ANAESTHESIA

Elective Report

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Anaesthetics: Sydney, Australia

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Learning objectives:

- What are prevalent long term conditions in Australia and how do these affect aneasthetic risk assessment
- What is role of the anaesthetist within Australian hospitals and how does this differ from the UK?
- Develop skills for management of anaesthetised patients, particularly airway management.
- Gain confidence and skills to manage ABC's of critically unwell patients.

What are prevalent long term conditions in Australia and how do these affect anaesthetic risk assessment?

Anaesthetic risk assessment involves history, examination and investigation of patients before surgery. History should include past medical history and drug history, any personal or family history of adverse aneasthetic reactions and smoking and alcohol use. Examination of the cardiovascular and respiratory system should occur as a minimum, and investigations will be led by the findings. In Australia these checks occur for the most part in an anaesthetic clinic which occurs some time before the operation. Most patients are seen by nurses who follow a check list to assure all areas are covered. Patients in poor health or with complex needs are seen in this clinic by an anaesthetist. On the day of surgery the anaesthetist speaks to the patient to confirm the most important points of the history, including medication taken that day, allergies, last meal and history of respiratory, cardiovascular and gastric disease, particularly any reflux or heartburn.

Rates of cardiovascular and respiratory disease are similar in the UK and Australia, with rates of COPD for example at around 95 per 100,000 in both countries.. Also, despite the popularity of sport in Australia, the rate of obesity is equal to the UK at 25% of the adult population. Therefore the anaesthetic risk assessment is very similar in the two countries, the most obvious difference I have noticed being that in most cases in Australia the anaesthetist will not see the patient until they are in the anaesthetic room, whereas when I have observed surgery in the UK the anaesthetists usually visit the patients in the waiting room and complete a risk assessment on the day, requesting any tests as necessary.

Anaesthetic risk assessments may be similar, however surgical conditions do vary between the two countries and this affects the choice of anaesthetic method. For example I have assisted in

many cases of skin cancer removal here, which are comparatively uncommon in the UK. These cases are often performed under sedation rather than general anaesthetic, and therefore the patients require different combinations and doses of anaesthetic drugs.

What is role of the anaesthetist within Australian hospitals and how does this differ from the UK?

The role of the anaesthetist within the Australian hospital is the same as the UK. As well as anaesthetising and monitoring patients during surgery, they also work in pre-operative clinics and optimise pain control for patients after surgery. Outside of the operating theatre the anaesthetists attend emergency cases in the ED and on the wards where their critical care skills are needed, and also play a role in the ICU and in chronic pain management.
The distribution of healthcare does vary between Australia and the UK and this affects how patients meet their anaesthetist. Australia has a public health care system known as Medicare which covers all inpatient care and some primary care for those who do not have private insurance. All tax paying Australians pay a portion of their wages towards this system. However there is also a well developed private insurance system which many who can afford to utilise. There are many separate private and public hospitals. however the Royal Prince Alfred where I undertook my placement sees a mixture of public and private patients. This system appears to work well and waiting lists here are shorter than in the UK.

Develop skills for management of anaesthetised patients, particularly airway management.

During my elective placement I have learnt how to assess a patient's airway using the Mallumpati grading and the thyromental distance but have also come to understand that this does not guarantee ease of intubation and that some patients will be unexpectedly difficult to ventilate and difficult to intubate patients. I have also had the opportunity to practice manual ventilation while maintaining a head tilt, chin lift and jaw thrust. For more difficult to ventilate patients I have used several aids, including guedel airways and laryngeal masks, and have been able to measure these instruments for use and determine the correct size for use in each patient.

Whilst intubating I have learnt the importance of correctly positioning of the patients head in the "sniffing the morning air position" and have seen how this aligns the axis of the pharynx, larynx and mouth to allow a better view with the laryngoscope, and smooth insertion of the endotracheal tube.

My airway management skills have improved while on placement here, and I now feel much more able to manage an unconscious patients airway independandtly, and to assess the effectiveness of ventilation, using both electrical monitoring and direct patient examination. The many opportunities I have had to practice these skills under observation has improved my confidence and I now feel able to competanly manage a patient's airway should I encounter acutely unwell patients during my foundation year training next year.

I have discussed with the anaesthetists I have worked with how they manage the unexpected "can't ventilate, can't intubate" patient, beginning with the utilisation of pre-oxygenation before anaesthetising the patient, and then the use of basic equipment such as guedel airways and LMA's before progressing to more drastic measures if the patient cannot be woken and an

airway cannot be established.

Working through the workbook given to me by my consultant when I arrived, and during discussions with the anaesthetists I have worked with I have also learnt how to assess indications for intubation in patients in theatre, in the ED and on the wards.

Gain confidence and skills to manage ABC's of critically unwell patients.

As well as learning how to competantly manage the airway of an unconscious patient, I have also learnt how to motitor effectively the other parameters used whilst patients are anaesthetised. To monitor patient's breathing I have learnt how to use a capnograph to determine correct placement of an endotracheal tube, to see if the patient has begun the breath spontaneously (for example if the muscle relaxant is wearing off) and even to detect a potential cardiac arrest. I have also learnt how to manually ventilate patients with a bag valve mask whilst making sure to maintain an appropriate level of pressure to avoid inflating the stomach and increasing the risk of aspiration. Whilst useful, I have seen during my placement that the oxygen saturation level does not begin to fall until fairly late in the clinical picture and so I have come to be less reliant on this to assess the patient.

During surgeries where the patient has been sedated rather than anaesthetised I have had experience of monitoring breathing without relying on capnographs or ventilators as the patient is breathing spontaneously. This will be useful on the wards when dealing with the acutely unwell patient as, as least initially the monitoring available may be limited.

With regard to the cardiovascular system, as well as monitoring the patients heart rate and blood pressure, I have had the opportunity to practice my ECG interpretation skills both in real time with the monitors the patient is wearing during surgery, but also using ECG's that have been taken from patients in the pre-operative clinic. As I have seen a wide age range of patients there has been no shortage of pathologies visible on pateients ECG's.

The skills I have learnt in the operating theatre have improved my ability to effectively monitor the vital signs of patients independantly and I now feel more able to implement this on the wards during my foundation year. Beyond basic ABC's I also feel more confident in many of the essential skills for foundation year, such as venous cannulation. I look forward to using the skills I have acquired in the year to come.