

ELECTIVE (SSC5a) REPORT (1200 words)

A report that addresses the above four objectives should be written below. Your Elective supervisor will assess this.

My elective placement took place at the Meilahti Tower Hospital in Helsinki, Finland. My main goal during this elective was to investigate the possibility of a career in anaesthetics, gain more exposure and improve my practical skills prior to beginning foundation training in August. During my time in Helsinki, I had exposure to a wide array of anaesthetic procedures and practice in different settings. Meilahti is a large university hospital campus, where several hospitals have recently merged. There are two separate surgical units with their own operating theatres, and a trauma room next to the emergency department built as a rapid access operating theatre with imaging capabilities. These cover several surgical specialties from liver and cardiothoracics to neurology, including the only organ transplant unit in Finland. There is also a large, multi-module intensive care unit. I spent most of my time in the operating theatres of one of the surgical units, observing planned and emergency surgeries in different specialties, and an additional few days on neuro intensive care.

Due to Meilahti being a large specialist centre, many of the operations taking place are complex, and there are several anaesthetic concerns and considerations involved. This brought the prevention of anaesthetic and operative complications to the forefront in the teaching I received. A key principle of anaesthetics is the maintenance of homeostasis during anaesthesia. This requires a thorough understanding of the patient's presenting condition, underlying chronic issues, and a good quality prior risk assessment. Compared to the UK, in Meilahti, prior medical history was added as an additional point on their version of the WHO surgical checklist. Risk assessment is more challenging when done acutely for emergency operations. A particularly interesting case I observed in relation to complication prevention was a patient presenting with critical limb ischaemia. He had a genetic syndrome associated with fusion of the cervical vertebrae with minimal neck movement, as well as a complex cardiac history of pulmonary stenosis, ventricular septal defect and open foramen ovale. This meant that the anaesthetist had to prepare for a difficult airway and alter usual anaesthetic goals for maintaining homeostasis. The patient was intubated awake with a fibre-optic bronchoscope. Other considerations were using etomidate in induction for haemodynamic stability, aiming for a minimum mean arterial pressure of 85 mmHg and having a transfusion threshold of Hb 130 to avoid underperfusion due to his history of polycythaemia.

As described above, due to the specialist nature of the surgical unit, I was able to observe several advanced anaesthetic techniques. This included single lung ventilation with an endobronchial tube for a lobe resection, transoesophageal echocardiography, active temperature management machines in the context of hyperthermic intraperitoneal chemotherapy and ROTEM for guiding the management of massive haemorrhage. As far as I know, these are techniques that are available in tertiary London hospitals as well, but that I had not had the chance to see before.

I noticed several differences in practice between Finland and the UK. Firstly, the clearest one was the role of the anaesthetist. For most operations, anaesthetists would do any necessary procedures like lines, administer induction medications, and intubate the patient, and after ensuring the patient was stable, leave to do other work like documentation or other jobs in the unit. Senior anaesthetists especially were sometimes working in several theatres. I thought this was due to a solidified anaesthetic nurse role. The nurses I met had very clear competencies and practiced more independently compared to the anaesthetic technicians I had met in the UK. In the UK the anaesthetic technician or associate role involves prepping medications and kit at the next-door anaesthetics room, helping with induction and intubation, but not much time in the operating theatre unless the patient was unstable, and the anaesthetist needed an extra pair of hands. By comparison in Finland, there was no anaesthetic room and patients were anaesthetised directly on the theatre bed. At the start of operations, the nurse and anaesthetist would agree on goal parameters like mean arterial pressure and haemoglobin. Following intubation, the anaesthetic nurse would be responsible for the general care of the patient, adjust ventilator settings and administer medications with the agreed goals in mind. The anaesthetist would pop in to see how the case was progressing and return for extubation. This was also made possible by an electronic charting system, that would automatically record vital signs in real time, and that procedures and administered drugs were recorded on, that the anaesthetist could keep an eye on remotely. This was different from the paper charts I saw during my anaesthetics rotation in an outer London hospital. In operations with more unstable patients or complex anaesthetic concerns, the anaesthetists would spend more time in theatre. This was the case for liver transplants and surgeries requiring cardiac bypass that I observed.

There was also a difference in the role of the senior anaesthetists within the surgical department. The department was very anaesthetist led, which one of the doctors explained to as if the surgeons were their clients, coming to operate when needed. Senior anaesthetists were embedded higher up in the organisational structure, and responsible for instance for deciding which operation would need to be cancelled, or which theatre a case needing emergency surgery would go to. There was a large amount of managerial work, that was not purely linked to anaesthetics but the general running of the surgical unit. Clinically, some other differences in practice that I noticed were a bigger focus on sustainability and differences in medication choice. There was much less single use plastic compared to the UK – for instance reusable scrub gowns, elastic washable tourniquets for cannulation, detachable fabric curtains at wards, and not covering the handle of the theatre lights with plastic but exchanging the whole handle between operations. There must be a significant resource used in resterilising and washing equipment, but the amount of waste generated was significantly less compared to what I have seen in the UK. A prescribing difference I noticed was much more frequent use of albumin for hypovolaemia. In patients with an increasing need for noradrenaline, after some crystalloids patients would often receive one or two bottles of albumin. This seemed especially popular in the vascular cases I saw. This is not a practice I have seen much of in the UK, where options would often be crystalloids or blood products.

My personal development learning objective was to practise medical Finnish. This was something I felt nervous about having spent so much time in hospital settings in English, with little prior Finnish medical vocabulary. I was surprised to find I had no trouble understanding clinical information in Finnish, apart from a few acronyms, as much of the clinical language is based on Latin. However, despite being fluent in Finnish, I struggled at the start with using the language actively in a professional setting, main issues being my vocabulary and finding words. Everyone I encountered was very kind about my language barrier and translated words for me when needed. I feel much more confident now in speaking to colleagues or patients in Finnish. This was useful for me, should I want to come to practice medicine in Finland later in

my career. It also reassured me that I am adjustable and able to settle in new contexts, which is helpful as I approach starting my foundation training.