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## Q1 What inspired your decision to specialise in neurological urology, and how has this focus changed throughout your career so far?

There are two things that led me to pursue this really stimulating field. Firstly, there is so much unknown about the control of these functions, with important contributions from the brain and the spinal cord, and all the major divisions of the nervous system. Putting these together is a tremendous intellectual challenge. But the key motivation is the privilege of helping the patients themselves. Their need is great, and the support they receive is vital to them. This is truly a rewarding clinical area to work in.

## Q2 Given the potential limitations of relying solely on symptom scores and flowmetry for assessing lower urinary tract symptoms, how can we ensure that healthcare providers are equipped to accurately interpret these tests and make informed decisions about the need for further investigations, such as urodynamic studies?

There has been a slow but steady improvement over the years, as practitioners come to realise the importance of properly understanding all aspects of a patient's presentation. We are now much better at recognising the distinction of storage from voiding symptoms,<sup>1</sup> and the potential for symptoms to arise from aspects of ageing and other comorbidities contributing

to bladder problems alongside prostate changes. Practitioners are now more pragmatic about the necessary tests and are better able to make use of sometimes suboptimal evaluations. Challenges still remain, nonetheless. Particularly, it is important to encourage practitioners to keep up to date with the latest findings; the algorithm produced by the UPSTREAM study is a prime example.<sup>2</sup> It is practical, evidence-based, and clinically driven. We need to encourage all practitioners working in this area to engage with it, to the benefit of patients.

## Q3 Could you discuss the potential impact of your research on point-of-care testing for urinary tract infections (UTI) in GP practices? How could this innovation improve patient outcomes and reduce healthcare costs?

This technology is still early in the innovation pathway. The aim is to provide a more reliable approach to diagnosing infection than currently offered by dipsticks, but without the significant delay needed to culture and identify the infection organism. Immediate diagnosis and knowledge of the organism, combined with the detection of inflammation, will enable GPs to ensure antibiotics are given promptly to the right people. The technology is based on rapid detection of interaction between antibody and antigen, and this could be developed further to look at other indications, opening a rapid method of delivering more accurate diagnoses.

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**Q4** Given the challenges posed by indwelling urinary catheters and the limitations of current designs, what are the most promising avenues for future research and development to minimise the risk of UTIs and improve patient outcomes?

We do need to be realistic that the ability of microorganisms to thrive in challenging environments is remarkable, and the toxic and caustic nature of urine is remarkably challenging for physical structures like catheters. My personal feeling is that catheter design needs to focus on coping with inevitable microbiological challenges, rather than attempting to prevent UTIs. Designs that drain effectively and reduce the risk of blockage should be prioritised, and additional benefits to patients, such as reduced discomfort, should be encouraged.<sup>3</sup> Prioritising solely UTI prevention is potentially unrealistic and may miss the possibility of other benefits.

**Q5** What are the latest advancements in neuromodulation therapies, such as sacral neuromodulation and tibial nerve stimulation, for treating urinary incontinence?

Increasingly we are seeing incremental valuable benefits, with improvements in battery performance and the ability to recharge the battery efficiently being particularly helpful. We are also beginning to see convincing performance of non-invasive (transcutaneous) therapy, with clear potential to improve access to treatment and tolerability. We still need to see reduction in prices, and it is to be hoped that the economy of scale could make these treatments more affordable.

**Q6** Given the complex bidirectional relationship between depression, anxiety, and urinary symptoms, how do you think healthcare providers effectively screen for and manage these conditions to improve patient outcomes?

Healthcare professionals can be quite protocol driven, and focused on direct measures, such as symptom scores. Of course, patients prioritise their lived experience, which is much harder to measure. Two areas where healthcare professions could really improve relate to the mental health impact of the condition and being up-front about potentially embarrassing topics. The mental health side ought to be considered alongside the physical aspects, as it is self-evident that incontinence could easily lead to depression or anxiety. It is interesting that our recent publication identified the reverse association,<sup>4</sup> but more research will be needed to ascertain the implications of that and whether there could conceivably be benefit of screening for incontinence in people with depression or anxiety. More immediately, the profession must do a better job of leading discussions about supposedly embarrassing topics, such as sexual function and bladder or bowel symptoms. That is expected by the patients and would truly be valued by them, yet too often the profession ignores the issues.

**Q7** Looking ahead, what do you see as the most promising areas for future research in your areas of research in urology, and how do you envision these advancements shaping the management of the most common conditions, including UTIs and urinary incontinence in the coming years?

It is so interesting to see how many opportunities for amazing research continue to emerge. My particular interest is to consider the implications of UTIs in major patient groups, such as those with neurological disease. In particular, people with conditions like dementia or multiple sclerosis, where the inflammation caused by infection can lead to deterioration in the neurological condition. In urinary incontinence, a key need is to consider it in conjunction with closely related issues such as bowel or sexual dysfunction. These three issues almost inevitably coexist in people with spinal cord or peripheral nerve disease, yet their treatment is siloed, each one being managed separately rather than in a coordinated fashion. Developing multidisciplinary approaches will be a huge step forward, and from there a rich stream of research would result.



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## References

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