

ELECTIVE (SSC5b) REPORT (1200 words)

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

This elective report comments on my two weeks spent with the Radiology department at Barking, Havering & Redbridge NHS Trust, which is situated over two main hospital sites - Queen's Hospital in Romford, and King George's Hospital in Ilford.

Throughout my placement I gained a fantastic insight into Radiology as a specialty, including the different career paths in radiology including general radiology, musculoskeletal radiology, neuroradiology, and interventional radiology. I also had the opportunity to complete a Royal College of Radiologists audit, and further my longstanding interest in medical education by learning more about innovative teaching techniques in radiology.

BHR offers a tertiary referral centre in specialist radiology services, as well as a wide range of general radiological imaging services, such as x-ray, CT, ultrasound and MRI. Situating the radiology services at Barking, Havering and Redbridge NHS trust over two sites, allows them to serve the population more locally in the majority of cases. The most common conditions I was exposed to during the time I spent with general radiology during my attachment were acute medical conditions and malignancy, often found in the lungs or the abdominal viscera. During the ultrasound lists I attended, one of the most common conditions I encountered was fatty infiltration of the liver commonly as an incidental finding on ultrasound scan. The radiologists I spoke to regarding this condition said that it is increasing in prevalence in the community they care for in Barking, Havering and Redbridge, due to the increasing BMI of the patient population, and it can lead to complications such as steatohepatitis. I also saw other conditions whilst attending ultrasound lists that can be associated with increased bodily habitus, such as achilles tendonitis and plantar fasciitis.

There are a number of areas in which BHR radiology is able to offer different techniques and treatments to other UK trusts. One example of this is their use of micro bubble ultrasound - an ultrasound scanning techniques that uses microbubbles of perfluorocarbon or another heavy gas. The microbubbles have different echogenicity to the soft tissues of the body and thus act as a contrast agent. Studies show that microbubbles are far safer than contrast used for CT or MRI, which can be nephrotoxic, and can produce high quality studies and be of great use diagnostically.

Many of the imaging techniques employed at BHR would not be available in many countries outside the UK. At BHR and other UK hospitals, radiologists have a wide range of imaging techniques available to them, some that can be done in a very short amount of time, such as a full body trauma CT, which allow them to diagnose complex and multiple conditions in a short period of time. This has led to greatly increased diagnostic accuracy, although one important lesson I learned is that even with improving imaging techniques, radiological studies rarely result in certainty. I found that in some cases clinicians can rely very heavily on imaging to answer a question definitively, whereas in most cases rather than giving a definite answer, radiological studies add to the weight of evidence, and therefore it is absolutely crucial to consider the clinical picture of the patient being imaged. Another major difference in the UK compared to some other countries is that imaging is performed and interpreted based on clinical need, rather than insurance status or ability to pay.

I was able to observe a number of interventional radiology procedures during my time with the radiology department, which are only available in a select number of hospitals throughout the UK, and often not available in other countries abroad. A good example of the type of procedures I was able to observe was endovascular aneurysm repair (EVAR). This is the repair of abdominal or thoracic aortic aneurysms under radiological guidance after gaining access to the vascular system through the femoral artery. This procedure can be done as a prophylactic intervention to prevent future rupture, and this is especially considered in patients with an aneurysm deemed to be at risk of rupture in the near future (this is assessed by the diameter of the aneurysm on CT imaging). In some circumstances EVAR can be employed therapeutically in the acute setting following a rupture of an aneurysm. Each EVAR performed requires specialist and expensive equipment, which is not widely available outside of developed healthcare systems. They also need experienced and trained interventional radiologists to insert the graft. Interestingly in some other countries, such as the US, EVARs are performed by vascular surgeons rather than interventional radiologists.

In terms of my own development from this elective, I feel over the weeks I have greatly improved in my understanding of radiology as a specialty, but also in my ability to interpret radiological tests. I have realised how important the role of the radiologist is in patient care, and how very often radiologists may recognise pathology and initiate treatment where it might not otherwise have been provided. I hadn't realised before my placement how essential it is to have a comprehensive knowledge of anatomy in order to interpret imaging, and I feel that even in the short period of time I've spent with the radiology department my anatomical knowledge has improved, and I have remembered much of the anatomy I originally covered in my first two years of the MBBS course. As I've written above, I have gained a broad view into the applications of interventional radiology, observing procedures such as EVARs, PICC line insertion, drain insertion and removal, and biopsies. I have learned from my placement that the applications and uses for interventional radiology have increased in recent years and are likely to continue to increase in future as techniques and technology are refined and improved.

Overall, I have had a thoroughly enjoyable and very educational experience with the BHR radiology department, which was made even more enjoyable by the department being very friendly and welcoming. My tutor, Dr Bhattacharya was particularly enthusiastic and an excellent teacher, and allowed me to guide my experience from the placement based on what I wanted to get out of it. I feel that throughout my placement I was able to meet my learning objectives, and take advantage of other opportunities such as attending teaching and to lead on completing an audit with the department. I have also learned a lot about how a typical radiology department functions, and learned how radiology interpret and process requests, which I think will be very useful in my future foundation posts. If there are other students looking to gain some insight into radiology as a specialty in the UK, I would highly recommend BHR as a good place to come and learn more about radiology.