Report on BAUS / WCE Endourology Mini Fellowship

1st Stage – New York Presbyterian Hospital, New York City, America, October 2019
2nd Stage – Global Rainbow Hospital, Agra, India, November 2019

I have developed a keen interest in endourology throughout my training and, hearing the positive feedback from a number of previous trainees who had successfully applied for this generous BAUS grant, I was keen to apply myself. My aims included to:

- gain an insight into healthcare delivery beyond the NHS
- further my experience and training in PCNL – including hands on experience in access, tract dilatation, decision-making, effective team working, theatre utilisation, resource management, organisation of personnel, pre-operative planning and management of complex stone patients.
- work closely with an experienced, high volume PCNL surgeon
- gain exposure to a range of complex stone cases
- learn how best to maximise the use of limited resources
- learn how to provide a safe, efficient, pre-, intra- and post-operative PCNL service.

My journey began with a 2-week period of observation at the New York Presbyterian Hospital, Columbia University Medical Centre, New York City. This is one of America's top ranked hospitals and is rated the number 1 healthcare facility in New York City. It is affiliated to two Ivy league medical schools Weill Cornell Medicine and Columbia University College of Physicians and Surgeons

I shadowed Professor Ojas Shah, Director of the Division of Endourology and Stone Disease at the Columbia University Medical Centre. My educational supervisor at the time of the application - Mr Daron Smith - put me in touch with Professor Shah as they had crossed paths at various international meetings. Professor Shah is internationally recognized for his subspecialist interest in the medical and surgical management of patients with urinary stone disease. He recently served as a member of the American Urological Association's Surgical Management of Stones Guidelines Committee. He was also recently appointed to the American Board of Urology's Examination Committee. He is an active member of the Endourological Society, EDGE (Endourology Disease Group for Excellence) Research Consortium, and ROCK (Research on Calculous Kinetics) Society and is an associate editor for the Journal of Urology.

I had an access-all-areas pass at this large academic facility, which employs 20,000 staff and 6,000 doctors. The outpatient urology department is set on the 10th floor of the Herbert Irving Pavilion and has modern facilities for diagnostic procedures - e.g. flexible cystoscopy, urodynamics, prostate biopsy - as well as outpatient clinics, research offices and a large lecture room for teaching and training. There are 18 consultants, 15 residents (registrars) and an array of allied healthcare professionals dedicated to urology, such as uro-nutritionists, uro-physiotherapists and specialist nurses.

Walking around the department it was clear that there was a certain level of pride taken by this department in their work. The corridors are full of framed and dated pictures of past groups of residents and 'attendings' (consultants) and a detailed history documenting the chronology of the department dating back to 1900. You could feel a sense of pride and prestige amongst the staff in this self-contained urology department.

Ward rounds commenced promptly at 6.30am, followed by a daily academic meeting from 7am – 8am with a theatre start time of 8.15am. I observed endourology cases - predominantly flexible ureterorenoscopy and laser stone fragmentation - in the cystoscopy suite, a dedicated 3 theatre unit set up solely for endourological cases. I also observed prostate biopsies, TURPs, TURBT post-intravesical Gemcitibine and ESWL under general anaesthetic. I also spent time in the main theatre complex, which consists of 30 operating theatres. I observed a number of emergency urology procedures and some reconstructive urology cases. Unfortunately the PCNL and rendezvous procedures listed during the 2 week period I was visiting were rescheduled due to untreated urine cultures, a unwelcome reminder that similarities in practise do transend geography!

Overall this was a fascinating insight into the American healthcare delivery system with its advantages and disadvantages. I had daily interaction with the urology team including theatre staff, residents, fellows and primary surgeons. There were ample opportunities to discuss case management and complex endourological scenarios. The department was preparing for their annual visiting professor day who this year was Professor Manoj Monga, director of endourology at the Cleveland Clinic, another internationally recognised endourologist. All 15 residents had to prepare a case to present. I was fortunate enough to witness the case presentations the week before his arrival and the scrutiny provided by the senior team members. Research and academia is a large focus at this busy tertiary referral centre, with an impressive infrastructure for performing laboratory and clinical research. I had the privilege of being able to discuss projects, training, supervision and delivery of research with all those involved. The academic meetings were highly educational. From 7am – 8am three days a week a different educational meeting would take place. On Mondays, didactic lectures are given by junior residents to the department; Tuesdays, a consultant led MCQ exam focussed session and on Thursdays, a journal club is hosted where trainees present and critique 4 papers every week.

The next leg of the fellowship took me to India. However, on route I stopped off at the 37th World Congress of Endourology which was hosted this year in Abu Dhabi. This was an excellent opportunity to present abstracts from my final year of training at University College Hospitals London and to meet with my next mentor on this journey – Professor Madhu Agrawal. Professor Agrawal has performed 14,000 PCNLs over a 30-year career to date. He is one of the early pioneers of the tubeless PCNL concept, as well as mini PCNL techniques. He is the current president elect of the Urological Society of India and internationally regarded as one of the top PCNL surgeons.

Following the conference, I flew from Abu Dhabi to Delhi and then a 4 hour drive south to Agra. Here the Taj Mahal looms fairytale-like from the banks of the Yamuna River. It's India's most recognized monument and is also one of the Seven Wonders of the World. I met up with Professor Agrawal who works at the Global Rainbow Hospital in Agra, a 150-bed private hospital. His unit has been receiving international fellows for a number of years so the team were used to having foreign trainees within the department. There is a clean, well run guesthouse owned by the hospital a 2-minute walk away from the main entrance. Meals are provided three times a day and the facility are accustomed to hosting international visitors.

The days began with a ward round at 9.30am. Professor Agrawal and his fellow would then perform a clinic and book cases for later that day. There was no advanced scheduling of patients. Cases were booked as and when they came through clinic. Patients travel from all

over India, many already with a diagnosis of renal stones and are mentally prepared for a procedure that day. The language barrier made attending clinic a futile exercise, therefore I spent the days working on my own projects, reviewing Professor Agrawal's impressive series of pre-recorded training videos on PCNL access or sight-seeing until the operating sessions, which typically begin at 4.30pm and run until usually 9pm, followed by a post-operative ward round.

From an organisational perspective the turnaround in theatre was extremely efficient. The staff here have clearly worked together for many years. Professor Agrawal has the same scrub assistant for every PCNL in the last 15 years of his practise. He attributes his excellent outcomes to having a consistent team where each member is aware of their role and performs them to a high level.

I received excellent hands-on training and was guided through both fluoroscopic and ultrasound-guided renal access. The majority of PCNLs were 15Fr mini PCNL using a 12Fr nephroscope. PCNLs were performed for upper ureteric stones and renal stones > 1cm. There were a number of staghorn cases during my time here. Flexible ureteroscopy is rarely used given the cost implications which are often passed onto the patients and therefore the volume of PCNL cases is substantial. During 21 days of elective operating I was involved with 22 PCNLs with hands on training in renal access, tract dilatation and stone clearance. This case volume would have been higher in a government hospital, however the opportunity to train with Professor Agrawal was the main highlight of the visit. His teaching style is patient, calm, engaging and hands on.

Patients here travel large distances from all over India to have their care under Professor Agrawal, so there was great emphasis on achieving stone clearance in a single sitting, often-necessitating multiple tracts. We spent time before each case discussing the imaging which often would only be an IVU, rather than a CT KUB. Care and precision were taken in planning the puncture for each case. I learnt the challenges associated with US guided puncture and how to revert to fluoroscopic-only techniques when US isn't able to delineate suitable access. Due to financial restraints, and in an effort to keep the costs as low as possible for the patients, all of the disposable equipment such as wires and sheaths were reused, nothing was wasted.

During my stay I was invited to present at the monthly Agra Urology Society meeting, a wonderful opportunity to give something back to the team who gave me so much education and training. I presented on minimally invasive management options for BPH and this was well received as urologists in India are currently not offering these treatments widely. I was able to share my own personal experience of HoLEP, Urolift and Rezum with the urologists of Agra.

The circuit of Delhi, Agra and neighbouring Jaipur (otherwise known as the 'Pink City') is known as the golden triangle due to the wealth of culture and historic monuments. I was able to tour these regions when Professor Agrawal was not operating.

The entire fellowship has given me a level of appreciation for the NHS that we can easily take for granted. The opportunity to take a break, broaden my horizons and experience different healthcare settings, I hope, will allow me to develop into a more rounded clinician. I would highly recommend this fellowship grant to other senior trainees. I would like to thank BAUS for an opportunity of a lifetime.