Fri. Nov 14, 2025

English Symposium

📅 Fri. Nov 14, 2025 10:20 AM - 11:40 AM JST | Fri. Nov 14, 2025 1:20 AM - 2:40 AM UTC 🏛 Room 10

[ESY1] English Symposium 1 Strategy for Advanced Rectal Cancer from Each Country

Moderator:Simon Ng(Department of Surgery, The Chinese University of Hong Kong), Shigeki Yamaguchi(Department of Surgery, Tokyo Women's Medical University)

[ESY1-1]

Total Neoadjuvant Therapy and Non-operative Management for Rectal Cancer in the U.S.

Tsuyoshi Konishi (The University of Texas MD Anderson Cancer Center)

[ESY1-2]

Strategy for Treating Advanced Rectal Cancer in Taiwan: Current Practice and Future Directions

William Tzu-Liang Chen (China Medical University Hsin-Chu Hospital)

[ESY1-3]

Strategy for Advanced Rectal Cancer Management in Thailand

Woramin Riansuwan (Colorectal Surgery Unit, Department of Surgery, Faculty of Medicine Siriraj Hospital, Mahidol University)

[ESY1-4]

Korean Strategy for advanced Rectal cancer

Jin Kim (Korea University College of Medicine)

[ESY1-5]

Treatment of rectal cancer in Japanese guidelines

Yusuke Kinugasa (Institute of Science Tokyo)

[ESY1-6]

Development and Implementation of Standardized NOSES for Colorectal Surgery

Xishan Wang (Department of Colorectal Surgery, National Cancer Center/ National Clinical Research Center for Cancer/ Cancer Hospital, Chinese Academy of Medical Sciences and Peking Union Medical College)

English Symposium

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[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)

[ESY2-2]

da Vinci SP and 5 in Colorectal Surgery: Early Experience and Future Perspectives

Yasumitsu Hirano (Saitama Medical University International Medical Center)

[ESY2-3]

Flexible Endoscopic Robotic System

Simon Ng (Department of Surgery, The Chinese University of Hong Kong)

[ESY2-4]

Carina surgical robot -assisted radical resection of colorectal cancer single center experience

Zhu Yuping (Zhejiang Cancer Hospital)

[ESY2-5]

Surgical stress response in Kangduo versus Da Vinci robot-assisted for colorectal cancer

Liu Yunxiao, Yuliuming Wang, Guiyu Wang (Department of colorectal cancer surgery, the Second Affiliated Hospital of Harbin Medical University)

[ESY2-6]

Clinical deployment of ANSUR, a surgical robot based on a new concept

Masaaki Ito (National Cancer Center Hospital East)

Sat. Nov 15, 2025

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[ESY3] English Symposium 3 Challenges and training in Colorectal surgery

Moderator:William Tzu-Liang Chen(China Medical University Hsin-Chu Hospital), Masafumi Inomata(Oita University)

[ESY3-1]

AI Surgical Navigation and Research Infrastructur

Tomonori Akagi, Masafumi Inomata (Department of Gastroenterological and Pediatric Surgery, Oita University Faculty of Medicine)

[ESY3-2]

Experience with the Senhance Digital Laparoscopy System (SDLS) in Colorectal Cancer Surgery -Outcomes and Future- Perspectives

Hirofumi Sugita (Saitama Medical University International Medical Center)

[ESY3-3]

Challenges and training in Colorectal surgery

Kamales Prasitvarakul (Minimally Invasive Surgery Center Hatyai, Department of Surgery, Hatyai Hospital)

[ESY3-4]

Training the next generation of robotic colorectal surgeons

James Ngu (Department of Surgery, Changi General Hospital)

[ESY3-5]

Challenges and Training in Colorectal Surgery in Thailand

Siripong Sirikurnpiboon (Colorectal Division, General Surgery, Department Rajvithi Hospital)

[ESY3-6]

Colorectal Cancer in Young Adults: Navigating the Clinical and Surgical Challenges

Michael Powar (Cambridge University Hospitals)

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[ESY1-1] Total Neoadjuvant Therapy and Non-operative Management for Rectal Cancer in the U.S.

Tsuyoshi Konishi (The University of Texas MD Anderson Cancer Center)

Total neoadjuvant therapy (TNT) is a novel strategy for rectal cancer that administers both (chemo)radiotherapy and systemic chemotherapy before surgery. TNT is expected to improve treatment compliance, tumor regression, and oncologic outcomes. Most importantly, TNT significantly improves a rate of clinical complete response and subsequent non-operative management. In the U.S., multiple TNT regimens are currently available with various combinations of the treatments including induction or consolidation chemotherapy, triplet or doublet chemotherapy, and long-course chemoradiotherapy or short-course radiotherapy. Evidence on TNT is rapidly evolving on clinical trials, and no definitive consensus has been established on which regimens to use. Multidisciplinary decision making needs consideration of the advantages and limitations in each TNE regimen. This lecture reviews currently available evidence on TNT for rectal cancer and provided a guide for tailor-made use of TNT regimens, particularly focusing on non-operative management.

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[ESY1] English Symposium 1 Strategy for Advanced Rectal Cancer from Each Country

Moderator:Simon Ng(Department of Surgery, The Chinese University of Hong Kong), Shigeki Yamaguchi(Department of Surgery, Tokyo Women's Medical University)

[ESY1-2] Strategy for Treating Advanced Rectal Cancer in Taiwan: Current Practice and Future Directions

William Tzu-Liang Chen (China Medical University Hsin-Chu Hospital)

Rectal cancer is a significant cancer burden in Taiwan, yet a unified national guideline for locally advanced rectal cancer (LARC) has not been established. Most institutions follow international standards, such as those established by the NCCN and ESMO, with adjustments made based on local practices. Magnetic resonance imaging (MRI) is the cornerstone for staging and risk assessment, guiding multidisciplinary team (MDT) decisions that are now routine in leading hospitals.

For mid and low rectal tumors, long-course chemoradiotherapy (45 to 50.4 Gy with concurrent fluoropyrimidines) remains standard. At the same time, short-course radiotherapy with consolidation chemotherapy is increasingly used as part of total neoadjuvant therapy (TNT). Recent registry analyses indicate that neoadjuvant radiotherapy benefits mid and low rectal cancers but may not improve survival for upper rectal lesions, while raising permanent stoma risk. Organ-preservation strategies, particularly the "Watch and Wait" approach after achieving clinical complete response, have demonstrated safety in Taiwanese centers.

Total mesorectal excision remains the cornerstone of surgery, with robotic and laparoscopic approaches achieving comparable outcomes, and lateral pelvic lymph node dissection used selectively. Future priorities include reaching consensus on neoadjuvant therapy, TNT sequencing, and adjuvant treatment after a good response. Developing Taiwan-specific guidelines will be essential for optimizing outcomes.

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[ESY1-3] Strategy for Advanced Rectal Cancer Management in Thailand

Woramin Riansuwan (Colorectal Surgery Unit, Department of Surgery, Faculty of Medicine Siriraj Hospital, Mahidol University)

Approximately 4,000 new rectal cancers are diagnosed annually. Despite the high prevalence of locally advanced rectal cancer (LARC), Thailand currently lacks national management guidelines, leading most surgeons to follow NCCN or ESMO recommendations. This abstract summarizes current trends in LARC management in Thailand.

LARC, defined as clinical stage T3 and T4 tumors or node-positive disease, is routinely evaluated using CT scans of the chest and abdomen, while mid-to-lower rectal lesions require additional high-resolution pelvic MRI for locoregional staging. The standard treatment for decades has been total mesorectal excision (TME) performed 8-12 weeks after neoadjuvant chemoradiotherapy (CRT). More recently, total neoadjuvant therapy (TNT) combining CRT with either induction or consolidation chemotherapy has emerged as an alternative, particularly for high-risk cases featuring EMVI-positive tumors, threatened circumferential margins, N2 disease, or lateral lymph node involvement. Although the RAPIDO trial regimen (5 x 5 short-course radiotherapy with consolidation chemotherapy) was adopted during the COVID-19 pandemic, its implementation remains limited.

Surgical approaches have evolved, with laparoscopic TME gradually replacing open procedures. However, widespread adoption faces challenges, including a shortage of skilled surgeons and reimbursement limitations. Robotic TME remains uncommon due to the excessive costs and limited availability of robotic platforms.

To enhance advanced rectal cancer care, the Thai surgical society should prioritize two key initiatives, including the development of national consensus guidelines for LARC management and the establishment of structured training or mentoring programs for laparoscopic and robotic surgical techniques.

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Moderator:Simon Ng(Department of Surgery, The Chinese University of Hong Kong), Shigeki Yamaguchi(Department of Surgery, Tokyo Women's Medical University)

[ESY1-4] Korean Strategy for advanced Rectal cancer

Jin Kim (Korea University College of Medicine)

Treatment for advanced rectal cancer in Korea has shown high survival rates despite the increasing incidence of the disease. National statistical data shows that the 5-year relative survival rate for all cancer patients diagnosed from 2018 to 2022 was 72.9%, a significant increase from 54.2% for patients diagnosed between 2001 and 2005. For colorectal cancer specifically, the 5-year survival rate was 71.8% from 2010 to 2014, with some hospital-specific data showing even higher rates up to 83.8%. This outcome is attributed to a systematic, multidisciplinary treatment strategy rather than a single approach.
The cornerstone of the Korean strategy is the use of neoadjuvant therapy, which involves combining chemotherapy and radiotherapy before surgery. The rationale behind this approach is to address the high local recurrence rate, which can be between 20% and 60% for locally advanced rectal cancer when treated with surgery alone. Neoadjuvant therapy aims to reduce this recurrence rate, improve the chances of complete tumor removal, and enhance survival. This approach is particularly crucial for low-lying tumors near the anus, as it can shrink the tumor and enable sphincter-preserving surgery, thereby preserving the patient's quality of life. A meta-analysis of neoadjuvant versus adjuvant chemotherapy showed a statistically significant improvement in overall survival and disease-free survival for the neoadjuvant group. Additionally, the rate of positive resection margins was found to be marginally lower in the neoadjuvant therapy group compared to the upfront surgery group.
In the surgical field, advanced technologies are applied. Laparoscopic surgery has offered various benefits, and robotic surgery is mainly used for rectal cancer, particularly for mid-to-low rectal cancer and in patients with a narrow pelvis. The robotic system offers enhanced dexterity and precision within the narrow pelvic cavity, which facilitates the safe and effective performance of complex procedures, such as lateral pelvic lymph node dissection. A recent study concluded that robot-assisted dissection was able to harvest more lymph nodes than laparoscopic surgery, with no difference in complication rates or survival. This technology helps pursue the dual goals of complete tumor removal and functional preservation.
The survival outcomes demonstrate the effectiveness of this comprehensive strategy. Studies have shown that when adjuvant chemotherapy is combined with surgery, the 5-year survival rate for high-risk stage 2 rectal cancer patients improves by 7.7% in terms of disease-free survival, while for stage 3 patients, certain combination therapies have been shown to reduce the mortality rate by 33%. Furthermore, research is ongoing into future treatment options. The increasing use of precision medicine, guided by next-generation sequencing(NGS), and the introduction of new drugs like immunotherapies are also contributing to more personalized treatment plans.

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Moderator:Simon Ng(Department of Surgery, The Chinese University of Hong Kong), Shigeki Yamaguchi(Department of Surgery, Tokyo Women's Medical University)

[ESY1-5] Treatment of rectal cancer in Japanese guidelines

Yusuke Kinugasa (Institute of Science Tokyo)

The treatment of rectal cancer in Japan differs significantly from practices in Europe and the United States, particularly regarding the use of preoperative therapies. The following summarizes the key points from the Japanese guidelines on rectal cancer treatment.
In Japan, total mesorectal excision (TME) or total mesorectal excision with autonomic nerve-preserving lateral lymph node dissection (TME + LLND) is the standard surgical approach for advanced lower rectal cancer. This approach has shown favorable outcomes in terms of both survival and local recurrence rates. Preoperative radiotherapy, which is standard in Europe and the United States, is not actively performed in Japan due to the lack of evidence supporting its added benefit in reducing local recurrence or its effectiveness as an alternative to LLND.
Preoperative CRT is weakly recommended for patients with a high risk of local recurrence. For patients with a high risk of local recurrence, preoperative chemotherapy (without irradiation) is weakly recommended against.
Total Neoadjuvant Therapy (TNT), which incorporates systemic therapy into preoperative treatment, is weakly recommended against for rectal cancer. TNT aims to address the limitations of preoperative CRT by improving distant metastasis control and survival rates. However, its routine use is not recommended in Japan.

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[ESY1-6] Development and Implementation of Standardized NOSES for Colorectal Surgery

Xishan Wang (Department of Colorectal Surgery, National Cancer Center/ National Clinical Research Center for Cancer/ Cancer Hospital, Chinese Academy of Medical Sciences and Peking Union Medical College)

Natural Orifice Specimen Extraction Surgery (NOSES) eliminates abdominal incisions by retrieving specimens through natural orifices (rectum/vagina). Chinese experts established a comprehensive NOSES system, including anatomical classifications and 10 standardized procedures. By 2024, over 41,000 NOSES cases (35,000+ for colorectal cancer) were performed in China (transanal: 82.9%, transvaginal: 17.1%). Large-scale data confirms reduced complications, faster recovery, and improved patient satisfaction without compromising oncologic outcomes. The China NOSES Alliance (2017) trained 10,000+ surgeons through workshops and live demonstrations, while the International NOSES Alliance (2018) expanded global adoption with consensus guidelines. This structured approach demonstrates successful transition from innovation to international standardization.

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[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)

[ESY2-2]

da Vinci SP and 5 in Colorectal Surgery: Early Experience and Future Perspectives

Yasumitsu Hirano (Saitama Medical University International Medical Center)

[ESY2-3]

Flexible Endoscopic Robotic System

Simon Ng (Department of Surgery, The Chinese University of Hong Kong)

[ESY2-4]

Carina surgical robot -assisted radical resection of colorectal cancer single center experience

Zhu Yuping (Zhejiang Cancer Hospital)

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Surgical stress response in Kangduo versus Da Vinci robot-assisted for colorectal cancer

Liu Yunxiao, Yuliuming Wang, Guiyu Wang (Department of colorectal cancer surgery, the Second Affiliated Hospital of Harbin Medical University)

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Clinical deployment of ANSUR, a surgical robot based on a new concept

Masaaki Ito (National Cancer Center Hospital East)

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[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.

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[ESY2] English Symposium 2 New Era of Robotic Surgery

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

[ESY2-2] da Vinci SP and 5 in Colorectal Surgery: Early Experience and Future Perspectives

Yasumitsu Hirano (Saitama Medical University International Medical Center)

The advent of next-generation robotic systems has significantly advanced colorectal surgery, enabling procedures that are more precise, less invasive, and ergonomically favorable for surgeons. At our institution, we have performed over 100 cases using the da Vinci SP system in gastrointestinal surgery, exploring the full potential of single-port robotic approaches. The SP system offers excellent maneuverability in confined pelvic spaces, reduces the number of incisions, and improves cosmetic outcomes. Furthermore, its compatibility with the concept of "solo surgery" minimizes reliance on experienced surgical assistants, allowing the primary surgeon to perform procedures independently. This system has shown particular advantages in anatomically complex cases, such as patients with previous pelvic surgery, ileal conduit reconstruction, or kyphosis. In contrast, the newly introduced da Vinci 5 system represents a state-of-the-art robotic platform, offering enhanced console ergonomics, real-time force feedback, and advanced system analytics. Features such as energy usage monitoring and intraoperative motion tracking support the integration of surgical data into clinical practice. From our initial experience, the da Vinci 5 has enabled safe and efficient procedures and shows great promise for broader application in colorectal surgery. In this presentation, we will compare the technical refinements, clinical performance, and initial implementation challenges of both systems. Through these insights, we aim to provide a forward-looking perspective on the future of robotic colorectal surgery, integrating the philosophy of single-port access with the innovations of next-generation robotic technology.

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[ESY2-3] Flexible Endoscopic Robotic System

Simon Ng (Department of Surgery, The Chinese University of Hong Kong)

The recent progress in endoscopic technologies and interest in colorectal cancer screening have enabled the diagnosis of a larger number of early colorectal neoplasms. Most of these lesions are treated with laparoscopic resection. An alternative minimally invasive therapeutic option for these early lesions is endoscopic submucosal dissection (ESD). However, ESD is technically very challenging and carries a relatively high risk of complications. Furthermore, ESD has a very long learning curve.

To overcome these technical problems, people thought about the application of robotic technology. In order to perform endoluminal surgery such as colorectal ESD, the development of a flexible endoscopic robot that can travel along the colon is essential. A prototype endoscopic robot known as the Master And Slave Transluminal Endoscopic Robot (MASTER) was designed and built in 2006. In a preclinical study using ex vivo porcine stomach model, even non-clinician novices were able to successfully perform ESD using the prototype MASTER system, without any perforation. Endoscopy experts and non-experts could perform ESD much faster with the MASTER system.

The original prototype MASTER system was quite crude and bulky, with wires or exoskeleton mounted on a standard double-channel endoscope. With further technologic upgrades, a second-generation endoscopic robot, the EndoMaster EASE (Endoluminal Access Surgical Efficacy) System, was developed. The new system consists of an independently designed, flexible platform with a built-in endoscopic imaging system and three working channels, two for the passage of robotic arms and one for accessories. Recently, our research group at CUHK has completed the world's first clinical trial on robotic colorectal ESD (n = 43) using the EndoMaster EASE System. Our study has confirmed the safety and efficacy of this novel endoscopic robotic system. Further evaluation is needed before this system can be routinely used in clinical practice.

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

[ESY2-4] Carina surgical robot -assisted radical resection of colorectal cancer single center experience

Zhu Yuping (Zhejiang Cancer Hospital)

The Carina surgical robot system is a recently introduced robot-assisted endoscopic surgical device originally designed in China. The modular architecture of the Carina platform is easily configurable to address clinical needs of urological, thoracic, gynecological, and general surgeons. Unlike Da Vinci integrated system, Carina surgical robot is composed by independent mobile, modular patient carts with separate operation arm, easily adjusts to any operating room setup The purpose of this study was to ascertain whether the Carina system was substantially equivalent to a comparable robotic device in terms of safety, efficacy and treatment costs during colorectal cancer resection, and evaluate the learning curve of Carina platform robotic surgery. Preliminary result: Successfully completed the procedure without any conversion to open or laparoscopic surgery. Time to first flatus and incidence of perioperative adverse events were comparable to da Vinci surgical robot. Additionally, no disparities were observed in pathological outcomes.

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[ESY2-5] Surgical stress response in Kangduo versus Da Vinci robot-assisted for colorectal cancer

Liu Yunxiao, Yuliuming Wang, Guiyu Wang (Department of colorectal cancer surgery, the Second Affiliated Hospital of Harbin Medical University)

Background: The efficacy and safety of Kangduo robotic technology in colorectal cancer (CRC) surgery have been fully verified. However, no studies have yet reported its short-term impact on surgical stress response.
Methods: This study conducted a post-hoc analysis using the data from a previous non-inferiority randomized controlled trial (ChiCTR2200063172). Patients with stage I-III CRC who underwent robotic-assisted radical colorectal cancer surgery between June 2022 and May 2023 were included. Participants were randomized 1:1 to receive either Kangduo or Da Vinci robotic-assisted surgery. The primary outcomes were changes in systemic stress response markers, including alanine aminotransferase (ALT), aspartate aminotransferase (AST), white blood cell count (WBC), hemoglobin (HB), neutrophil count (NEU), albumin (ALB), creatinine (CR), blood urea nitrogen (BUN), and lymphocyte count (LY).
Results: A total of 100 CRC patients were enrolled: 50 in the Kangduo robotic-assisted group and 50 in the Da Vinci robotic-assisted group. No significant differences were observed between the two groups in any of the measured stress response markers. Similar findings were noted in the subgroup analysis of patients without postoperative complications.
Conclusion: Kangduo robotic-assisted CRC surgery induces systemic stress response changes comparable to those observed with the Da Vinci robotic system.

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[ESY2] English Symposium 2 New Era of Robotic Surgery

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

[ESY2-6] Clinical deployment of ANSUR, a surgical robot based on a new concept

Masaaki Ito (National Cancer Center Hospital East)

The entry of new technologies has significantly transformed the field of surgical treatment. One of the most significant revolutions in the surgical realm over the past 30 years has been the rise of laparoscopic surgery. In Japan, laparoscopic surgery has become widespread for many diseases, with reports indicating comparable survival rates to standard treatments and good short-term outcomes.

In recent years, the introduction of surgical assistance robots has gained traction, and many surgical procedures for various disease areas have received insurance coverage in Japan. The number of cases using robotic-assisted surgery has been increasing. While the advantages of robots in terms of overwhelming operability are undeniable, studies comparing robotic-assisted surgery and laparoscopic surgery have shown that the superiority of robotic surgery is limited in terms of clinical outcomes, and no studies have proven an increase in survival rates. Considering this point, discussions from multiple perspectives regarding the future direction of robotic-assisted procedures and the development of robotic devices are awaited.

We established A-traction Co., Ltd., a venture company focused on "surgical support robot development," and have promoted the creation of Japan's first innovative medical devices with different features and concepts from existing surgical robots, obtaining medical device sales approval in 2023 as a National Cancer Center-certified venture company. The concept of our developed robot involves the surgeon performing dissection operations at the bedside, using the right hand and foot interface to control three robotic arms. In other words, the surgeon can intuitively mange two instruments - in conjunction with an endoscope - single-handedly.

We conducted the First-in-Human (FIH) procedure in November 2023, and it has been implemented in several medical facilities across the country. So far, our hospital has performed over 70 colorectal cancer surgeries, realizing one of our goals, which is the reduction of workload for healthcare.

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[ESY3] English Symposium 3 Challenges and training in Colorectal surgery

Moderator:William Tzu-Liang Chen(China Medical University Hsin-Chu Hospital), Masafumi Inomata(Oita University)

[ESY3-1]

AI Surgical Navigation and Research Infrastructur

Tomonori Akagi, Masafumi Inomata (Department of Gastroenterological and Pediatric Surgery, Oita University Faculty of Medicine)

[ESY3-2]

Experience with the Senhance Digital Laparoscopy System (SDLS) in Colorectal Cancer Surgery -Outcomes and Future- Perspectives

Hirofumi Sugita (Saitama Medical University International Medical Center)

[ESY3-3]

Challenges and training in Colorectal surgery

Kamales Prasitvarakul (Minimally Invasive Surgery Center Hatyai, Department of Surgery, Hatyai Hospital)

[ESY3-4]

Training the next generation of robotic colorectal surgeons

James Ngu (Department of Surgery, Changi General Hospital)

[ESY3-5]

Challenges and Training in Colorectal Surgery in Thailand

Siripong Sirikurnpiboon (Colorectal Division, General Surgery, Department Rajvithi Hospital)

[ESY3-6]

Colorectal Cancer in Young Adults: Navigating the Clinical and Surgical Challenges

Michael Powar (Cambridge University Hospitals)

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[ESY3] English Symposium 3 Challenges and training in Colorectal surgery

Moderator:William Tzu-Liang Chen(China Medical University Hsin-Chu Hospital), Masafumi Inomata(Oita University)

[ESY3-1] AI Surgical Navigation and Research Infrastructur

Tomonori Akagi, Masafumi Inomata (Department of Gastroenterological and Pediatric Surgery, Oita University Faculty of Medicine)

The Department of Gastroenterological and Pediatric Surgery at Oita University School of Medicine is actively promoting the use of AI to support minimally invasive surgery and develop next-generation medical professionals. Through industry-academia collaboration with the Fukuoka Institute of Technology and a private company, we jointly developed an AI navigation system that applies deep learning to laparoscopic surgery footage to automatically identify and display important anatomical landmarks. Clinical validation was successfully completed in 2018. With support from the Ministry of Education, Culture, Sports, Science and Technology (MEXT), we also built a database integrating surgical footage and clinical data. We provide a comprehensive research and education system that combines AI and data science, and have published a variety of research results, including automatic detection of bleeding sites and recognition of inflammation sites in cholecystitis. We are also expanding this system to gastric and colorectal cancer surgery. The department actively encourages young physicians to present and publish their research, with the hope of applying their findings to practical applications. This initiative is positioned as a model case for improving surgical safety and promoting digital transformation (DX) in medicine. At this cession, I will report on the department's AI-related efforts.

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📅 Sat. Nov 15, 2025 9:50 AM - 11:00 AM JST | Sat. Nov 15, 2025 12:50 AM - 2:00 AM UTC 🏛 Room 10

[ESY3] English Symposium 3 Challenges and training in Colorectal surgery

Moderator:William Tzu-Liang Chen(China Medical University Hsin-Chu Hospital), Masafumi Inomata(Oita University)

[ESY3-2] Experience with the Senhance Digital Laparoscopy System (SDLS) in Colorectal Cancer Surgery -Outcomes and Future- Perspectives

Hirofumi Sugita (Saitama Medical University International Medical Center)

The Senhance Digital Laparoscopy System (SDLS) is a surgical support system with haptic feedback that has received approval for 98 types of laparoscopic procedures under the national insurance system. The console is characterized by its openness, and it is equipped with a camera control system that utilizes eye-tracking technology. Additionally, the instruments utilized in this system are reusable and have a thickness of 3 mm, thereby ensuring precision and ergonomics in minimally invasive colorectal surgery. The operational similarity of the latter to conventional laparoscopy allows for a seamless transition from laparoscopic to robotic surgery.

From May 2018 to July 2025, 203 surgical procedures for colorectal cancer were performed with the assistance of the SDLS at our institution. Comparative studies of ileocecal resection and sigmoidectomy have demonstrated equivalent short- and mid-to-long-term outcomes when compared to laparoscopic surgery, confirming the safety of the former. However, operative time tended to be longer with SDLS. To address this, a hybrid strategy was introduced, combining the use of SDLS for precise lymphadenectomy and laparoscopy for mobilization. This approach resulted in enhanced efficiency and reduced operative time.

The Intelligent Surgical Unit (ISU) integrated into SDLS encompasses a range of functions, including "Follow Me," "Go To," "Point to Point 3D Measurement," and "Defect Identification & Sizing." These functions have the potential to support surgeons in a variety of ways. Moreover, the integration of artificial intelligence and machine learning algorithms is expected to reduce disparities in surgical skills. The integration of robotic precision with real-time AI analysis has the potential to enhance both the quality and safety of surgical procedures.

The future challenge lies in advancing these technologies into routine clinical application, thereby promoting the digitalization of surgery with SDLS for the next generation of minimally invasive colorectal surgery.

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[ESY3-3] Challenges and training in Colorectal surgery

Kamales Prasitvarakul (Minimally Invasive Surgery Center Hatyai, Department of Surgery, Hatyai Hospital)

Background: Laparoscopic and robotic colorectal (CRC) surgery remain technically demanding due to limited instrument mobility, loss of depth perception, and reduced tactile feedback. These challenges highlight the importance of structured training and careful management of intra-operative complications.

Methods/Experience: This presentation reviews the learning curve and key training elements in laparoscopic CRC surgery, with illustrative videos of intraoperative complications and their management strategies will be demonstrated. Clinical outcomes demonstrate gradual improvement with experience: operative time decreases significantly after ~90 cases, anastomotic leakage rates decline after ~30 cases, and local recurrence rates fall below 10% after ~60 cases. Notably, the learning curve for oncological outcomes is longer than that for achieving safe surgical outcomes.

Discussion: Risk factors for complications arise from both patient and surgeon-related factors. Difficult cases include T4 or bulky tumors, prior midline laparotomy, obesity (BMI > 30), history of pelvic radiation, and low rectal cancer. Early complications and conversion rates depend heavily on surgical experience. To minimize risks, surgeons should: (1) understand pelvic planes and anatomy, (2) follow correct procedural steps, and (3) master stapling techniques for tissue division and anastomosis. Principles such as traction-counter traction, careful retraction, and direct visualization are critical to avoiding incorrect planes. Technical limitations remain in narrow pelvises and in cases of recurrent or previously irradiated disease, where fibrosis complicates venous dissection.

Conclusion: Training programs should acknowledge that complications encountered by fellows often reflect mentors' shortcomings. In colorectal cancer surgery, intraoperative bleeding is not only life-threatening but also associated with anastomotic leakage, infection, and higher local recurrence. Careful preoperative planning, anatomical mastery, and precise surgical technique are essential to reduce complications and improve patient outcomes.

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[ESY3-4] Training the next generation of robotic colorectal surgeons

James Ngu (Department of Surgery, Changi General Hospital)

Surgical training has evolved from the open era to minimally-invasive surgery, with advancements in technique and technology. The needs and attitudes of surgical trainees have also changed over the years. This talk aims to explore the way we provide education and training for our next generation of robotic colorectal surgeons.

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Moderator:William Tzu-Liang Chen(China Medical University Hsin-Chu Hospital), Masafumi Inomata(Oita University)

[ESY3-5] Challenges and Training in Colorectal Surgery in Thailand

Siripong Sirikurnpiboon (Colorectal Division, General Surgery, Department Rajvithi Hospital)

The field of colorectal surgery in Thailand has advanced significantly over the past decade, aligning more closely with international standards. However, it continues to face a unique set of challenges in both training and clinical practice, shaped by the country's healthcare infrastructure and resource distribution.

1. Training Pathway: A Structured Approach
 ・ Foundation: After medical school (MD), surgeons complete a 4-year residency in General Surgery.
 ・ Specialization: Subsequent competitive 2 years Fellowship in Colorectal Surgery, primarily offered by major tertiary hospitals in Bangkok
 ・ Curriculum: Covers colorectal cancer, anorectal disease, benign colorectal disease, IBD and functional anorectal. And also in techniques in laparotomy , laparoscopic, endoscopy and increasingly, robotic-assisted surgery.
Certification: Regulated and examined by the Royal College of Surgeons of Thailand.

2. Key Strengths & Advancements
 ・ High-Volume Exposure: Trainees gain significant hands-on experience in large public hospitals.
 ・ International Standards: Leading programs align with global benchmarks and participate in international societies.
 ・ Adoption of MIS: Laparoscopic surgery is now a standard and essential skill for all trainees.
 ・ Multidisciplinary Care: Growing emphasis on MDT meetings and ERAS protocols to improve patient outcomes.

3. Major Challenges
 ・ Centralization of Resources: Advanced training, technology, and expertise are concentrated in Bangkok, creating a significant gap in care and training access for rural and regional areas.
 ・ Technological & Budgetary Constraints: High-cost technology (e.g., robotic systems) is available only in a few elite institutions due to budget limitations of the Universal Coverage Scheme (UCS).
 ・ Workforce "Brain Drain": Highly skilled surgeons are often attracted to better-compensated positions in the private sector or abroad, depleting the public health system.
 ・ High-Pressure Environment: Extremely high patient volumes in training hospitals can strain educational time, prioritizing service over dedicated learning in some instances.

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[ESY3-6] Colorectal Cancer in Young Adults: Navigating the Clinical and Surgical Challenges

Michael Powar (Cambridge University Hospitals)

The presentation will outline the challenges faced by the rising tide of early onset colorectal cancer in young adults.
Data will be presented on epidemiological trends and the scale of the problem in the West and East.
The presentation will cover the following challenges.
Diagnostic Delay
Agressive tumour biology
Treatment goals
Surgical & technical considerations
Patients's goals / Survivorship