ELECTIVE (SSC5b) REPORT (1200 words)

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

St Joseph's Hospital and Medical Center is a Level 1 Trauma Centre in Phoenix, Arizona, USA; for the first half of my 2017 elective I was privileged to be able to spend three weeks within the trauma bay and intensive care unit (ICU) learning all aspects of trauma medicine from the team working there. My days were spent conducting rounds on the trauma patients throughout the hospital, joining in on discussions about the care those patients would receive, and seeing acute trauma patients with the team as they were brought into the trauma bay. I was also invited to many lectures and audit meetings, as well as taught and supervised carrying out practical skills, giving me a well-rounded and broad experience of trauma care in the USA.

In many ways the care trauma patients received at St Joseph's was similar to cases I have been involved with in the UK. The trauma bay was supplied with a wide range of diagnostic capabilities and equipment (including a CT scanner), and there were experienced individuals working within the bay to see each new patient as they came in. I did however notice a difference to the UK in who was responding to the trauma calls; in the UK our trauma patients come through to the resus bay in the emergency department, and are primarily seen by emergency medicine (EM) teams with one or two members of different specialties assisting as needed, however in the USA the trauma bay is almost exclusively staffed by trauma surgeons and junior doctors of surgical specialties (general surgery and neurosurgery most notably). There is also a higher emphasis on the role of physician's assistants and nurse practitioners involved in trauma care, whereas in the UK physician's assistants are a relatively new group of healthcare professionals who do not feature as heavily in emergency departments and trauma teams.

A major positive of the USA method of trauma care is the continuity of care and follow-up the patients receive. In the UK the primary doctor looking after a trauma patient on arrival will be the EM doctor, and if a patient needs to go to the ICU it will be the intensivists who take primary responsibility for the patient; the surgical teams who treated their initial injuries will continue to play a role and check-in on the patient, however they do not take the overall responsibility of care. In the USA whichever trauma surgeon has seen the patient on their arrival, unless their injuries are limited to one body system (e.g. isolated head injuries), it is that trauma surgeon who will be their main doctor during their admission. I believe that this is a good system, as for the recovering patient (and family) they will have one main doctor and team whom they see regularly, ensuring that there is someone aware of all the patient's problems and can help coordinate input from other specialties. Once the patient is discharged it is this doctor's clinic appointments that they are able to book into for follow-up care as well, whereas in the UK a patient may be followed up in clinic with whichever doctor has space, and they are not guaranteed to be with the same individual who saw them as an acute trauma patient.

When it came to the injuries patients arrived with I noticed that, at least in comparison to London (where the average speed of traffic is just 9 miles per hour), there was a higher frequency of high-speed motor vehicle collisions. This resulted in a high number of polytrauma patients coming in with multiple problems and requiring input from multiple teams. In the UK I have seen many polytrauma victims, however it was far more common for these to be due to falls from height; this may be perhaps because Phoenix as a city has far fewer tower blocks compared to the built-up areas of inner London, where most houses are at least three stories high. As many of these patients had come from high-speed crashes there was not just the deceleration impact on the patients (as is also seen in falls from height), but the impact of glass and car interior constituents producing a different injury pattern. This meant that a number of these patients required treatment of visceral injuries, bony injuries, and more superficial lacerations and abrasions giving each patient a complex set of needs.

I also saw a far higher rate of patients who had been shot in the USA; I think I have probably seen more gunshot wounds in my three weeks in Phoenix than my three years in London. This is almost certainly due to the cultural differences between the two countries, with gun ownership in the UK being just 6.6 guns per 100 people, compared to 112 guns per 100 people in the USA. As shooting incidents are far less common in the UK my three weeks in Phoenix has been an eye-opening education for understanding how to assess and manage gunshot wounds. For instance I was not previously aware of the extent of damage a bullet can do to bone until I saw a patient who had a complete transverse fracture of their humerus as a result of a shooting; I also did not realise that fractures following a shooting were counted as open fractures, and therefore required antibiotic regimens the same as if the open fracture had been the result of a blunt force injury.

Culturally one of the biggest differences I noticed between the USA and the UK was the role of private healthcare in comparison to the UK's National Health Service. One of the things I found difficult when treating patients in the USA was ensuring that equipment taken from the store cupboards to treat a patient's injuries needed to be logged against the patient's hospital number. There were also some discussions between multi-disciplinary team members on the ICU about pieces of equipment used in patient-controlled analgesia systems, and how they were reluctant to change a piece of faulty equipment as it was expensive and the hospital could not be reimbursed for that particular item. I found this surprising as in the UK it is rare that the cost of equipment or drugs is considered in decision-making beyond writing hospital guidelines or in particularly expensive cases (e.g. starting biological therapies). However, I felt that private healthcare had helped fund a six-bed dedicated trauma bay with excellent capabilities, and therefore the benefits of private healthcare in this case could be seen all around.

My three weeks in Phoenix, Arizona have provided me with an excellent education in trauma care within the USA. I have learnt a great deal about treating patients with traumatic injuries, both in the trauma bay as an acute presentation, and as longer-term patients in the ICU or on the wards. This elective has also opened my eyes to alternative models of trauma care to the one I have worked within at home, and I look forward to taking aspects of what I have experienced at St Joseph's Hospital forward with me into my career.