ELECTIVE (SSC5a) REPORT (1200 words)

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

Objective 1: Describe the pattern of advanced trauma and orthopaedics presentations in the population of East London and discuss and discuss this in the context of global health.

As a major trauma centre for the UK, the patient population presenting to the Royal London Hospital is incredibly diverse. During my time with the orthopaedic department, not only was I able to observe a host of complex spinal presentations, but I was also able to gain a better understanding of the various subspecialties within orthopaedics. It was interesting to learn how elective presentations compared to more acute emergency presentations. More specifically, from a spinal perspective, more pressing concerns such as neurological deficits, unstable fractures and cauda equina syndrome often warranted more urgent surgical intervention, with the management being more clear cut. The elective procedures, however, often required greater consideration of the risks versus the benefits of surgical intervention. Alongside the patient's symptoms and their effects on their quality of life, factors such as comorbidities and likely progression of disease were also key considerations. With regards to the pattern of spinal presentations within the population of East London, the fact that the RLH is a major trauma centre means that the presentations seen are often quite advanced and can be extrapolated to be representative of the region more generally. One such example is the correction of scoliosis. This was a procedure I was able to observe a number of times over the course of my elective. It was fascinating to see the use of a new technology, whereby 3D printed patient-customised jigs were used to accurately determine the angle and length of the pedicle screws used in the operation in order to more precisely correct the lateral curvature of the spine. This technology was not something that I was aware of before and based on my discussion with the consultants operating, is only currently offered at advanced tertiary centres. In the context of global health, scoliosis is a relatively common condition in the younger population; seeing the large advances in its management, it would be interesting to observe how this new technique is adopted and employed worldwide.

Objective 2: Describe the pattern of acute trauma management in a tertiary care centre and contrast this with the services available in district general hospitals. How does the acute management of these patients vary between the two?

During the trauma MDTs, it was interesting to observe which presentations were referred from a district general hospital to the RLH for definitive management. It was often the patients presenting with complex neurological symptoms or unstable fractures that were transferred from smaller units owing to the greater risk associated with surgical intervention. The role of the DGH was often to stabilise the patient and manage any acute concerns, with referral to the RLH for definitive surgical management. One thing that I hadn't considered previously was the differences in diagnostic tools available at a DGH as opposed to a large tertiary centre. An example of this is the requirement for an urgent MRI spine in the diagnosis and management of cauda equina syndrome. Often this is not something that would be readily available at a DGH, especially out of hours. As a result, these smaller centres are often reliant on tertiary centres such as the RLH for the management of acutely unwell patients. I also had the opportunity to contrast the services offered within the NHS with those offered in the private setting to patients presenting with spinal pathology. Interestingly, the procedures offered themselves were relatively similar between the two, the

variation was more evident in the actual functioning of the service. Unsurprisingly, the private sector had far shorter waiting times, with patients generally expressing greater satisfaction with the care provided as a result of this. Logistically, there were also fewer delays to diagnosis and subsequent management as a result of fewer technical complications with regards to scans and other investigations.

Objective 3: To understand the key differences in acute trauma and orthopaedic services between tertiary care centres and district general hospitals. What are the implications of this in the context of wider population health across the UK?

As mentioned above, the key differences between the services offered at a DGH as compared to a large tertiary centre like RLH is most evident in the diagnostic and management tools available at the two. The role of the DGH was often to stabilise and manage any immediate concerns with regards to the patient's presentation. The role of the tertiary centre was often the definitive management of more complex cases. It was also interesting to see the role private healthcare plays within the context of the NHS; the patients presenting to the private sector were more likely to be elective cases and were relatively stable. The patients managed within the NHS were more likely to be emergency presentations or patients requiring more acute intervention. When thinking about the implications of this in the context of wider population health across the UK, it can be inferred that patients living in areas of greater deprivation or patients presenting to a small DGH may require transfer to a more advanced centre for definitive management should the resources not be available locally. This is often the case for a large majority of surgical and non-surgical presentations; large tertiary centres provide the necessary support system for complex and acutely unwell patients presenting to smaller DGHs. One possible limitation to such a system could be the impact this has on demand for emergency services at larger tertiary centres. This is particulary evident when comparing to the private sector, where waiting times are practically non-existent.

Objective 4: To be able to apply the knowledge and skills I have acquired throughout medical school in independently assessing patients and formulating an initial management plan.

Having had limited exposure to orthopaedic spinal pathology in medical school, I was unsure of how complex spinal presentations such as scoliosis or spondylolisthesis were investigated and managed. This is something I feel a lot more confident in having done my elective. Through observing the cases presenting to clinic and following discussions at the MDT meetings, I feel I was able to gain a solid understanding of what spinal orthopaedics entails. Prior to doing the elective, I was also unaware of just how varied the specialty is, both in terms of the patient population as well as the complexity of the cases. One area that really stood out to me was paediatric scoliosis. Although I was familiar with what scoliosis is, prior to the elective I did not fully understand how these patients are assessed and what the indications were for operative management. This is something I feel a lot more comfortable with now and hope to be able to carry this knowledge forward into my foundation years. Similarly, the elective was helpful in identifying the red flag symptoms to look out for in patients presenting with a suspected spinal pathology. This will be especially important when I start working in order to effectively manage more time critical presentations. The elective was also a great way to practice x-ray interpretation, a skill I felt less confident in prior to undertaking the placement. Overall, I've thoroughly enjoyed my time on spinal orthopaedics at RLH, it has truly been an eye-opening experience and has acted to further grow my interest in a career in orthopaedics.