

ELECTIVE (SSC5c) REPORT (1200 words)

A report that addresses the above four objectives should be written below. Your Elective supervisor will assess this.

1. In a highly developed and specialised hospital such as RLH the anaesthetist typically has all the resources and equipment they need readily available, therefore the main challenges are more to do with pushing the technical abilities of the anaesthetist themselves. Factors which come with the typical lifestyles in a developed country, such as an ageing population and commonly overweight or obese patients are good examples of this. Surgery and anaesthetics is generally more risky in an elderly patients as they typically have more comorbidities and are on more medications than a young fit and healthy patient and the anaesthetist must be able to deal with any situations that arise as a result of this. Obesity is extremely common and also presents challenges to the anaesthetist such as more risky air way management and more potential for problems during surgery. Cases seen in a centre such as RLH also range from the mundane to the extremely specialised and unique cases which stretch the surgeon and the anaesthetist to the limits of their skills.

These problems are in stark contrast to anaesthetics in the developing world where resources and equipment is far more scarce and less available due to lack of finance, and cases tend to be in younger people with more acute problems, and the anaesthetist here is challenged to make surgery as safe as possible under very difficult circumstances and even the mundane cases seen in a place like RLH become a far more risky undertaking.

2. A major recent introduction in anaesthetics and surgery has been the use of simple things like check lists and handover systems to improve patient outcomes and have been shown to have a huge impact. From more global initiatives like the WHO checklist before surgery to local things such as the handover proformas which the anaesthetic department in RLH use to handover patients from surgery to recovery or between ITU shifts. Although these are very simple concepts they can be difficult to implement in certain situations as they rely on enough staff members and sufficient training to be able everyone to communicate on the same level. Furthermore they are mainly about minimising human mistakes and errors that occur in the time before during and after surgery or in ITU, whereas the challenges in the developing world are often still in having the correct equipment, training, and expertise to make the surgery itself as safe as possible, and even if no human error is made surgery is still inherently more risky for these reasons. Therefore while these things can and should be implemented in the developing world they may not be the most vital changes needed there.

3. Anaesthetists may become experts in certain areas of surgery out of personal interest, such as neurosurgery or cardiothoracics, however they may still do other surgical lists too and not exclusively these specialties. However each specialty can present its own challenges. General surgery and O&G may often be performed laparoscopically which due to the high pressure in the abdominal cavity may require higher pressures to achieve ventilation, and work in the abdomen may stimulate parasympathetic nerves presenting with changes in heart rate and blood pressure the anaesthetist would need to deal with. Neurosurgery can limit the drugs an anaesthetist can use to those which

won't cross the blood brain barrier and also requires careful management of a patient's blood pressure to remain within the limits of autoregulation, furthermore some neurosurgeries require the patient to be somewhat conscious and communicated with, meaning the anaesthetist must strike a careful balance with their sedation. Cardiovascular surgery of course often requires patients to be put on bypass and presenting unique challenges to the anaesthetist in terms of regulating their circulation, and some techniques the anaesthetist performs such as central lines become much more risky in cardiac patients where if a mistake happens then the outcomes are often far worse than in other patients, for example if a wire irritates the heart of a patient with aortic stenosis and causes an arrest then CPR will not work due to the stenosis and the patient would require urgent bypass. Surgery involving the lungs also presents challenges because the lung which is being operated on can not be ventilated and must be deflated completely to allow the surgeon to work, therefore the patient can only be ventilated using one lung during this time making surgery more risky and requiring the use of specialised intubation equipment. Furthermore as well as all these specialised issues they must also deal with the obesity and ageing population described before.

4. Anaesthetics is an extremely promising career for me as it is extremely varied and allows for a lot of personal freedom of styles and approaches to different problems and situations, making it a fulfilling career. It is not a very common job as an FY1/2 however and therefore taking part in things like taster weeks and communicating with anaesthetist staff in the hospital I work in during these years will be essential in order to gain experience and get involved with projects and learn more about the application.