VIDEO SECTION

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Robotic Flexible Ureteroscopy: A Step-by-Step Guide to the ILY® Platform

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ABSTRACT

Introduction: Robotic flexible ureteroscopy (rfURS) is emerging as an alternative to manual flexible ureteroscopy for the treatment of upper urinary tract stones. Contemporary guidelines and reviews describe its potential ergonomic and radiation-related advantages, as well as comparable surgical outcomes (1–5). Initial clinical and simulation studies with the ILY® platform have demonstrated feasibility, safety, and a short learning curve, although standardized implementation remains limited (6–10). This video presents a step-by-step workflow for the safe and efficient use of the ILY® platform.

Materials and Methods: A 43-year-old woman with a previous right double-J stent placed for obstructive pyelonephritis underwent rfURS for a 13-mm renal pelvic stone (1,497 HU; volume 1,214 mm^3). The video demonstrates operating-room setup, robot calibration and sterile draping, robot positioning and fixation, docking to the ureteral access sheath and ureteroscope assembly, console-controlled navigation, laser lithotripsy, systematic renal inspection, and standardized undocking. A flexible suction sheath was used throughout the procedure.

Results: Draping and docking times were 167 and 645 seconds, respectively. Robotic console time was 115 minutes, including 52 minutes of laser lithotripsy at 8 Hz and 1.2 J. Basket extraction was not required. Undocking was completed in 74 seconds, and total operative time was 130 minutes. No intraoperative complications or troubleshooting events occurred. Postoperative day-1 computed tomography confirmed stone-free status. The patient was discharged at 36 hours postoperatively without complications, as graded by the Clavien-Dindo classification (11). Surgeon satisfaction was rated 8 out of 10.

Conclusion: rfURS using the ILY® platform was feasible, safe, and effective. A standardized step-by-step workflow may facilitate adoption, improve procedural consistency, and enhance surgeon ergonomics (12). rfURS represents a meaningful step toward autonomous surgery (13).

CONFLICT OF INTEREST

None declared.

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VIDEO

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