

## **ELECTIVE (SSC5b) REPORT (1200 words)**

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

**Learning objective 1: What are the common presentations in the children's emergency department in Singapore? How do they differ from the UK?**

**Learning objective 2: How are the children's emergency services organised and delivered in Singapore? How does it differ from the UK?**

Although this elective was purely research based, the data collection process for one of the projects involved screening the children's emergency patient status board to select suitable patients to recruit and survey for the study. Through this I was able to learn about the common presentations in the Children's Emergency, which include fever, coryzal symptoms, breathlessness, abdominal pain, vomiting and minor trauma and injuries. These are also common acute presentations seen in the paediatric population in the UK. The main difference is the type and severity of conditions seen in the emergency department.

Primary care physicians in the UK have greater involvement in the management of these patients. Only patients who cannot be adequately managed in the primary care setting, or require investigations and treatment that is only available in secondary care, are seen in the emergency department. This is also made known to the public, who are encouraged to first see or contact their general practitioner, unless they feel that their child needs urgent care. If they are unsure on whether their child requires urgent care, they can also call a National Health Service 24 hour helpline where they can get advice on what type of care their child requires.

This difference in the system gives rise to the slight variation in the conditions seen in Singapore and the UK. It also explains why patient load in the Children's Emergency of KK Women's and Children's Hospital (KKH) is much greater compared to the UK. Based on my experiences of paediatrics in both the UK and Singapore, I definitely see the value of the involvement of primary care physicians in the management of patients, in promoting better utilisation of both primary and secondary healthcare resources.

Overall, the organization of emergency services in Singapore is largely similar to the UK. Patients are first assessed by nurses, and sorted using a priority system, then seen by doctors according to the seriousness of the condition. In the UK, patients with minor injuries or conditions can also be managed by nurse practitioners. There is also a paediatric medical registrar stationed within the emergency department for specialist assessment or input if required. This is different to children's emergency in KKH where specialists from the required department can be contacted directly. However this is more likely to be related to the easy access to various subspecialists within KKH as a paediatric hospital, as compared to general district hospitals in the UK, where I have done my paediatric placement.

**Learning objective 3: How can the quality of emergency services be improved through research in Singapore, and subsequently on a worldwide basis?**

**Learning objective 4: To develop on my research skills; What are the steps involved in the research process? How is research initiated, designed and put into action?**

I started this research elective placement with no prior research experience, thus there was a lot to learn through my involvement in the research projects and still more to take away. During my four weeks in the children's emergency department of KKH, I was given the opportunity to work on two ongoing projects

Prior to starting work on the projects, I was briefed about each of the projects by the main researcher, who explained the purpose of the research, the outline of the study design and process, and the outcome they hoped to achieve. Hence, whilst I did not have the opportunity to see a project through from the beginning, I was able to extract the process involved in initiating a research project through their introduction.

One of the research projects is a retrospective case-based study on lateral condyle fractures in children, with the aim to identify the factors determining clinical outcome. My role in this project was data entry, which involved reviewing case notes and x-rays, and extracting the required data. Fractures involving the lateral condyle of the humerus have a high incidence in the paediatric population. It is also associated with poorer outcomes compared to other elbow fractures due to missed diagnosis and higher risks of complications such as nonunion, malunion, deformity, and avascular necrosis. There is also a lack of research in this field. These factors identified a need for more information on the condition, thus the project was initiated with the view to improve management so as to optimize clinical outcome.

The other project was on pain management in the children's emergency department, which will look at the patient's and their parent's perception of their pain, how well it was managed and what factors contribute to their satisfaction or dissatisfaction of the care they received. In this project I was involved in the data collection process where I was tasked to survey patients and parents. Pain is another common presentation in the Children's Emergency. It is also a symptom that causes significant distress to both the patient and their parents. Which is why it is no surprise that it can cause dissatisfaction with the care provided. Pain management is particularly challenging in paediatrics because it is difficult for patients to describe and communicate their symptoms and concerns to their parents and the healthcare professional. Pain management is not as simple as following guidelines and giving treatment. There are non-physiological factors that can worsen or improve pain. Something as simple as effective communication between patient and their parents with the healthcare professional can alleviate a lot of anxiety and distress associated with the pain. This project will help form a better understanding of pain and how it can be more adequately managed.

Both projects target an area where management can be improved, and both deal with conditions that are common worldwide. Thus it is easy to see the value of this research, which has the potential to improve the quality of care in Singapore, and subsequently the world.

Four weeks is clearly too short a period to see a research project through and through, however I will be continuing my work with these projects beyond my placement, and will be following up on the process till their completion. Overall it has been a very enriching experience, and I look forward to continually developing my skills and becoming more involved in research.