



August: first day in the hospital

ESO Department to Department Visit Programme to NHS Lothian, Edinburgh, United Kingdom by Abel Sandmann, MD, PhD candidate, Amsterdam UMC, Amsterdam, The Netherlands

Through the support of the European Stroke Organisation (ESO) Department to Department Visit Programme, I had the invaluable opportunity to visit NHS Lothian and The University of Edinburgh in Scotland. I was invited by prof. Rustam Al-Shahi Salman to collaborate between August and November 2024. The goal of my visit was twofold: to gain clinical experience in acute stroke care and to conduct a research project focused on the prognosis of patients with a cerebral cavernous malformation (CCM). This report is an overview of my experiences during the visit.



September: ESO Edinburgh Stroke Research Workshop

When I returned to Edinburgh for the second time, following a previous visit in 2022, I immediately felt at ease. The city's rich history, beautiful architecture, and warm atmosphere made me feel welcome again, and excited for the time ahead. After settling into my accommodation, I met my housemate, who is a member of the Research to Understand Stroke due to Haemorrhage (RUSH) research group, the team I would be collaborating with. Living with a colleague not only strengthened my connection with the RUSH team but also gave me a local's perspective on life in Edinburgh, and more importantly, a new friendship.

Over the next few days, I was introduced to the rest of the RUSH team, who made me feel exceptionally welcome. They provided a tour of the hospital, including the acute stroke unit and neurology wards, giving me a clear overview of the clinical environment where I would be working. As a medical doctor from abroad, I first needed to apply for a clinical observership – which was approved within a few days – and complete the International Check-In process at the university. With these formalities completed, I was fully prepared to begin my journey in Edinburgh.

During the first weeks, I observed acute stroke care in NHS Lothian through regular visits to the emergency department and participation in clinical meetings. To further improve my research skills, I attended the ESO Edinburgh Stroke Research Workshop in September, a 3-day course given by stroke research experts, which was an inspiring experience. Additionally, I began data collection for the prognosis study within the Scottish Audit of Intracranial Vascular Malformations (SAIVMs). SAIVMs is a population-based project including adults (≥ 16 years) diagnosed with intracranial vascular malformations in 1999-2003 or 2006-2010 in Scotland. Patients have been followed-up prospectively since recruitment, and my role was to complete the follow-up through the end of 2023, extending its total duration up to 25 years. It was exciting to have access to such an extensive and well-maintained database, offering the opportunity to contribute to research with long-term implications for patient care.

Each week, I had the opportunity to attend several clinical meetings. On Mondays, I joined the neurovascular multidisciplinary meeting remotely. On Wednesdays, I participated in the RUSH team's weekly meeting, followed by the neuroradiology meeting. On Thursdays, I attended the Clinical Neurosciences Round, which featured presentations on various topics and clinical case discussions. Finally, on the last Monday of each month, I attended the arteriovenous malformation (AVM) meeting, which focused on the treatment of complex AVM cases.

During the second half of my visit, after finalizing data collection, we drafted statistical analysis plans for the research projects. Weekly discussions and regular meetings with my supervisors back home helped refine our approach and identify the best methods to answer the research questions. This process deepened my understanding of how to design a robust statistical analysis plan. In the final weeks, we conducted several statistical analyses. It was very exciting to already detect some preliminary findings. Additionally, it was a tremendous privilege to receive guidance from prof. Rustam Al-Shahi Salman. His expertise provided invaluable insights into the interpretation of the results.

Weekends provided the perfect opportunity to explore Scotland's breathtaking nature. My housemate and I went on several hiking trips in the Highlands, climbing a few Munros (Scottish mountains over 3,000 feet). As if the hiking adventures were not enough, the visit was even more unforgettable when I saw the northern lights for the first time in October!

October: the northern lights



This experience was both personally and professionally invaluable. Observing acute stroke care in a different healthcare system enriched my perspective and provided insight into patient-centred care in Scotland. The clinical exposure and research collaboration not only improved my skills and knowledge but also deepened my passion for stroke care and research.

I am sincerely grateful to the ESO for making this visit possible. My deepest appreciation to prof. Rustam Al-Shahi Salman for his invitation and invaluable guidance throughout my visit. I would also like to express my gratitude to the clinicians at NHS Lothian for sharing their expertise. Finally, I would like to thank the entire RUSH team for their hospitality and for welcoming me in their beautiful country. I hope we meet again soon!

November: final day and farewell

