

John Wickham: the godfather of robotic surgery

DOMINIC HODGSON

From tinkering with an Austin 7 as a child to performing the first laparoscopic nephrectomy in the UK, John Wickham's contribution to urological surgery and minimally invasive surgery in general is truly significant. Dominic Hodgson looks at the career of a real innovator whose influence crossed specialty boundaries.

John Wickham was recently described by Prokar Dasgupta, Editor-in-Chief of *BJU International*, as the 'godfather of robotic surgery'. And further, 'What Mr Wickham was doing at the time was revolutionary stuff, and some people thought he was a bit crazy, but we have come to realise he was a man perhaps 20 years ahead of his time.'

It is timely, then, to consider, some two decades after his retirement, not only John's contribution to urology and surgery in general, but his influence on the medical

BLOG

Have you worked with John? Do you have any memories or thoughts you want to share with others? Please add your comments to our blog: www.trendsinsenhealth.com/blog

profession's attitude to specialisation and technological advancement at that time. His desire to make surgery less invasive was a constant throughout his working life and crossed specialty boundaries.

Having spent a happy childhood in West Sussex, where early tinkering with technology involved building an Austin 7 out of two wrecks, John was accepted at Bart's Medical School in 1946, but first spent three years engaged in National Service.

On qualifying, he completed a BSc in Physiology, and his initial intention was to specialise in neurology. However, he found this 'sterile' and instead studied for his Fellowship of the Royal College of Surgeons (FRCS) in order to become a neurosurgeon. After passing his FRCS he was told to gain general surgical experience. He got this in spades at the Hammersmith Hospital, working in the general and vascular departments.

This was a time when the Hammersmith was the pre-eminent postgraduate medical centre for the country, and a place of great innovation. He worked on Ralph Shackman's renal unit, running new dialysis machines at a time when renal transplantation was just over the horizon. Inspired by this, on returning to Bart's, John's career intentions shifted from neurosurgery to urology.

UROLOGICAL ENTHUSIASM

John's enthusiasm was only increased by a Fulbright year spent at the University of Lexington in Kentucky, where for his thesis



Robots like the da Vinci surgical system are increasingly used in prostate surgery today. John Wickham was involved in the development of an early forerunner called the 'Probot' (courtesy of Intuitive Surgical)

he developed intra-operative renal cooling for ischaemic renal surgery. At the end of his stay he was offered a job as Professor of Urology. His children were young at this juncture, and his decision to pass this opportunity up was based on his desire to bring them up in the UK.

On returning, he completed training at the old St Paul's Hospital, London, before being appointed at Bart's as a consultant in 1968, filling Sir Alec Badenoch's very large shoes.

He found rather entrenched attitudes towards surgical innovation by the general surgical staff, with a presumption that any of them could perform any operation.

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Similarly, having witnessed the finesse of neurosurgery, John was disheartened by the aggressive surgical approach; especially in stone disease, which frequently resulted in nephrectomy. Therefore, he further developed his open stone surgery technique, cooling the kidney as he had learnt in Lexington, and performed 750 such cases in the next 12 years. Surgeons with similar practices to his met at the European Intrarenal Surgical Society (EIRSS), which he inaugurated. There were two camps – those favouring cooling and parenchymal incisions, and the followers of Jose Gil-Vernet, who performed stone extraction through the renal pelvis.

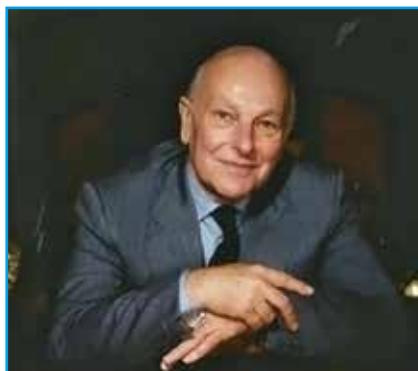
THROUGH THE KEYHOLE: PCNL

In 1969 John linked up with the radiologist Mike Kellett to develop percutaneous nephrolithotomy (PCNL). Kellett had been performing percutaneous nephrostomies, and between them they decided to dilate up the tract to access renal stones. Word of their work soon led to a large number of referrals. One memorable success was when a driver of the number 38 parked his bus outside the Shaftesbury hospital to pop in to say 'thank you' a week or so post-procedure.

Five cases were presented at the British Association of Urological Surgeons (BAUS) meeting in 1980, where he got a fair bit of flak with the criticism: 'This is not surgery!'² However, there were many like-minded, innovative urologists, who similarly developed minimally invasive techniques: Peter Alken in Mainz; Joe Segura at the Mayo Clinic; Arthur Smith from New York. With these pioneers and others, John developed the Endourology Society.

SOCIETY FOR MINIMALLY INVASIVE THERAPY

This enthusiasm was also seen across other specialties: arthroscopy in orthopaedics, and laparoscopy in gynaecology and general surgery. It was clear to John that there was common ground amongst these surgeons and he approached them to assess their interest. The enthusiastic response



Since his retirement in 1992 John Wickham has maintained an active interest in developments in the field of urological surgery

led to the first meeting of the Society for Minimally Invasive Therapy (now known as the international Society for Medical Innovation and Technology), which took place in London in December 1989. John was the first president amongst a collective of surgeons, interventional radiologists and, crucially, manufacturers. Subsequent meetings were held in Berlin, Japan and the USA and continue to this day.

The revolution in minimally invasive surgery, with John very much at the forefront, saw him team up with general surgeons to operate more widely, eg on gall bladders. He was criticised by some of his urology colleagues for this divergence from his native specialty. However, his dedication to, and influence on, urology was again demonstrated when he and Malcolm Coptcoat performed the first laparoscopic nephrectomy in England at King's Hospital, London. The two of them, together with the radiologist Andy Adam at Guy's, worked on the *Journal of Minimally Invasive Therapy*, which was associated with the Society for Minimally Invasive Therapy.

John was also instrumental in acquiring the first shock wave lithotripter in the country. Having been knocked back by the Department of Health, he used connections with the Kuwait Health Office to fund the project, whilst stipulating that NHS patients should be allowed access.

John was the director of the Academic Unit at the Institute of Urology, and stresses that his ability to lead and innovate was only possible because of the team he had with him, including registrars such as Ron Miller, John Fitzpatrick, Chris Woodhouse and Graham Watson. He describes this period as the best of his professional life.

Perhaps his most ambitious project was the 'Probot' – an autonomous trans-urethral resection of prostate (TURP) machine, developed in conjunction with Professor Davies of Imperial College and tested in clinical trials at Guy's on about 30 patients. However, £500,000 was required for the next stage in its development, which proved impossible to raise. John's efforts did not go unnoticed, though, and he was invited to visit the USA to deliver the principle lecture to the Bioengineering Society.

He retired in 1992 and has observed innovations in the field of urology with continued interest since, particularly with regard to robotic surgery, and is also an enthusiastic supporter of centralisation of major surgery. John clearly had a fulfilled and successful professional life, and key to this was his ability to form relationships with colleagues, both medical and those from medical engineering companies. He also worked at a time when British surgery was truly at the forefront of innovation.

It is perhaps the misfortune of any innovator to be thought of, by some, as he has put it, 'a weird eccentric'. However, the armamentarium that we use to surgically treat urological disorders today, and the subsequent reduced morbidity suffered by our patients as a direct result of his work, are testimony to John Wickham's innovation, and his ability to enthuse others and persevere in the face of criticism from those resistant to change.