

English Symposium

2025年11月14日(金) 13:20 ~ 14:40 第10会場

**[ESY2] English Symposium 2 New Era of Robotic Surgery**

Moderator: Micheal Powar (Cambridge University Hospitals), Junichiro Kawamura (Kindai University)

**[ESY2-1] The New Era of Robotic Colorectal Surgery with the da Vinci Xi**

Mina Ming-Yin Shen (China Medical University Hsinchu Hospital, Taiwan)

Background: Escalating demands for oncologic precision, reconstructive quality, and operating-room (OR) efficiency are redefining colorectal surgery. The da Vinci Xi platform enables a shift toward reproducible oncologic dissection and suture-centric reconstruction while easing manpower pressures.

Objective: To outline a practice model that leverages Xi capabilities for (1) hand-sewn end-to-end and single-stapling anastomoses, (2) standardized CME or TME oncological resection, (3) OR workforce optimization, and (4) near-term innovation.

Approach: Multi-quadrant Xi port mapping, stable optics, and wristed instrumentation support precise intracorporeal suturing, tension control, and mucosa-to-mucosa apposition with facile revision. For colorectal cancer operation, the platform delivers steady counter-traction and high-fidelity views along embryologic planes to achieve specimen integrity, central vascular ligation, and nodal clearance. A surgeon-controlled camera, programmable arm choreography, and standardized docking/checklists reduce bedside dependency and streamline turnover; dual-console coaching and instrument economy further enhance scalability.

Key Advantages:

Reconstruction: Sutured EEA and single-stapling anastomosis minimize device constraints, improve orientation in the narrow pelvis, and integrate perfusion assessment.

Oncology: Consistent CME/TME through stable exposure and precise energy/sealing.

Operations: Fewer assistants required per case, clearer role definition, and repeatable workflows.

Future Directions: Quantified perfusion analytics, automation-assisted camera control, augmented-reality anatomy overlays, telementoring, and data-driven coaching will extend safety, efficiency, and indications.

Conclusion: The Xi system operationalizes a workforce-aware, high-quality paradigm for robotic colorectal surgery - advancing sutured anastomosis, standardizing CME/TME, and laying a credible path to the next wave of innovation.