



GREAT ORMOND STREET HOSPITAL FOR CHILDREN

Oh my GOSH - Paediatric Anaesthesia at Great Ormond Street Hospital

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It is difficult to imagine a world without anaesthesia. Prior to its discovery, surgery was excruciatingly painful and psychologically traumatising. Patients were held down by assistants and the best analgesia they could hope for was a tot of brandy. From the advent of ether and chloroform to present day, the specialty is ever advancing and evolving to deliver the best perioperative care to patients. I chose to spend 7 weeks in the anaesthetics department at GOSH, a world-renowned tertiary referral centre, in order to learn more about this fascinating specialty. During my time there, I was able to follow patients' perioperative journeys. On the recommendation of my consultant supervisor, I visited the Association of Anaesthetists of Great Britain and Ireland (AAGBI) anaesthetics museum which was captivating. We subsequently had lots of interesting discussions about history, physiology, pharmacology, public health, and politics(!), which really helped to give context to the clinical anaesthesia I was seeing in the hospital. I had the opportunity to practise and develop my airway management skills and was able to successfully intubate patients under supervision.

My focus was on the subspecialty of paediatric anaesthesia. The youngest patient I saw was just a few days old while the oldest was a few days' shy of their eighteenth birthday. GOSH is specialised in the treatment of sick children of all ages, often those with serious, rare, and/or life-threatening conditions. My university paediatrics placement was in a small district general hospital, whose bread-and-butter was the treatment of common conditions such as bronchiolitis. It was therefore striking to see and help treat children with more complex medical problems, many of which I had only read about previously. The young age of the patients, combined with the complex nature of their medical conditions, meant that it was often necessary for them to see an anaesthetist at an assessment clinic to help plan their perioperative care. I attended several of these consultations in which preparations were made, the anaesthetic itself was explained to the patient and their family, and fears were allayed. This is just one example of how anaesthetists do so much more than simply 'put patients to sleep'. They need a high degree of emotional intelligence to be able to reassure patients, particularly young children. Despite this, when it came to the day of the procedure and the anaesthetic itself, patients and families alike often experienced a range of emotions. Every patient is different when they come into the anaesthetic room. I found it challenging at the beginning of my placement to know how to approach these emotions. The children were often very ill and in a frightening clinical environment. Some were excited at the prospect of 'going to sleep', some familiar with the situation having had several anaesthetics previously, while others were terrified. However, by observing anaesthetists, other staff members, and parents over the course of my placement, I learnt a number of ways to help support and reassure patients and their family. For example, I spent time helping patients 'paint' the inside of the mask with scented lip balms so the anaesthetic gases would smell like Coca-Cola or Fanta. Gas inductions became a game of blowing up the green balloon (bag) attached to the mask. It was incredibly rewarding to watch just how big a difference such small things made to the patient's experience. Anaesthetic rooms can be scary, foreign environments and tensions often run

high. While I was there, another student was observing the reactions of the patient, their family and the staff as part of their master's degree in human behaviour. This shows just how strange and interesting an emotional landscape the anaesthetic room can be.

One case in particular left a lasting impression. A four-day old infant needed cardiac surgery to repair a hypoplastic aortic arch and ventricular septal defect. I was struck by how tiny they were when they arrived. The anaesthetist inserted lots of lines and monitoring before bringing them into theatre. I have seen cardiac surgery before but never on such a small scale. They put the patient on bypass but, in order to repair the aortic arch, there cannot be any blood being pumped through. To achieve this, the patient was cooled to 18°C and the circulation stopped completely for around 20 minutes! The anaesthetist monitored perfusion of the brain and kidneys throughout but the whole situation seemed so inherently wrong. We discussed the anaesthetic management of deep hypothermic circulatory arrest and left the patient to the intensive care unit after the surgery with a repaired aortic arch and ventricular septum. I felt incredibly privileged to be able to observe such an amazing procedure. The skill and professionalism of the staff as well as the available resources to make such a complex surgery possible struck me, particularly as, during my time at GOSH, the hospital and its staff were the focus of intense media attention due to an ongoing court case. I was impressed with how the staff continued to provide care to each and every patient in spite of the numerous press vans outside, the disparaging comments made against staff members on social media, and the need for increased security inside the hospital. Their motto of, 'The child first and always' was made clear, even during such a difficult period.

I complemented my time spent in theatres and on the wards with work on a project which involved researching sparklines. These are small yet powerful graphics, used to great success in the financial world to visualise data, and we believe they could be adapted for uses in clinical medicine. Tufte & Powsner¹ suggested the possibility of using sparklines to summarise clinical psychiatric data. Our idea builds on some limited early surveys of sparkline utility in medicine but the approach has not yet been widely adopted. We believe that a visual summary of patient data, which can be interpreted at a single glance, has great potential. By visualising information, we can begin to make sense of it: identifying trends and patterns which matter and which may not be immediately apparent from disparate pieces of information or data. I presented my work so far to members of the anaesthetics department and have pitched my idea for an article to a student journal.

I am incredibly grateful to the AAGBI and Downing College for their help with funding my elective and to my consultant supervisor, Dr. Mike Sury, for making this incredibly rewarding experience possible. I learnt so much during my time at GOSH and my placement has reinforced my desire to pursue a career in anaesthetics as it is such a captivating specialty.

1. Powsner SM, Tufte ER. Summarizing clinical psychiatric data. *Psychiatric Services* 1997;48(11):1458-61.