possible major complications such as infection or hypertrophic scarring or contractures. Coincidentally, the features of the follow up patient in terms of complications were quite similar to the burns patients I saw in the pain clinic in Nethersole hospital and hence was a great educational tool to see the spectrum and potential progression of disease. There were also scheduled outpatient clinics, where I was able to see some more simple cases, such as follow up after laser surgery, to more interesting cases such as follow up and advice for multiple skull fractures in a policeman following fall off his bicycle; and a lady with neurofibromatosis type I with extensive cutaneous neurofibromas and several plexiform fibroma now with recurrent malignant transformation into nerve sheath tumours and receiving work up for wide local excision.

In retrospect, I would say that this electives attachment at Prince of Wales hospital has been an extremely positive and rewarding experience. The teaching during the anaesthetics attachment, whether it be during lectures, simulation sessions or theatre time was excellent. The learning experience during the attachments in pain, intensive care and burns has greatly contributed to my knowledge in the areas but also in art of medicine. There are differences between Hong Kong and Australia in terms of patient expectations and doctors approaches, as there would be anywhere in the world, but this attachment has reminded me of two particular aspects which seem to be universal. The first being that there will always be a shortage of resources for hospital requirement; and second, good bedside manners, patient-doctor relationship and communication are needed to for achieve maximum patient outcome.