KAUR Simerdip
ORTHOPAEDICS

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Appendix 3: SSC 5c (Elective) Assessment (part1)

Elective subject: Orthopaedics
Elective location: PGIMER, Sector-12, Chandigarh, PIN-160 012, India
Elective dates: 30/4/12 – 11/5/12
Elective supervisor:
DrMandeep S. Dhillon, Professor & Head of Department – drdhillon@gmail.com

Objectives set by school:

1. **To learn about the prevalent orthopaedic conditions affecting the local population in comparison to London.**

   I have come to learn that there is a high burden of traumarelated cases seen in the Orthopaedics department at PGIMER. A variety of factors lead towards this phenomenon, which include poor regulation of road traffic safety laws as well as imperfect transportation infrastructure.

   Besides that, unhealthy eating habitsespecially amongst the burgeoning middle income families in combination withlow levels of physical activity is leading to a rise in obesity and so is the incidence of knee osteoarthritis. I observed more women being diagnosed with this condition as compared to men and this can be explained by the physiological menopause and higher rates of obesity in females. I also learnt that knee hyper flexion position assumed by many Indians when sitting down on the floor and similarly sitting cross legged further adds strain towards the non-weight bearing parts of the knee joint and this contributed to arthritic changes.

   Similarly to the UK, vitamin D deficiency in India is increasingly coming to the attention of healthcare professionals.In India however this is seen as a paradoxical situation due to the abundance of sunshine in many parts of the country almost all year round. Nevertheless, insufficient dietary calcium intake in the Indian population which could be due to poor socioeconomic background in some communities as well as reduced number of hours spent outdoors particularly in the urban population have contributed to the prevalence of vitamin D deficiency.

   Comparativelyduring my Orthopaedics rotation as a 4th year medical student at a small district general hospital in London,the predominant cases seen in outpatient clinics and emergency services included falls in elderly population resulting in fractures and many soft tissue injuries. The burden of trauma in the UK is less but invariably present. However the population is much smaller than India and there is a more robust pre-hospital and emergency ambulance service available. Another unique feature is the London Air Ambulance, a registered charity that runs London's only Helicopter Emergency Medical Service (HEMS). This

service has allowed for rapid stabilization of patients requiring acute care and led to increase in chances of survival.

2. **How are the Orthopaedic servicesorganized and delivered in this part of India? What are the limitations?**

The second half of my elective was spent in the Orthopaedics Department at the Postgraduate Institute of Medical Education and Research (PGIMER). This institute is funded by the central government of India and is located in the union territory of Chandigarh. PGIMER serves a population that spans over numerous states in the North-West region of India such as Punjab, Haryana and Himachal Pardesh in addition to actingas a tertiary referral center.

The government funded medical system in India aims to deliver universal healthcare for its citizens. Essentially medical services such as an outpatient appointment with a doctor are free of charge. Unlike the UK however the patient bears the cost of the medicines, disposable surgical equipment and implants. Here in PGIMER, patients are usually referred from other smaller hospitals for a further expert opinion on their condition. Furthermore, PGIMER also has the capacity to cater to a wide range of Orthopaedic cases requiring elective and emergency surgical management.

Correspondingly, a new advanced trauma center was built and has been fully operational for almost 1 year now. It is a multi-storey building and has an attached laboratory, X-ray and 24 hour operation theatre facilities especially to meet the needs of polytrauma cases.

The major limitation in provision of Orthopaedic care in this region is inevitably due to the high demands on services exerted by large population size. Furthermore, pre-hospital care in India is still in its early age of inception and is fragmented throughout the country unlike in developed nations where there is often a national policy on the subject. However, significant effort has been made in improving the availability of emergency pre-hospital care for example the Ambulance Motorbike and Rescue Service (AMARS) in the city of Ludhiana in Punjab not far from PGIMER in Chandigarh.

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Objectives set by student:

3. **To observe and practice history taking and clinical examination techniques in a different environment to my medical training so far. Also to observe medical and surgical management techniques in orthopaedics in India.**

During my time at PGIMER, I saw a variety of patients in the outpatient clinics with the Orthopaedic team. Hindi and Punjabi are the preferred language option amongst the patients whereas the doctors would communicate in English in addition to these. Luckily for me, I have a relatively good grasp of the former two and thus managed to understand the dialogue between the patient and doctor. For example, one Hindi speaking patient described shooting pains radiating down the back of his thigh and on straight leg raise he experienced similar discomfort. I was pleased when the doctor confirmed my thoughts that the patient was experiencing symptoms suggestive of sciatica. On a few occasions I managed to communicate with the patients in enquiring their complaints. Furthermore, I was able to perform some simple joint examinations such as the anterior drawer test and patella tap test.

To complement my time spent in the clinics seeing patients I also attendedthe plaster room to learn about the different types of orthopaedic casts and their application. Moreover, I shadowed the physiotherapists on their ward rounds to understand their role in the management of pre and post-surgical orthopaedic patients. Besides this, I managed to gain exposure to the range of equipment used by them such as microwave diathermy in patients with knee osteoarthritis and the use of traction devices.

At the emergency trauma center, I managed to acquire vivid visual learning points on a whole host of trauma cases. I observed a chest drain insertion as well as a fasciotomy, both of which I had only read about in textbooks before. Similarly, in the emergency operating theatre I learnt about the basics on external fixation of a combined tibia and fibula fracture. Other than that, it also surprised me to see patients relatives assisting with bag valve masks due to the lack of ventilators as I had not experienced a scenario as such in the past.

As for elective surgeries, I gained some exposure in Anterior Cruciate Ligament repair using bone and patella tendon graft technique. Besides that, I got to observe total knee and hip bipolar hemi-arthroplasty. During a knee arthroscopy procedure, I learnt to appreciate the anatomy of the structures in the joint. These operations were performed with tremendous skill and expertise, sufficient to rival any other surgeon in the same field.

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4. **To explore my interests in the field of Orthopaedics with regard to planning future career pathways. Also to fully engage with the healthcare professionals and the patients involved to learn their perspective on the delivery of care as well as to explore patient and doctor satisfaction levels.**

I pursued my elective in Orthopaedics at PGIMER Chandigarh where I was able to fill in the gaps in my understanding of the subject a little better than before. Based on my discussions with the residents, I have understood thatthe Orthopaedic training program lasts 3 years after which the trainee obtains a MS (medical surgeon) degree. On completion of this step, trainees are free to take up fellowship posts if they decide to or may carry on gaining experience for a further 3 years as a senior resident after which they are eligible to apply for a consultant post. In contrast, the training programme in the UK lasts for 7 years

I am very glad to have chosen to undertake this observer ship here because of the excellent teaching quality, breadth of cases and clinical exposure.I was very fortunate to have been able to observe the junior residents practical examination as well as attend the Chandigarh Orthopaedics Society 6th annual conference. All in all, it was very educational and gaveme a better perspective on the subject. As my experience here has been thoroughly enjoyable I also feel that I could potentially find this specialty a rewarding job.

For the past 2 weeks, I was able to fully engage with the healthcare professionals and gain some outlook on their daily routine. I soon found out that there was an incredible amount of pressure on them in terms of the workload and the high turnover of patients. Still they seemed to be coping very well and working extremely hard at their job. The delivery of care was of a high standard by making the most of the available resources and similarly reciprocal level of doctor satisfaction albeit the long working hours. The patients I was able to speak to also expressed high satisfaction levels with the care they were receiving. Many of them have had to travel considerable distances to receive medical care but were nonetheless grateful.