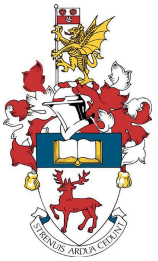

Harmeena Kaur Sekhon, University of Southampton
Clinical Elective at Columbia University Irving Medical Centre and the University of Nebraska Medical Centre

I am deeply grateful to the Society of British Neurological Surgeons for awarding me a undergraduate elective bursary, which enabled me to complete an eight-week clinical elective in neurosurgery across two US institutions: Columbia University Irving Medical Centre (CUIMC) in New York City (NYC) and the University of Nebraska Medical Centre (UNMC) in Omaha. This elective provided an invaluable immersion into the specialty and the opportunity to learn from highly experienced neurosurgeons.

Neurosurgery has consistently stood out to me as a uniquely compelling field given the combination of complex anatomy, meticulous operative technique and life-changing impact on patients. My exposure in medical school was limited to a short rotation, which left me eager to deepen my understanding of neurosurgical pathology, operative decision-making, and long-term patient care. This elective proved to be an excellent opportunity to do just this.

Undertaking my elective in the US was important for two reasons. First, the US healthcare system is structurally and philosophically different from the NHS. I wanted to understand how clinicians navigate a predominantly privatised system, particularly the ethical challenges surrounding access, cost and equity. Experiencing two centres with markedly different patient populations—the dense, diverse urban population in NYC and the more regional Midwest demographic in Nebraska—allowed me to observe how health disparities manifest and how teams strive to overcome them.

Second, the US remains at the forefront of neurosurgical practice and training. Learning within this environment offered both clinical inspiration and exposure to high-volume, high-acuity neurosurgical services.

CUIMC—situated within the world-renowned NewYork-Presbyterian Hospital—is a high-volume tertiary centre with strong subspeciality expertise, particularly in vascular and skull-base surgery. Its busy emergency intake allowed me to witness acute neurosurgical presentations, including aneurysmal subarachnoid haemorrhage and traumatic brain injury.

UNMC, by contrast, provided a more accessible and closely knit clinical environment. I had more face-to-face time with residents and attendings and was able to participate in more ward reviews, radiology discussion and outpatient clinics. Observing neurosurgical practice in two very different settings enriched my appreciation of how departmental structure, patient demographics and institutional resources shape delivery of care.

Days in both centres began with early morning handover at typically 6 am. However, I would arrive earlier than this to set up the operating rooms (ORs) ready for the day ahead. The handover included discussing and reviewing cases of overnight admissions, critical patients and planned operative cases. These sessions were excellent for revising neuroanatomy and radiology, as the chief residents would review CT and MRI scans to guide management or offer learning points.

Once a week at CUIMC, an attending would provide a half hour teaching session where all residents gathered and we spoke about interesting cases and were tested on our neuroanatomical knowledge. At both institutions, there were weekly grand rounds where internal staff or external speakers would attend and present a topic of interest. After this, I would often head directly to theatre depending on the day's schedule and learning opportunities.

Over the eight weeks, I observed a broad spectrum of neurosurgical procedures and across various subspecialties, including vascular, oncology, functional, peripheral, skull-base and paediatric and spine. Columbia's neurovascular service was particularly formative. Observing complex open aneurysm management and then also endovascular approaches guided by intraoperative angiography highlighted the sophisticated technology underpinning modern neurosurgery.

At UNMC, I was able to attend several functional cases and observed the insertion of electrodes and stimulators for Parkinson's Disease management and also oncology cases where stereotactic intraoperative monitoring was used to guide the next steps of the procedure.

Attending clinics reinforced the longitudinal nature of neurosurgical care. I encountered patients with chronic back pain, trigeminal neuralgia, tumour-related symptoms and post-operative follow-up needs. This emphasised the importance of communication, expectation management, and sensitivity in consultations—particularly when discussing difficult diagnoses and breaking bad news. It was also interesting to see the key role of physician associates and advanced nurse practitioners play in clinics and in ward management of patients.

On the wards, I refined my neurological examination skills and was encouraged to present patient histories to residents. I also gained a better appreciation of postoperative monitoring, management of raised intracranial pressure, and decision-making regarding imaging or escalation of care.

Both centres demonstrated the essential role of multidisciplinary teamwork in neurosurgery. Weekly neuro-oncology meetings brought together neurosurgeons, neuro-oncologists, radiologists and specialist nurses to discuss complex tumour cases. Similarly, trauma and spine MDT meetings highlighted how radiology, physiotherapy and pain specialists contribute to management decisions. Observing these discussions reinforced how nuanced neurosurgical decision-making can be, and how consensus-drive approaches support optimal patient outcomes.

Conclusion

My elective at Columbia University and the University of Nebraska was an immensely enriching experience that significantly strengthened my commitment to pursuing a career in neurosurgery. Observing highly skilled surgeons, engaging with enthusiastic trainees, and encountering diverse patient populations deepened my understanding of the speciality and provided new clinical, academic and personal insights. I am extremely grateful to the SBNS for supporting this opportunity, which has had a meaningful impact on my professional development and long-term aspirations.

Acknowledgements

I would like to thank the neurosurgical teams at Columbia University and the UNMC for enabling me to have such an in-depth and fulfilling experience. I would also like to thank the benefactors of this grant and the SBNS for awarding it to me.