Society of British Neurological Surgeons - Elective Report 2025
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When I was 13, I stumbled across stories from the Johns Hopkins Department of Neurosurgery. Then, I didn't know why they appeared; now I do. From that moment, Hopkins felt like the place I hoped to step into one day. I got into medical school, and neurosurgery remained the specialty I most wanted to explore. One email set things in motion, and almost 12 years later I found myself walking down the corridor of the Billings Building at Johns Hopkins.

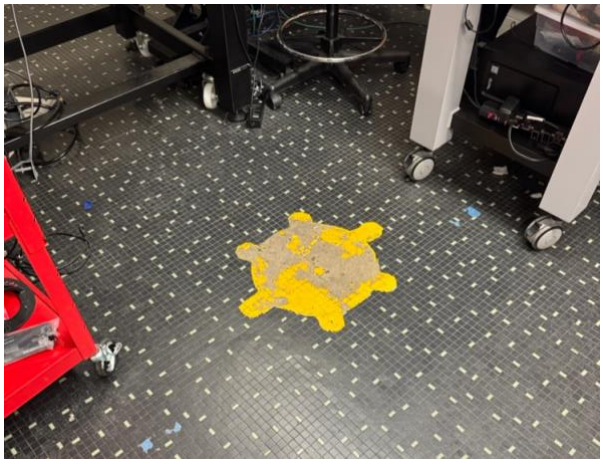
My medical school required that my 8-week elective block combine research with clinical exposure. Early mornings, typical in the US, suited me and the pace was different from what I experienced at home in the UK. My supervisor was a Professor of Neurosurgery and a Professor of Bioengineering, leading a neurosurgical lab that immediately captured my interest. On day one, I asked to contribute to a research project. What struck me was the breadth of genuinely cutting-edge work, not only in functional neurosurgery (which I wished to explore further given limited exposure during medical school) but also across neuro-oncology, spine and skull base.

Every Thursday, the department held Grand Rounds. A different lab presented its latest work to the entire neurosurgical team. The discussion that followed was stimulating. These sessions became a weekly anchor i.e., energising and unmissable. Clinically, I worked within functional neurosurgery. Under my supervisor's guidance, I followed patients through the perioperative pathway: seeing them preoperatively, observing in theatre and following the postoperatively stage. I saw how neurologists and neurosurgeons coordinate within the wider MDT to deliver complex functional procedures safely and precisely.

Highlights included observing deep brain stimulation for Parkinson's disease and essential tremor, targeting the subthalamic nucleus, globus pallidus internus and thalamic nuclei, and the insertion of intracranial electrodes for refractory epilepsy. Because I was embedded with the research team as well, I was able to participate first-hand in intraoperative electrophysiological recordings that we later analysed together in the lab. I learned to code, worked with new software tools, and contributed actively

to group discussions. What I valued most was closing the loop: correlating what I saw in theatre with the signals, anatomy and trajectories we examined back in the lab. Neuroanatomy began to click in a deeper, three-dimensional way. That experience led naturally to my own project on localisation of hippocampal and amygdalar subfields in patients undergoing intracranial monitoring for refractory epilepsy. I co-registered preoperative MRI with postoperative CT to generate accurate electrode maps relative to target structures and I documented a reproducible workflow that we iterated with the team. The blend of clinical observation and analytic work (very much the Hopkins way, with multiple neurosurgical labs working hand-in-glove with clinical teams) made the learning immediate and meaningful.

The eight weeks went quickly; the team was supportive and I built strong connections. I produced a report titled *A Multi-Step Pipeline for Anatomical Localisation: CT–MRI Fusion, Subfield Segmentation and Intracranial Electrode Mapping in Patients with Refractory Epilepsy.* It won the Fulton Prize 2025 at my medical school for the best elective research undertaken in the neurosciences that year. Beyond the recognition, the project gave me a practical framework for linking imaging, anatomy and electrophysiology that I will carry into neurosurgical training.



I also discovered something memorable on one of the old floors at Hopkins: a six-point compass set into the floor of the old lab, its yellow paint largely worn away. It was used by Walter Dandy (1886–1946) to orient patients during ventriculography and pneumoencephalography. By injecting air into the ventricular system, he made brain tumours visible on X-ray for the first time. Standing over that compass, I felt the history of the field under my feet: method, curiosity, and courage in equal measure.

Hopkins made a big impact on me and strengthened my resolve to pursue a career in neurosurgery. I am grateful to SBNS for the award that helped make this elective possible, and to the faculty, residents, scientists, and staff at Johns Hopkins who welcomed me into their clinical and research community. The experience was empowering and exactly what I hoped for when I first read those stories at 13.