

**Elective Report - Christopher Millward**  
**Columbia University - Neurosurgery**

Supervisor - Dr Neil Feldstein

***Background:***

For my elective, I chose to attend Columbia Presbyterian Hospital, Columbia University, New York City. I was on a neurosurgery subinternship rotation of four weeks in length. During my time here, I attended morning handover at 6:15am followed by a daily conference scheduled at 7am. I went to the OR each morning to observe or scrub and assist on whichever case I was interested in seeing. This was usually followed by a second case before attending evening handover at 5pm. I was free to stay late or take night call when I wanted to. In addition, I attended outpatients clinic for a day to widen my experience. I was required to present during grand rounds also.

***Discussion points:***

*Neurosurgery at a world renowned centre; what does it offer?*

I chose to undertake my elective at Columbia because I wanted to see the best of this specialty. Neurosurgery has progressed rapidly due to technological advances and I knew that in order to have the most productive learning experience, I would need to undertake my elective in a world renowned centre. Columbia has some of the best and most distinguished attending surgeons, not only in the US, but in the world and I have been very fortunate to spend time with many of them, and their resident team. I have been able to assist on cases where the attending has written the textbook chapter, and watch first-hand, how to operate to the best of your ability. Fortunately, all of the surgeons I worked with encouraged participation and discussion and actively involved me in their cases which ensured I gained the most from my experience.

*How does health provision here differ to that in the UK?*

This topic was discussed frequently during my four weeks at Columbia. Our NHS is very different to the health insurance system in the US, but the introduction of ObamaCare has bridged the gap somewhat. It was evident from every debate I had on the topic of which system was better, that both had advantages and disadvantages.

While on-call, I diagnosed sciatica secondary to disc herniation and noted that this had become much more severe since the last imaging series was obtained. The gentleman in question was operated on in less than 24 hours. This would not have happened in the UK. However, the cost of such operations can be 10x what the real cost of the operation is, which creates a profitable industry through health care. Further still, without the correct insurance, there are no guarantees of expensive, non-essential operations. In the UK, we ration the provisions within our health service because the taxpayer pays for it.

*How does the neurosurgical caseload here differ to that in the UK?*

New York Presbyterian serves a population that is not too different from The Royal London Hospital. It is heterogeneous with regards to ethnicity and wealth. The case load appeared to be very similar between the two hospitals. Many of the operations I saw were familiar to me and many new operations that I saw were not unique to this population. I did notice that aneurysm clipping was more evident here compared with the UK. This prompted a number of interesting discussions regarding coiling vs clipping of aneurysms. It appears that due to the extent of experience held by some attendings here, clipping is often a better operative choice. There was much less trauma work here compared with The Royal London Hospital. This is due to the absence of a helipad and trauma hospital status. Therefore, I did not see some of the cases I would be used to seeing at home such as traumatic bleeds and acute spinal injuries.

*How has this elective impacted my career choice?*

I feel that this elective has helped support my career ambitions of becoming a neurosurgeon. There are a number of reasons for this which are as follows. Interest - I was very interested throughout the placement; I enjoyed the discussions that would take place regarding the diagnosis and management of the cases I saw. Technical challenge - I was very intrigued to learn how each operation was performed, the technical skills that were required, and the anatomical knowledge that was needed and look forward to performing these myself one day. Operative experience - I was able to assist with operations and obtained a good level of operative experience for my level. I was able to make incisions, suture, suction, retract, and irrigate. Importantly, I was able to observe very closely, the technique employed to operate safely and efficiently. On-call experience - While on-call I was able to see new patients, take a history, examine, and suggest initial management. I was pleased with my performance on these occasions as I successfully made diagnoses and suggested appropriate plans of action. I enjoyed this aspect of my elective and it has given me the confidence to believe I can do this myself as a junior trainee in the future. Academic discussions - I enjoyed the academic sessions where we would discuss cases. Neurosurgery is a very academic specialty and I was able to take part by presenting work I had completed in the UK and this was well received, prompting debate. Anatomy - Through my operative experience, I feel that I really started to appreciate the importance of solid anatomical knowledge in order to operate effectively. However, what was evident and interesting to me was that anatomical variants are widespread and must be considered for each and every operation.

Following the elective, I have made the following plans. Operative experience course - In order to fully understand the approaches I observed, and to be able to perform them safely myself in the future, I feel it will be necessary to attend an operative approaches course. I have found one that is suitable and intend on attending this next year. Radiology course - In order to better interpret neuroimaging, I feel it is necessary to attend an appropriate course to acquire the skills needed to interpret neuroimaging properly. I have found a suitable course and intend on attending this this year. Academic aspect of my career - Each resident had to have clear academic objectives



along with their clinical progression, I feel that this is an important aspect I too will integrate. Approach to career commitment - I was very impressed with the commitment shown by the residents. Each was very well informed and could frequently be found researching the literature for material related to the case they would operate on that day.

**Conclusions:**

This placement has met my expectations entirely, I have obtained operative experience, and on-call experience that has not only shown me that neurosurgery is definitely what I want to do, but will go a long way to helping me obtain a training number in the future. I would highly recommend to anyone who is serious about neurosurgery, to pursue a placement here.