# Summer Research Scholarship Report: Arianna Pischetola

## University Hospital Southampton NHS Foundation Trust – Endourology Unit

During the summer of 2025, I undertook a project within the Urology Department at University Hospital Southampton NHS Foundation Trust, under the supervision of Professor Bhaskar Somani. This experience marked my second research placement within the department and provided an invaluable opportunity to build upon previous collaborations, while contributing to an innovative study focused on the role of digital health technologies in patient counselling.

The research project, which later developed into a draft paper entitled *Optimizing Patient Consent and Counselling for Flexible Cystoscopy with Virtual Reality*, sought to evaluate the use of virtual reality (VR) as an adjunct to conventional consent procedures for patients undergoing flexible cystoscopy. Informed consent represents a cornerstone of patient-centred practice(Cocanour, 2017; Vargas Blasco et al., 2024), yet in routine urological outpatient care, limitations in health literacy, time constraints, and pre-procedural anxiety can reduce patients' understanding of the procedure and negatively affect their overall experience(Gelmis et al., 2025; Kass et al., 2020; Moore et al., 2021). This project explored whether a VR-enhanced counselling module, designed to provide immersive three-dimensional anatomical visualisation and procedure explanations, could improve patient comprehension, alleviate anxiety, and enhance satisfaction.

The study was conducted prospectively at the Urology Centre over a two-month period. Ninety adult patients scheduled for flexible cystoscopy were recruited following eligibility assessment. Each participant was introduced to a standardized three-minute VR counselling session developed through the Surgassists® platform. The intervention incorporated interactive 3D models of the lower urinary tract alongside an audio narration based on official patient information resources from the British Association of Urological Surgeons (BAUS) and the European Association of Urology (EAU). Patient outcomes were assessed using validated questionnaires administered before and after the VR session, including a Procedure Understanding Questionnaire, the State-Trait Anxiety Inventory (STAI), and a Visual Analogue Scale (VAS) for pain perception.

The findings demonstrated that VR counselling significantly improved patients' understanding of the procedure, their ability to explain it, and their perception of the accessibility of information. Anxiety scores declined across multiple domains, with patients reporting greater calmness, satisfaction, and confidence following the intervention. Importantly, self-reported pain during cystoscopy was also reduced in patients exposed to VR, suggesting a beneficial effect of pre-procedural preparation on procedural tolerance. Patient evaluation confirmed a strong preference for VR-enhanced counselling compared to traditional methods, with the majority rating the experience positively.

My responsibilities within the project included helping with the design and recruitment process, collecting and analysing patient data, and contributing to the preparation of findings for dissemination at academic meetings and for journal submission. This placement also offered me the opportunity to work closely with a multidisciplinary clinical team, including consultants, trainees, specialist nurses, and collaborators from the digital health sector. Such interactions

enriched my appreciation of how research, innovation, and clinical practice intersect to improve patient outcomes in urology.

In conclusion, the scholarship enabled me to contribute meaningfully to a study that demonstrated the potential of VR to enhance informed consent and patient counselling in outpatient urology. The experience strengthened my research skills, deepened my understanding of academic urology, and confirmed my interest in pursuing future work at the interface of clinical practice and technological innovation. I am grateful to the Endourological Society, Professor Somani, and the entire Urology Centre team at University Hospital Southampton for their mentorship, guidance, and support throughout this project.

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