

# LEGENDS IN UROLOGY

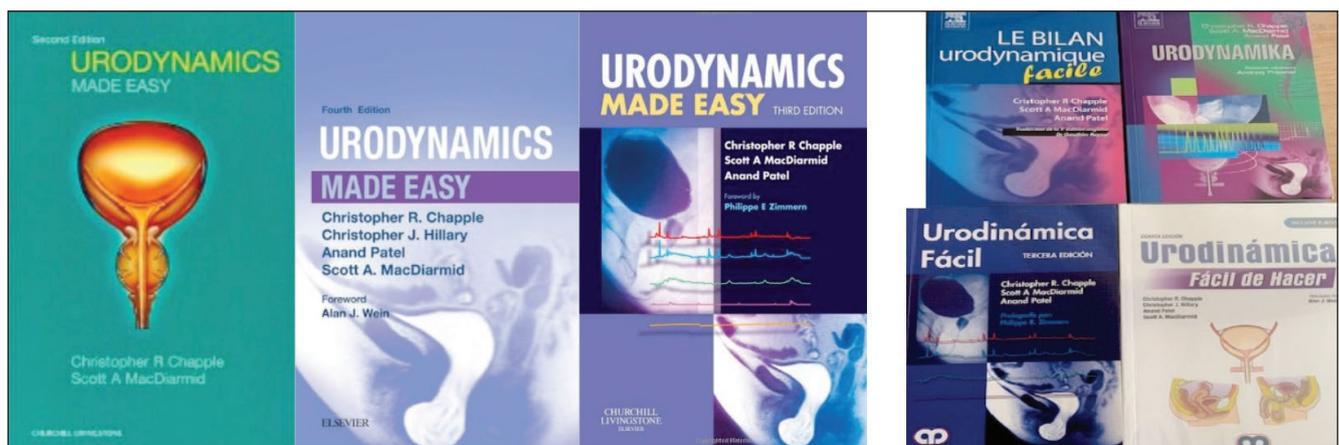
**Prof Christopher Chapple, BSc, MBBS, MD, FRCS (Urol), FEBU, FCSHK (Hon), FSCSSL (Hon), FACS (Hon), Doctoris Hon Causa (Buc, Sem)  
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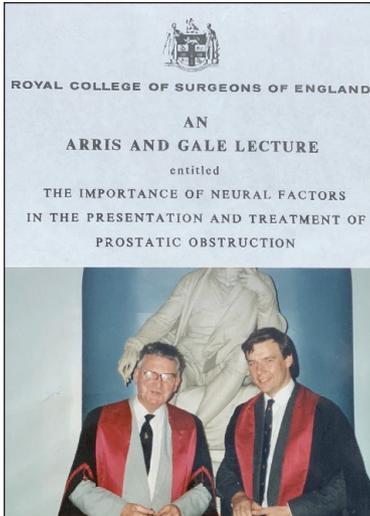
I feel incredibly honored by this request which I was certainly not expecting.

My family background is neither scientific nor medical. I trained at the Middlesex Hospital Medical School, now subsumed into University College London Medical School. At medical school from 1974 onwards, I completed an intercalated first class honors degree in human anatomy and anthropology. This led to the publication of my first academic paper in the *Journal of Anatomy* on a comparative analysis of the venous drainage of the lower limbs in the primate compared to man, explaining why humans are more prone to develop varicose veins. I was awarded my medical degree in 1980.

My surgical career began with 3 years of general surgery, orthopedics, and urology training in Birmingham. I particularly enjoyed urology, through serendipity, and Jack O'Brien's mentorship set me on the path for my future career. I returned to the Middlesex Hospital, having passed the first two parts of the FRCS (Fellow of the Royal College of Surgeons) examination, where I was mentored by Euan Milroy and Richard Turner Warwick (RTW). This department, in 1969, was the birthplace of urodynamics. My initial post was as a research fellow, and during this time, I published my first book entitled; "Urodynamics Made Easy", now in its fourth edition and four translated versions.



The research for my doctorate thesis was carried out in the Department of Neuroscience at University College London, under the guidance of Professor Geoff Burnstock, investigating the pharmacological mechanisms underlying prostatic obstruction. The thesis was awarded the University of London's Rogers Prize. Based on this, my first major lecture was an Arris and Gale lecture on the importance of neural factors in prostatic obstruction, delivered at the Royal College of Surgeons of London (1990).



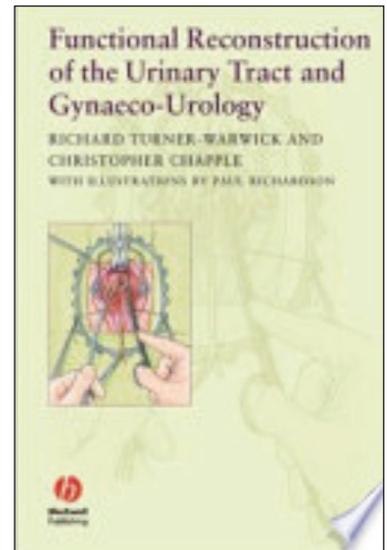
This picture was taken after the lecture with Richard Turner Warwick (RTW).

My subsequent appointment as the senior registrar in Urology at the Middlesex Hospital allowed my complete immersion in the field of functional and reconstructive urology. During this period, I passed the intercollegiate examination FRCS (Urol) being awarded the Yeats medal as the most successful candidate. This specialist training was rounded off by a fellowship period in the USA, providing me with the opportunity of visiting George Webster (Duke), John Duckett/ Alan Wein (Philadelphia), Charles Devine/ Gerald Jordan (Norfolk) and Jack McAninch (San Francisco).

My consultant appointment started in January 1992 at Central Sheffield University Hospitals (CSUH). It was a busy time as only four of us served a population of one million in the then-fourth-largest city in England. My appointment as Director of Research for CSUH inspired my research interests. After several years CSUH merged with the other major hospital group in Sheffield to form Sheffield Teaching Hospitals NHS Foundation Trust in 2001.

Working with my mentor RTW we published a major surgical book (931 pages with over 1,000 diagrams) on reconstructive urology in the female, a second edition of which is currently in progress.

My primary clinical interest is the application of reconstructive principles to the urinary tract. I appointed a colleague, Richard Inman, and a successor, Nadir Osman, and we worked together to establish one of the UK's busiest urological functional reconstructive referral units. No matter how complex the case, our practice has always been to go back to basic principles based on the importance of adequate evaluation of the urinary tract by use of a carefully structured history, appropriate endoscopic and radiological assessment, and when necessary the use of urodynamic assessments, always remembering the aphorism that 'the bladder is an unreliable witness', a term coined by RTW (The Urological Clinics of North America Volume 6 No 1, February 1979).

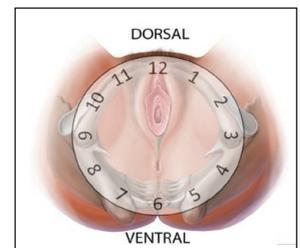


In Sheffield, we treat all aspects of reconstruction of the urinary tract, with a particular emphasis on urethral surgery in the male and female, fistula surgery, bladder reconstruction, and continent diversion, as well as the appropriate management of conditions such as detrusor overactivity, underactivity both neurogenic and idiopathic, neurourology, and specific conditions, such as bladder pain syndrome and Fowler's syndrome. I have emphasized the importance of training in functional and reconstructive urology and we have been proud of the training that we have provided for fellows coming to join us from all five continents of the world.

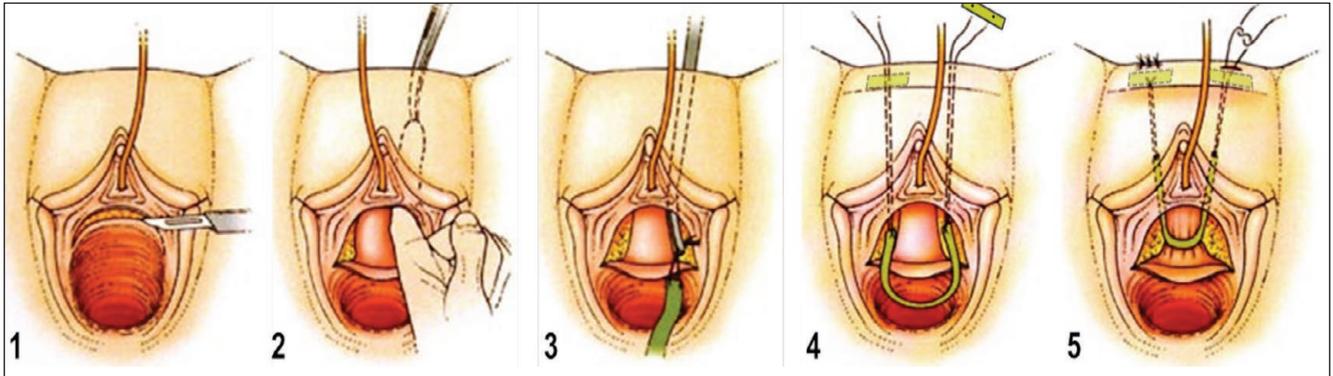
Inspirational messages that were instilled into me by my mentors, in particular RTW, included: using standardized terminology; a methodological approach to reconstructive surgery clearly identifies the surgical stages, namely 'taking it [the tissues] to bits and putting it [effectively back] together' (TITBAPIT); and always bearing in mind that there is no such thing as a brave surgeon, just a brave patient.

Examples of applying these principles to female urology, include the following areas that I have helped to publicize:

- The importance of appropriate terminology when discussing the anatomy of the female urethra – analogous to the male.



- The usefulness of a loosely placed autologous mid-urethral sling as an equally effective alternative to synthetic mesh.



- Adequate surgical exposure and the advantages of using the *prone* position or a supra-meatal approach to the urethra for any complex surgery, such as the removal of a urethral diverticulum or carrying out a female urethroplasty.

Based on my foundations in pharmacology, I maintained a keen interest in the pharmacotherapy of the lower urinary tract and have been involved in the evaluation and widespread introduction of new anticholinergics, alpha-blockers, 5 alpha-reductase inhibitors, PDE5 agonists, onabotulinum toxin, sacral neuromodulation, and latterly the beta 3 agonists. I believe using these therapies will only be beneficial if based on an appropriate evaluation of the patient and, in particular, recognizing the myth, still widely believed, that the target of management of bladder storage problems is the detrusor muscle. In reality, it is the sensory neural mechanisms controlling the lower urinary tract. More recent work has focused on the difficult clinical problem of the underactive bladder.

Honorary professorial posts at the University of Sheffield and Sheffield Hallam University followed. Over the course of my career, my personal contribution in terms of securing grant funding was over £5,000,000, which has supported our research and has led to the research training of more than 25 postgraduate students, most being urological trainees and many completing doctoral theses. I would like to acknowledge here the strong support provided to our research work by the Robert Luff Foundation. Sir Robert Luff was a patient and philanthropist who became a very strong supporter of our work, which has continued over many years.

My initial work was focused on uro-pharmacology, particularly the characterization of the clinically important alpha subtype in the prostate. During our work, we evaluated the localization of alpha receptor subtypes in the human prostate, particularly with reference to the muscle versus the glandular tissue. We also demonstrated the importance of manipulating afferent function rather than focusing on the efferent motor function when using onabotulinum toxin, in addition to several other projects relating to lower urinary tract function.

My subsequent focus turned to regenerative medicine, and this resulted in a long-term collaboration with Professor Sheila MacNeil, in the bioengineering department (The Kroto Institute) at the University of Sheffield. Our unit was the first to successfully bioengineer oral mucosa and introduce this to human patients.

Because of the associated costs, the limited time frame for implantation, and the easy availability of native oral mucosa for all except the most complex cases, we concluded that bioengineering oral mucosa was not a clinically viable contribution to routine clinical practice.

With the ongoing controversy over synthetic mesh used in the Ulmsten surgical procedure for treating stress urinary incontinence (SUI), we turned our attention to improving the biocompatibility of the material used, aiming to produce a better-tolerated material than polypropylene. This program has advanced well over the last 15 years on both absorbable and non-absorbable synthetic mesh, and a candidate material is now progressing towards clinical development.

I was appointed to the American Association of Genito Urinary Surgeons (AAGUS) early in my career. In 2011, the British Association of Urological Surgeons (BAUS) awarded me the St Peter's Medal. Most generously, other organizations have also awarded me; honorary membership of 17 national associations, including the Canadian Urological Association (CUA), which I was particularly honored by, two honorary doctorates and honorary surgical fellowships of the American, Hong Kong and Sri Lankan Colleges of Surgeons, the F. Brantley Scott Award, the Society of Urodynamics, Female Pelvic Medicine & Urogenital Reconstruction (SUFU) Lifetime Achievement Award in 2015, the inaugural member of the International Continence Society (ICS) Hall of Fame in 2020, and the Confederación Americana de Urología (CAU) Medal Shlomo Raz in 2022. In 2023, I was awarded the Société Internationale d'Urologie (SIU) Distinguished Career Award.

Early in my career, I was appointed to the committee that pre-dated the European School of Urology (ESU), called the East-West Programme. This involved several meetings in central and eastern Europe. The East-West Programme was incorporated into the European Association of Urology (EAU). I was appointed the first Chair of the ESU in 1995. Under the leadership of the then Secretary General, Frans Debruyne, and working with superb colleagues in the EAU, I further developed the ESU to provide educational and training meetings, such as the European Residents Education (EUREP) programme, a meeting tailored for residents at the end of their training, and which is held annually in Prague and is always oversubscribed.

Several other programmes across Europe, including masterclasses and a structured approach to hands-on training, have set the scene for the subsequent development of the ESU under the leadership of my successors. The ESU is now well established as a preeminent international educational organization in urology. The EAU's educational activities have expanded enormously under my successors' guidance.

Following my chairmanship of the ESU, I was appointed to the Executive of the EAU and was responsible for overseeing the development of all educational activities. I was subsequently honored to be appointed Secretary General of the EAU, a role I completed after 8 years in this post in March 2023. During my time at the EAU, I have been honored to work with so many talented and dedicated colleagues tirelessly devoted to the activities of the EAU and the advancement of urological practice worldwide. I am proud to have witnessed their efforts in facilitating the burgeoning development of the international profile of the EAU, with the development of its scientific and educational activities. This has facilitated the development of close collaboration with national societies, particularly within Europe but also worldwide. An important lobbying role has evolved at the European Parliament, emphasizing patient advocacy guiding our activities. Examples of some of these developments include the pan-European urology expert reference network (ERN eUROGEN) for rare urological diseases and complex conditions requiring highly specialized surgery. Enormous success has occurred in journal development, with the flagship journal European Urology (the highest ranked in urology) accompanied by three other EAU journals. The preeminent international role of the EAU Guidelines in defining appropriate evidence-based practice across the globe is particularly noteworthy.

Over my career, I have seen great enthusiasm over new technologies that often do not reach their potential. New technologies such as robotic facilitated surgery provide exciting possibilities. However, they are only a tool that must be used by surgeons experienced in a surgical procedure in the first instance, not just in using the robot. I encourage colleagues in the future to remember the satisfying experience of treating functional urological disorders that severely impact all aspects of everyday daily living, particularly with an ageing population.

However, let us shift the focus away from egocentricity. As I move towards retirement, looking back on the 49 years since I entered medical school, I feel privileged and honored to have worked with so many talented and inspirational friends and colleagues worldwide. I must acknowledge that my achievements would not have been possible without their support and guidance. Most notably, I am deeply grateful for the unwavering support, invaluable advice, and guidance provided by my wife of 42 years, Dr. Mary Chapple. Additionally, I must recognize the understanding and resilience demonstrated by my two children, who have endured the consequences of my journey.

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