

The British Association of Urological Surgeons

Endourology Fellowship



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Background

The Institute of Urology at the Keck Institute is a leader in robotic urooncological surgery. They currently have 3 Da Vinci Si and 1 Da Vinci Xi robots at their disposal. On an average week they will carry out over 20 robotic procedures (700-800/year) (300 partial nephrectomy, 350 prostates 70 cystectomy. There are 25 clinical members of the faculty and large basic science research team. The team is well supported by fellows, residents and physicians assistants.

It is one of the top ranked urology teams in the United States, has the world's most extensive experience in robotic/laparoscopic partial and radical nephrectomy. Pioneered the concept of anatomical partial nephrectomy and was the first centre to perform level III IVC thrombi without bypass.

They have carried out over 1300 orthotopic neobladders and published the world's largest series of intracorporeal neobladder surgery with radical cystectomy.

Professor Gill is chair of the Urology department; he is also the Hanson White chair of medical research and chair of the Catherine and Joseph Aresty department of Urology. The urology team has carried out more than 13,000 robotic procedures to date. Professor Gill was awarded the St Paul's Medal by BAUS, has published over 700 papers and is the second highest cited urologist in active surgical practice in the world.

I have recently been appointed as a consultant urologist at the Royal Berkshire hospital in Reading, I will be involved in the treatment of renal and bladder cancer in addition to that of benign conditions of the bladder and upper urinary

tract. This will include robotic assisted radical cystectomy and intracorporeal formation of an ileal conduit or neobladder, robotic assisted partial nephrectomy, pyeloplasty and ureteric pathology. The reasons for my visit were to develop my robotic and laparoscopic skills, to experience the most up to date surgical and radiological technology used in urological procedures and to bring this knowledge and the experiences gained from working in a dynamic multidisciplinary team environment back to use in the UK.

Aims

- To fine tune operative techniques for robotic assisted procedures
- To understand and replicate positive aspects of the urology team at USC
- To develop strategies for dealing with intraoperative complications

Overview of visit

- Daily interaction with Urology team including theatre staff, residents, fellows and primary surgeons
- Open access to all urology operating theatres
- Detailed explanation of operations and regular discussions regarding techniques and management of urological conditions
- Attended the North American Robotic Urological Symposium
- Robotic apprenticeship course, a one week intensive training course involving daily lectures and case observation covering all aspects of robotic surgery

Operative experience

I was able to observe and receive training during over 40 robotic operations including robotic partial nephrectomy, pyeloplasty, cystectomy and ureteric reimplantation. I discussed all aspects of robotic surgery with various team members, this was particularly useful in writing procedure specific operative details including sutures, equipment and positioning for each individual operation. Since returning I have spent time with our theatre staff updating procedure specific requirements for robotic operations, developing agreed protocols and ensuring each member of the team has precise and well-understood roles. We have purchased Scanlon bulldog clamps for use in partial nephrectomy, improved on patient positioning and are currently working on improving team dynamics. I gained a wealth of experience in seeing how experienced robotic surgeons dealt with intraoperative complications. I have since written and implemented a major bleeding protocol and have worked with

our theatre team to improve the co-ordination amongst the team in such circumstances.

During the observorship I was trained in the interpretation of intraoperative ultrasound of renal masses during partial nephrectomy. As a result I am in the process of developing a business case to purchase the ultrasound probes to make this possible in our trust.

I examined all aspects of the enhanced recovery programme and postoperative management for radical cystectomy. There are aspects of their programme such as the use of opiate receptor antagonists and early exercise targets that I believe may benefit patients in the UK.

North American Robotic Urology Society (NARUS) conference

I was able to attend this two-day conference, covering all aspects of robotic surgery. The focus of the conference was very much towards training robotic surgeons and optimizing techniques. There were some excellent presentations from high volume robotic US surgeons. Each presenter was encouraged to provide details on specific lessons learned from their surgical experiences discuss their complications and how to avoid/ deal with these if they arise. There were many frank discussions amongst the audience and opportunities to discuss issues face to face. This was towards the beginning of my time in the US so I had the benefit of taking many of these lessons back to the team at USC for further discussion.

Apprenticeship course

The apprenticeship course was a week of intensive training in robotic surgery involving the entire faculty from the urology department of Keck. The day would begin with breakfast lectures followed by observation of cases, further lectures and discussion at lunchtime followed by cases in the afternoon. Each day had a separate theme and open access to the robotic simulators was available throughout. I was part of a group of 5 clinicians taking part in this programme. We were also given copies of a large number of operative videos for future reference. This was an excellent course combining observation, tuition and practical skills.



Apprenticeship course delegates with Professor Gill

Take home messages and how this has changed my practice

- A greater understanding of the finer details of robotic surgical technique
- Development of protocols to deal with intraoperative complications
- Improved team work and understanding of each individual's role
- Alterations to enhanced recovery protocols

Summary

The observorship at the Keck Institute at the University of southern California was a unique opportunity to spend time learning from some of the world's finest robotic surgeons. I gained a wealth of information regarding technical aspects of robotic surgery, the importance of leadership and team dynamics in developing a successful robotic surgical unit. I am enormously indebted to the BAUS section of endourology, without whom this would not have been possible.



