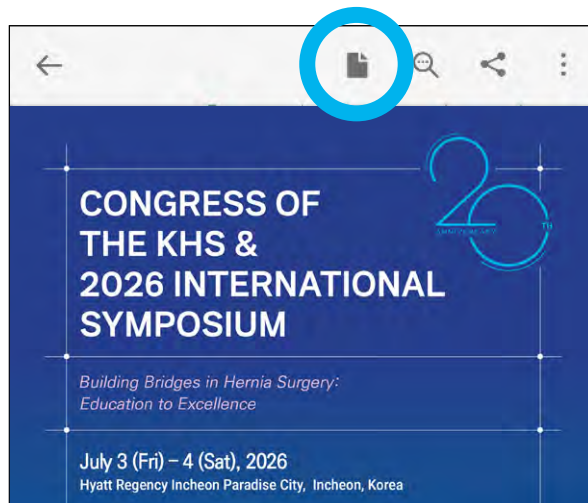


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July 3 (Fri) – 4 (Sat), 2026

Hyatt Regency Incheon Paradise City, Incheon, Korea



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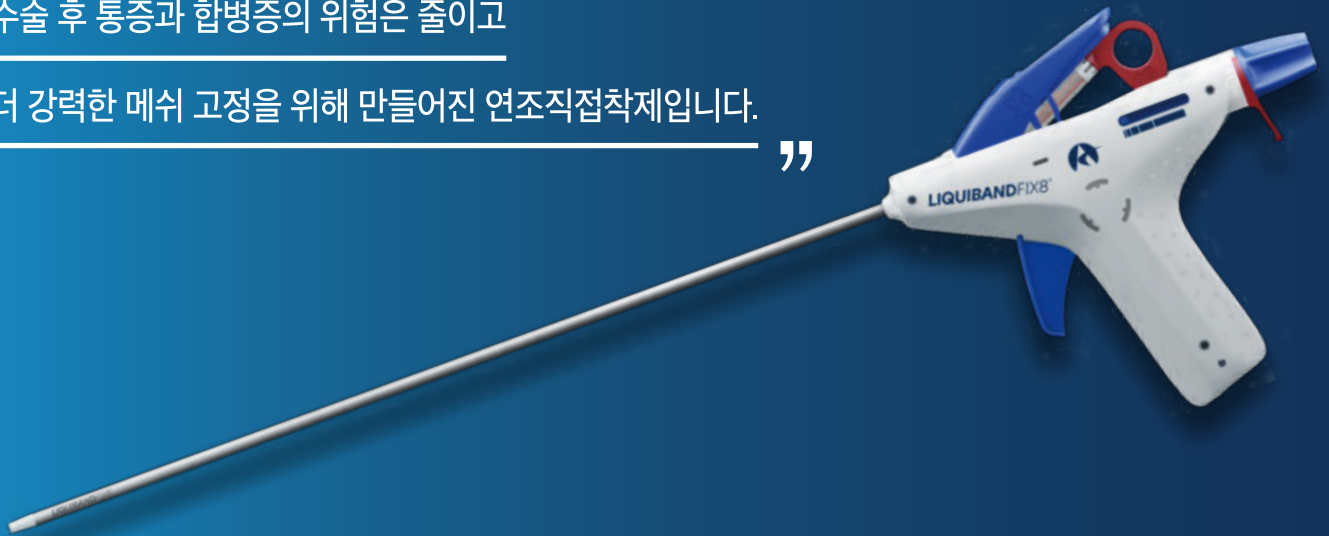
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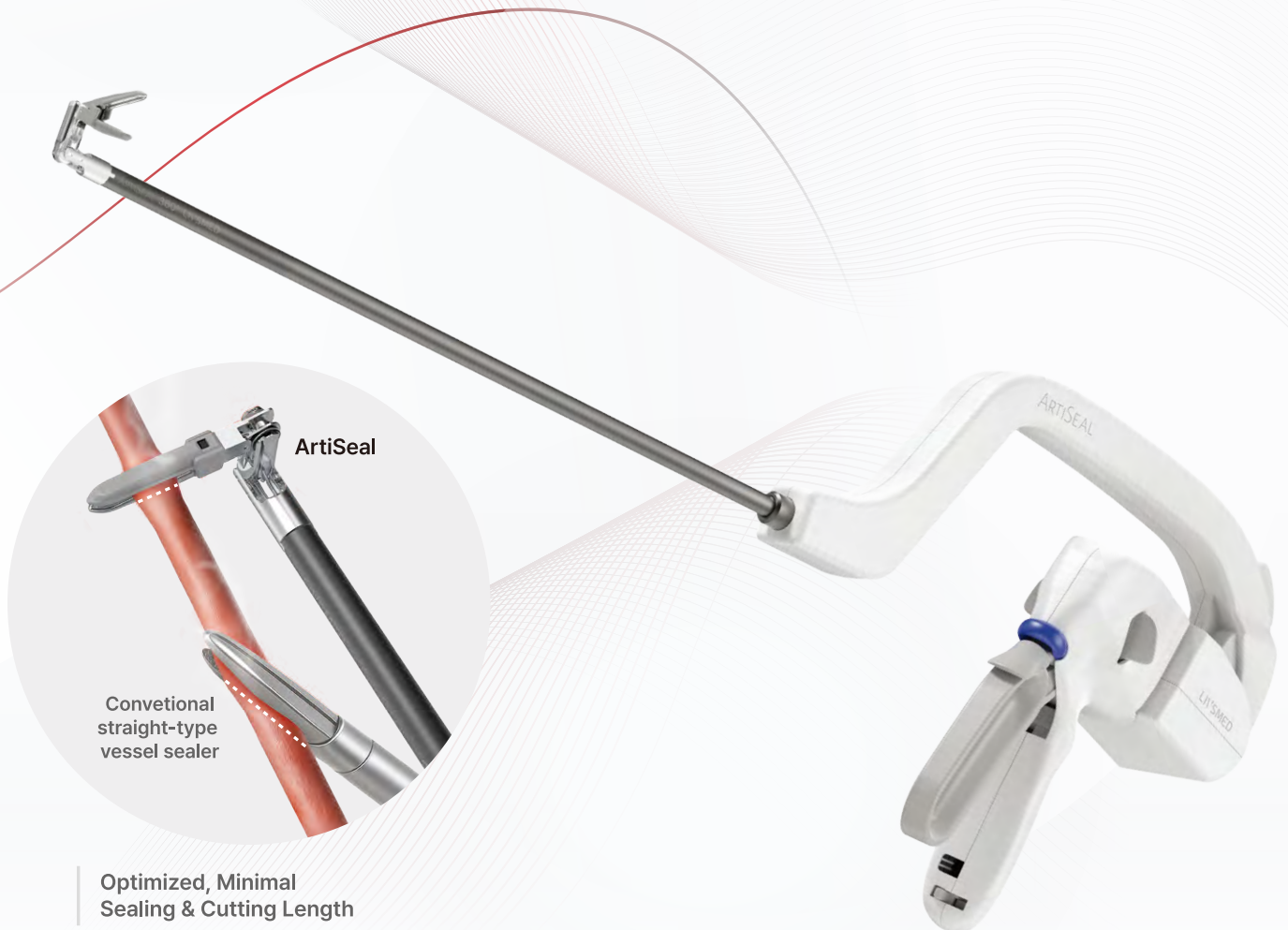


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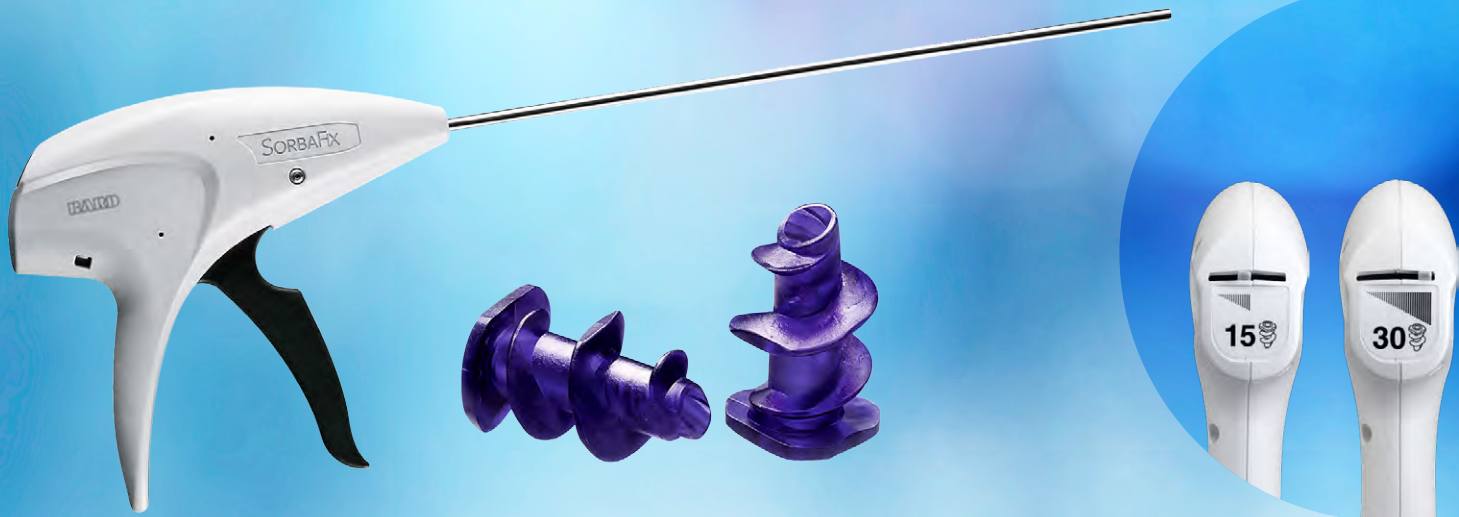
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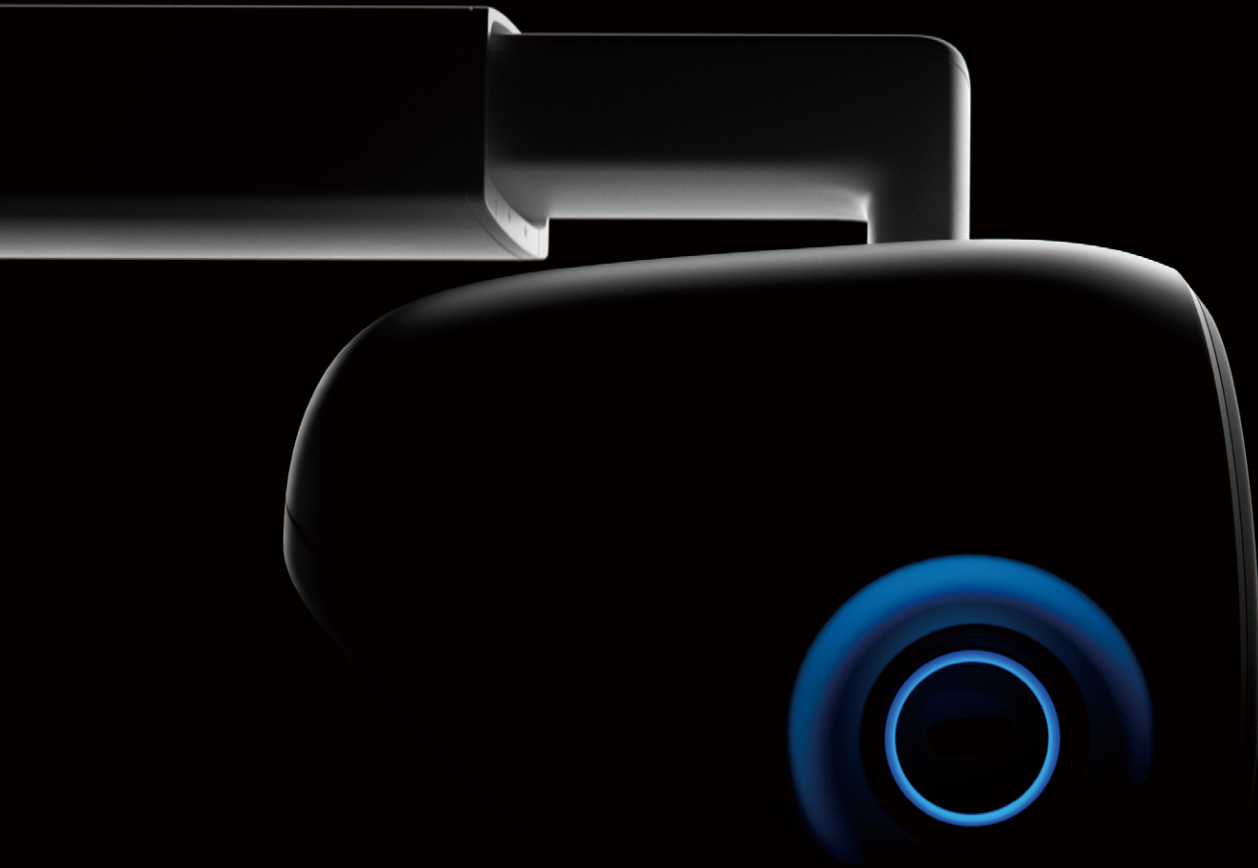
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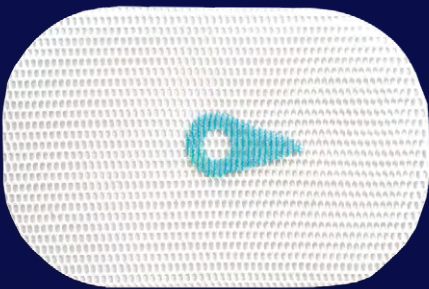
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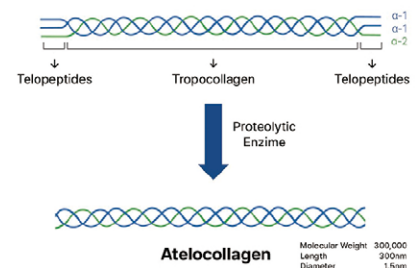


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PROGRAM

• Day 1 - 7/3 (Fri)

08:30–08:55 Registration

08:55–09:00 Opening Remark

Symposium I. Innovative Trends in Minimally Invasive and Robotic Surgery for Hernia Repair

Chairs Woo Jung Lee The Jeil ENT and Surgery Clinic, Korea, Junbeom Park Chungnam National Univ., Korea

09:00–09:20	Recent Advances and Clinical Outcomes in Minimally Invasive Hernia Repair	Chul Seung Lee Hansol Hosp., Korea	21
09:20–09:40	Robotic-Assisted Hernia Surgery: Current Practice	Youn Young Park Kyung Hee Univ., Korea	25
09:40–10:00	Personalized Surgical Strategies: Indications and Technology Selection in Inguinal Hernia Repair	Hitoshi Idani Chubu Tokushukai Hosp., Japan	27
10:00–10:20	Case Discussion and Panel Discussion	Moonjin Kim The Catholic Univ. of Korea, Korea	31
10:20–10:50	Coffee Break		

Symposium II. Mesh Choice and Placement by Location of Hernia

Chairs Haechang Cho Daegu Fatima Hosp., Korea, Davide Lomanto National Univ. of Singapore, Singapore

10:50–11:10	Overview of Mesh in Abdominal Wall Reconstruction	Dong Gue Shin National Medical Center, Korea	37
11:10–11:30	Which Mesh Is the Best Choice in Inguinal Hernia Repair? – Open & MIS	Anil Sharma Max Healthcare, India	48
11:30–11:50	What Are the Key Factors in Choosing Mesh for Ventral/Incisional Hernia Repair?	Sujith Wijerathne Alexandra Hosp., Singapore	51
11:50–12:10	Mesh in Contaminated Field and Specialized Anatomic Locations	Binggen Li Southern Medical Univ., China	55
12:10–12:30	Discussion		

Luncheon Symposium I Hanmi Science

Chair Sang Eok Lee Konyang Univ., Korea

12:30–13:00	Why I Use LiquiBand FIX8®: Fast and Safe Hernia Repair	Hyuk Hur Yonsei Univ., Korea	58
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Special Lecture

Chair HyungJin Kim The Catholic Univ. of Korea, Korea

13:00–13:30	Current Practice of Ventral Hernia in APHS	Vimal K. Vasudevan Gleneagles Hosp. Penang, Malaysia	63
13:30–13:50	Break		

PROGRAM

• Day 1 - 7/3 (Fri)

Symposium III. Morbid Obesity and Hernia

Chairs Tae Kyung Ha Hanyang Univ., Korea, Hoon Ryu Yonsei Univ. Wonju, Korea

13:50–14:10	Optimizing Hernia Outcomes in Obese Patients: Key Concepts in Prehabilitation	Kiyotaka Imamura Yotsuya Medical Cube, Japan	66
14:10–14:30	Nutrition, Exercise, Breathing Technique, Additional Supportive Care in Perioperative Care	Sang Hyun Kim Soonchunhyang Univ., Korea	71
14:30–14:50	Concomitant Bariatric Surgery and Ventral Hernia Repair: Is It Safe?	Suthep Udomsawaengsup Chulalongkorn Univ., Thailand	76
14:50–15:10	Prevention and Treatment for Internal Herniation After Bariatric Surgery	Dongjae Jeon Seoul National Univ., Korea	78
15:10–15:30	Hiatal Hernia Repair During Sleeve Gastrectomy: Do or Not?	Won Jun Seo Korea Univ., Korea	81
15:30–15:50	Discussion		
15:50–16:20	Coffee Break		

Symposium IV. Training the Next Generation: Surgical Education and Skill Acquisition in Inguinal Hernia Repair

Chairs Yeon Jun Jeong Jeonbuk National Univ., Korea, Gil Ho Kang Cheonan Medical Center, Korea

16:20–16:40	Mapping the Learning Curve in Hernia Repair: Learning Curve for Inguinal Hernia Repair	Toshiro Tanioka Institute of Science Tokyo, Japan	84
16:40–17:00	Building a Competency Pathway in Hernia Surgery	Saseem Poudel Hokkaido Univ., Japan	88
17:00–17:20	How Much Should Residents Do?: Supervision–Autonomy Balance, Credentialing Case Volumes, and the Patient Safety-Education Trade-off	Jihoon Kim The Catholic Univ. of Korea	92
17:20–17:40	The Beginner's Guide to Manuscript Submission Excellence- Strategies and Best Practices	Joe Fan Queen Mary Hosp., Hong Kong	95
17:40–17:50	Discussion		
	Gala Dinner		

PROGRAM

• Day 1 - 7/3 (Fri)

Oral Presentation

Chairs Joe Fan Queen Mary Hosp., Hong Kong, Sang Eok Lee Konyang Univ., Korea

KHS-O-01	09:00–09:10	Comparative Outcomes of Robotic Versus Laparoscopic Suprapubic eTEP Repair for Ventral Hernia	Ho Seung Kim Ewha Womans Univ., Korea	99
KHS-O-02	09:10–09:20	Robotic Ventral Hernia Repair in an Asian Population: Outcomes, Risk Factors, and Learning Curve from 80 Consecutive Korean Patients	Seyoon Kim Hanyang Univ., Korea	102
KHS-O-03	09:20–09:30	Preoperative ASIS-to-Symphysis Pubis Distance as a Guide for Mesh Size Selection in Laparoscopic Inguinal Hernia Repair	Joong-Min Park Chung-Ang Univ., Korea	105
KHS-O-04	09:30–09:40	Incidence and Anatomical Variations of Corona Mortis During Single-Port Laparoscopic Inguinal Hernia Repair: A Prospective Observational Study	Gwan Chul Lee Hansol Hosp., Korea	107
KHS-O-05	09:40–09:50	Short-Term Surgical Outcomes of Ventral Hernia Repair Using Ventralex ST™ Patch: A Single-Center Retrospective Study	Chang Hwan Kim The Catholic Univ. of Korea, Korea	111
KHS-O-06	09:50–10:00	Learning Curve of Robotic Transabdominal Preperitoneal (TAPP) Inguinal Hernia Repair Using Separate CUSUM Analysis of Console Time and Total Operative Time	Ye Rim Ha Konyang Univ., Korea	116
KHS-O-07	10:00–10:10	Common Mental Disorders and Risk of Incident Inguinal Hernia: A Nationwide Population-Based Cohort Study	Yeonuk Ju Korea Univ., Korea	119
KHS-O-08	10:10–10:20	Early Outcomes of LiquiBand FIX8® for Mesh Fixation in Laparoscopic Totally Extraperitoneal Inguinal Hernia Repair: Initial Experience at a Military Hospital	Taewon Kim Armed Forces Capital Hosp., Korea	121
KHS-O-09	10:20–10:30	Is the Robotic Ventral Hernia Repair Safe and Feasible? Comparing 100 Case of Robotic Ventral Hernia Repair to Laparoscopic Repair	Junsun Lee Hanyang Univ., Korea	124
KHS-O-10	10:30–10:40	Feasibility and Safety of Robotic Transabdominal Preperitoneal (TAPP) Inguinal Hernia Repair: A Multicenter Prospective Study from Four Korean Institutions	Hyuk Hur Yonsei Univ., Korea	126

PROGRAM

• Day 2 - 7/4 (Sat)

Symposium V. Controversial Topics and Innovative Solutions in Modern Hernia Surgery

Chairs Youn-Baik Choi Emeritus Professor, Univ. of Ulsan, Korea, Gyung Mo Son Pusan National Univ., Korea

09:00–09:20	Prophylactic Mesh at Stoma Creation: Standard of Care or Still Controversial?	Heon-Kyun Ha Chung-Ang Univ., Korea	131
09:20–09:40	The True Preperitoneal Onlay Mesh Repair PPOM and tePPOM	Joe Fan Queen Mary Hosp., Hong Kong	137
09:40–10:00	Expanding Horizons: Potential Uses of Botulinum Toxin in Modern Hernia Surgery	Marc Ong Weijie Khoo Teck Puat Hosp., Singapore	140
10:00–10:20	Reconstructive Strategies for Loss of Domain Hernias: A Comprehensive Review	Eun Key Kim Univ. of Ulsan, Korea	144
10:20–10:30	Discussion		
10:30–11:00	Coffee Break		

Symposium VI. KHS–JHS Joint Symposium (Harmony in Technique, Philosophy, and Innovation of Hernia Surgery)

Chairs Sung IL Choi Kyung Hee Univ., Korea, Hiroshi Hirukawa Tachikawa General Hosp., Japan

11:00–11:15	The Choice of MIS Inguinal Hernia Repair: TAPP in Japan	Takeshi Nagahama Kudanzaka Hosp., Japan	147
11:15–11:30	The Choice of MIS Inguinal Hernia Repair: TEP in Korea	Min-Su Park Kyung Hee Univ., Korea	151
11:30–11:45	Robot vs Laparoscopy in MIS Ventral Hernia Repair: Is Robot Truly Superior?	Nina Yoo The Catholic Univ. of Korea, Korea	154
11:45–12:00	Robot vs Laparoscopy in MIS Inguinal Hernia Repair: Is Robot Truly Superior?	Fumitoshi Mizutani Nagoya Ekisaikai Hosp., Japan	157
12:00–12:15	Structured Training for Advanced Hernia Surgery in Japan: From Cadaver-Based Education to Clinical Mastery	Yoshitaka Kondo Okayama Univ., Japan	161
12:15–12:30	Training Program for Advanced Hernia Procedures in Korea	Jaeim Lee Catholic Kwandong Univ., Korea	164

Luncheon Symposium II LI'SMED

Chair Sung Ryul Lee Damsouy Hosp., Korea

12:30–13:00	Robotic-like Dexterity at the Laparoscopic Console: ARTISENTIAL in Hernia Repair	Nina Yoo The Catholic Univ. of Korea, Korea	167
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President Lecture

Chair Sung Heun Kim Dong-A Univ., Korea

13:00–13:30	A Historical Perspective on Hernia Surgery in Korea: Transition from Open to Robotic Surgery	Sung IL Choi Kyung Hee Univ., Korea	170
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PROGRAM

• Day 2 - 7/4 (Sat)

Symposium VII. Management of Complications

Chairs Ji-Young Sul Chungnam National Univ., Korea, Taesoon Lee Dream Hosp., Korea

13:30–13:45	Critical Intraoperative Complications During Inguinal Hernia Repair: Focus on Genitourinary Structures	Marc Ong Weijie Khoo Teck Puat Hosp., Singapore	173
13:45–14:00	Intraoperative Vascular Complications in Hernia Surgery: From Corona Mortis to Major Vessel Injury Prevention	Jun Woo Bong Korea Univ., Korea	177
14:00–14:15	Immediate Recurrence After Hernia Repair: Root Causes and Rapid Response Strategies	Kyung Won Seo Kosin Univ., Korea	180
14:15–14:30	Chronic Postoperative Inguinal Pain (CPIP): Risk Factors and Management Strategies	Jiwei Yu Shanghai Jiaotong Univ., China	185
14:30–14:45	Mesh Infection After Surgery - Prevention and Management Strategies	Seung-Rim Han Ain Hosp., Korea	190
14:45–15:00	Lethal Complications After Correcting LOD or Huge Ventral Hernia	Siripong Cheewatanakornkul Prince of Songkla Univ., Thailand	193
15:00–15:30	Coffee Break		

Symposium VIII. Expert Insights

Chairs Jong-Han Kim Korea Univ., Korea, Seong-Ho Kong Seoul National Univ., Korea

15:30–15:50	Minimizing Recurrence in Pediatric Inguinal Hernia Repair: Technical Considerations and Long-Term Outcomes	Eunyoung Jung Keimyung Univ., Korea	197
15:50–16:10	MIS eTEP cTAR for Large Incisional Hernia	Piyanun Wangkulangkul Prince of Songkla Univ., Thailand	201
16:10–16:30	Chronic Abdominal Wall Pain After Hernia Surgery - Management Strategies	So Young Lee Korea Univ., Korea	206
16:30–16:50	Revision Surgery Strategies: Removal Strategies, Reconstruction Options, and Staged Repair	Kiyotaka Imamura Yotsuya Medical Cube, Japan	212
16:50–17:00	Discussion		

Closing Remark

PROGRAM

• Day 2 - 7/4 (Sat)

Video Presentation

Chairs Hoon Ryu Yonsei Univ. Wonju, Korea, Hyun Ho Joo DR. JOO Day Surgery Clinic, Korea

KHS-V-01	09:00–09:15	Robotic Incisional Hernia Repair Using the HUGO™ RAS System: Video Demonstration of IPOM Plus and eTEP with Bilateral TAR	Kyoyoung Park Ewha Womans Univ., Korea	218
KHS-V-02	09:15–09:30	eTEP Reconstruction for Giant (>30 cm) Right Lateral Abdominal Wall Pseudohernia after Right Nephrectomy: Technical Tips and Surgical Pearls	Hyeon Kyeong Kim The Catholic Univ. of Korea, Korea	221
KHS-V-03	09:30–09:45	Single-Port Extended-View Totally Extraperitoneal Repair with Transversus Abdominis Release; Arcuate Line Initiated Preperitoneal High Approach (SP eTEP-TAR; ALPHA) for Incisional Ventral Hernia: A Case Report	Hyeon Kyeong Kim The Catholic Univ. of Korea, Korea	225
KHS-V-04	09:45–10:00	Bottom-up Approach of Modified Madrid Transverse Abdominis Release (TAR) Using SP Da Vinci Platform for Complex Ventral Hernias	Seung-Rim Han AIN Hosp., Korea	228
KHS-V-05	10:00–10:15	Robotic-Assisted Repair of Type III Paraesophageal Hernia with Modified-Watson Fundoplication: A Video Presentation	Sirichan Busayarasamee Prince of Songkla Univ., Thailand	232
KHS-V-06	10:15–10:30	Robotic eTEP-TAR Incisional Hernia Repair Using Da Vinci SP System: Video Demonstration and Early Clinical Outcomes	Hyo Seon Ryu Korea Univ., Korea	235



Symposium I

Innovative Trends in Minimally Invasive and Robotic Surgery for Hernia Repair

Chairs

Woo Jung Lee The Jeil ENT and Surgery Clinic, Korea

Junbeom Park Chungnam National Univ., Korea

Curriculum Vitae



Chul Seung Lee

Hansol Hosp., Korea

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M.D., Chung-Ang University Graduate School of Medicine

Ph.D., The Catholic University of Korea

CAREER

Intern and Resident, The Catholic University of Korea, Catholic Medical Center

Clinical Fellow, Division of Colorectal Surgery, Seoul St. Mary's Hospital

Clinical Assistant Professor, Division of Colorectal Surgery,
Seoul St. Mary's Hospital

Vice Director, Hansol Hospital

ACTIVITIES

Committee Member, The Society of American Gastrointestinal and
Endoscopic Surgeons (SAGES)

Editorial Board Member, The Korean Society of Coloproctology

Deputy Secretary General, The Korean Society of Hernia

Chairman, Secondary Hospital Committee, Korean Society for
Surgical Metabolism and Nutrition

Recent Advances and Clinical Outcomes in Minimally Invasive Hernia Repair

Chul Seung Lee Hansol Hosp., Korea

Hernia repair is one of the most commonly performed surgical procedures worldwide. As minimally invasive techniques continue to evolve, understanding optimal mesh selection, fixation strategies, and the role of robotic platforms is essential for achieving the best patient outcomes.

For inguinal hernias, the laparoscopic approach is increasingly preferred because it is associated with less postoperative pain, quicker recovery, and fewer wound complications compared with open surgery. Laparoscopic mesh repair further enhances these benefits by combining the advantages of minimally invasive access with the durability of mesh reinforcement, resulting in lower recurrence rates and reduced chronic pain.

Mesh repair remains the cornerstone of modern hernia surgery. Both polyester (PE) and polypropylene (PP) meshes demonstrate comparable outcomes in terms of recurrence and chronic pain. Therefore, mesh material selection should be guided by surgeon familiarity and individual case characteristics rather than expectations of differing results. In larger inguinal



defects exceeding 20 mm, self-fixating mesh may offer a modest recovery advantage.

For incisional and ventral hernias, an individualized approach is paramount. Factors including defect size, anatomical location, tissue quality, prior surgical history, and patient comorbidities should inform the surgical plan. Currently, eTEP(Extended totally extraperitoneal repair) and IPOM plus are the most widely adopted minimally invasive techniques for these repairs. Notably, recent studies and meta-analyses demonstrate no significant difference in recurrence rates or long-term outcomes between these two approaches. This suggests that the choice between eTEP and IPOM plus should be guided by patient anatomy, surgeon expertise, and case-specific factors rather than expectations of superior durability with either technique.

Importantly, recurrence rates are not significantly influenced by mesh position alone. The critical determinant of surgical success lies in the completeness and precision of the repair—adequate dissection, appropriate defect closure, sufficient mesh overlap, secure fixation, and tension-free reconstruction.

Robotic platforms, particularly single-port systems, are poised for increasing adoption. These systems offer superior visualization through articulated cameras, enhanced ergonomics, and precise suturing capabilities that facilitate thorough defect closure and secure mesh placement. These technical advantages support more complete repairs and may translate into improved outcomes.



In conclusion, mesh repair is essential in hernia surgery. The laparoscopic approach offers clear advantages over open surgery for inguinal hernias, and PE and PP meshes show equivalent performance. For ventral hernias, eTEP and IPOM plus are both effective options with comparable long-term results. Surgical success depends not on mesh position but on meticulous execution. Single-port robotic platforms enhance the surgeon's ability to achieve completeness, representing a significant advance in minimally invasive hernia repair.

Curriculum Vitae



Youn Young Park
Kyung Hee Univ., Korea

EDUCATION	2011	M.D. School of Medicine, Kyung Hee University
	2016	Ph. D. Department of Surgery, Kyung Hee University
CAREER	2012–2016	Resident, Kyung Hee University Hospital
	2016–2018	Fellow, Severance Hospital, Yonsei University
	2018–2019	Fellow, Uijeongbu St. Mary's Hospital, The Catholic University of Korea
	2019–2021	Clinical assistant professor, Uijeongbu St. Mary's Hospital, The Catholic University of Korea
	2021–2022	Clinical assistant professor, Kyung Hee University Hospital at Gangdong
	2022–	Assistant professor, Kyung Hee University
ACTIVITIES	2020–	Deputy editor, Journal of Minimally Invasive Surgery
	2023–	Secretary, Colorectal Cancer Registry Special Committee of The Korean Society of Coloproctology
	2024–	Associate editor, Journal of Herniology: Diagnosis and Treatment of Hernias



Robotic-Assisted Hernia Surgery: Current Practice

Youn Young Park Kyung Hee Univ., Korea

MEMO

Curriculum Vitae



Hitoshi Idani

Chubu Tokushukai Hosp., Japan

EDUCATION

1985	M.D., Okayama University School of Medicine
2001	Ph.D., Okayama University Graduate School of Medicine

CAREER

1985–1987	Resident, Department of Surgery, Hiroshima City Hospital
1987–1990	Senior Resident, Kochi Atago Hospital
1990–1993	Research Fellow, Department of Surgery, Okayama University School of Medicine
1997	Visiting Surgeon, Laparoscopic Surgery Center, Miami Baptist Hospital, under Prof. Moises Jacobs
2002 & 2004	Visiting Surgeon, Videoendoscopic Surgery Center and Swallowing Center, University of Washington, under Prof. Carlos Pellegrini
2007–2026	Clinical Professor of Surgery, Okayama University Faculty of Medicine
2019 & 2026	Visiting Surgeon, AZ Maria Middelaers, under Prof. Philip Muysoms
Present	Director, Center for Abdominal Hernia, Chubu Tokushukai Hospital

ACTIVITIES

Chief, Incisional Hernia Working Group, Japanese Hernia Society
 Auditor, Japanese Hernia Society
 Councilor, Japanese College of Surgeons
 Councilor, Japan Society for Endoscopic Surgery
 Fellow (FACS), American College of Surgeons
 Senior Member, Society of American Gastrointestinal and Endoscopic Surgeons



Personalized Surgical Strategies: Indications and Technology Selection in Inguinal Hernia Repair

Hitoshi Idani Chubu Tokushukai Hosp., Japan

Background

Inguinal hernia repair has evolved from conventional open surgery to laparoscopic and robotic-assisted procedures. As multiple surgical options become available, individualized strategy selection based on patient condition, perioperative risk, antithrombotic therapy, and institutional resources has become increasingly important.

Methods

We present our current approach to personalized inguinal hernia management based on the experience of two institutions: a high-volume tertiary referral center equipped with both Da Vinci Xi and SP systems, and a day-surgery hernia clinic specializing in minimally invasive repair. Patient selection, perioperative management, procedural choice, mesh fixation strategy, and robotic platform selection were reviewed.



Results

Day-surgery inguinal hernia repair was considered appropriate for selected patients with age <80 years, ASA-PS 1–2, BMI <35, and stable dialysis status. Preoperative optimization included cardiopulmonary evaluation, glycemic control, smoking cessation, nutritional management, and individualized perioperative management of antithrombotic agents.

Open repair was preferred in patients requiring continuation of antithrombotic agents, those with severe intraabdominal adhesions, or after robotic-assisted laparoscopic prostatectomy. Laparoscopic or robotic TAPP repair was considered feasible when antithrombotic agents could be safely discontinued for an appropriate period. In selected patients receiving aspirin, cilostazol, or ethyl eicosapentaenoic acid monotherapy, laparoscopic or robotic surgery was performed with continued antiplatelet therapy.

In TAPP repair, both high peritoneal incision and circumferential sac incision techniques were utilized according to hernia characteristics. High peritoneal incision provided a wider operative field and facilitated management of large or recurrent hernias, whereas circumferential incision minimized dissection and minimizes the extent of peritoneal closure.

Mesh fixation was selected according to surgeon experience, cost considerations, and surgical platform. Tacking fixation was technically simple and reproducible, particularly for non-expert surgeons. In contrast, suture fixation required advanced suturing and knot-tying skills but reduced

fixation-related costs and was particularly advantageous during robotic-assisted surgery.

Regarding robotic platforms, Da Vinci Xi was used as the standard robotic approach, while SP was selectively utilized in patients with concomitant umbilical hernia requiring simultaneous repair.

Conclusions

Modern inguinal hernia surgery requires mastery of multiple techniques, including open, laparoscopic, and robotic-assisted approaches. Appropriate personalization of surgical strategy, including perioperative antithrombotic management, mesh fixation method, and robotic platform selection, may optimize perioperative safety and surgical outcomes.

Curriculum Vitae



Moonjin Kim

The Catholic Univ. of Korea, Korea

EDUCATION

B.S. in Life Sciences, College of Life Sciences and Biotechnology,
Korea University

Master of Medical Science, School of Medicine,
The Catholic University of Korea

Ph.D. in Medicine, The Graduate School, The Catholic University of Korea

CAREER

Internship, Catholic Central Medical Center

Residency in General Surgery, Catholic Central Medical Center

Clinical Fellow, Department of Surgery,
Catholic University of Korea Incheon St. Mary's Hospital

Clinical Assistant Professor, Department of Surgery,
Catholic University of Korea Incheon St. Mary's Hospital

ACTIVITIES

Lifetime Member & Academic Committee Member, Korean Hernia Society

Lifetime Member, Korean Society of Coloproctology

Lifetime Member, Korean Society of Endo-Laparoscopic & Robotic Surgery

Case Discussion and Panel Discussion

Moonjin Kim The Catholic Univ. of Korea, Korea



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Case 1

37-year-old male

Past History: Liver cirrhosis (alcoholic) — diagnosed 8 years ago

Operation history: None

BMI: 21.3 (180cm/69kg)

Chief Complaint: Right inguinal pain + protruding, umbilical protruding (onset 2 months ago); reducible

Hepatobiliary Assessment: Child-Pugh Class C — Moderate to high surgical risk

- Estimated 30-day mortality: 1.3%, 90-day mortality: 1.7%, 90-day decompensation: 14.5% (VOCAL-Penn Cirrhosis surgical risk score)
- However, surgical delay carries significant risk of morbidity/mortality

→ Risk-benefit balance must be carefully assessed



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Case 1

Lab Finding

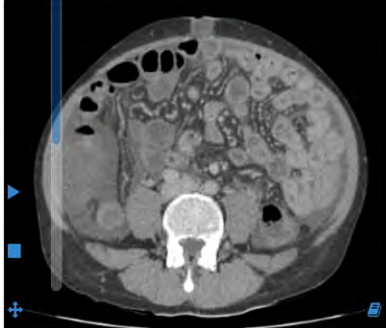
- Hb: 12.4 g/dl
- WBC: 3430/ul
- Plt: 98000/ul
- INR: 1.45
- Albumin: 3.3 g/dl
- Total bilirubin: 3.5 mg/dl
- Direct bilirubin: 1.41 mg/dl
- AST(SGOT): 45 U/l
- ALT(SGPT): 32 U/l
- ALP: 223 U/l
- r-GTP: 77 U/l

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Case 1 | ER CT Images




Umbilical hernia

Right inguinal hernia

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(Voting system)

Case 1 | Which surgical approach would you consider?

① Lichtenstein operation & umbilical hernia repair (General Anesthesia)

② TEP or TAPP & umbilical hernia repair (General Anesthesia)

③ Robotic TEP or TAPP & umbilical hernia repair (General Anesthesia)

④ Lichtenstein operation only (Local or Spinal Anesthesia)

⑤ High ligation & umbilical hernia repair (no mesh)

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Surgical Risk Stratification in Cirrhosis

Bilirubin (μmol/L)	< 34	34–50	> 50
Albumin (g/L)	> 35	28–35	< 28
INR	< 1.7	1.7–2.3	> 2.3
Ascites	None	Mild	Moderate–Severe
Encephalopathy	None	Grade I–II	Grade III–IV

MELD Score

Model for End-Stage Liver Disease
(Bilirubin, INR, Creatinine)

MELD < 10

Low risk

MELD 10–14

Moderate risk

MELD ≥ 15

High risk

MELD ≥ 14 = Child-Pugh C as predictor of very high abdominal surgical risk (Befeler et al., Arch Surg 2005)

Class A (5–6 pts): Low risk — Elective surgery generally safe

Class B (7–9 pts): Moderate risk — Optimize before surgery

Class C (10–15 pts): High risk — Surgery carries significant morbidity/mortality; consider downstaging or transplantation first

EHS/AHS (BIS Open 2020): Elective surgery acceptable in Child-Pugh A; may be tolerated in B after optimization. Child-Pugh C = high risk — downstaging before surgery if possible.

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Surgical Technique Selection in Cirrhotic Patients

Lichtenstein (Open) + Local Anesthesia	Lichtenstein (Open) + General/Spinal Anesthesia	Laparoscopic (TEP / TAPP)	Robotic TEP / TAPP
✓ Avoids GA risk; feasible in Child-Pugh B/C; successful in ascites patients (Park et al. J Gastroenterol Hepatol 2007; 22 pts Child B/C, no major complications) → Preferred for very high-risk (Child C) patients	✓ Allows simultaneous umbilical hernia repair; familiar technique; no CO₂ pneumoperitoneum → Acceptable in Child-Pugh A/B; consider spinal over GA	✓ Less wound morbidity; simultaneous bilateral + umbilical repair possible; better visualization → Child-Pugh A: consider; B: with caution; C: avoid if possible (Li et al. Hernia 2020; TEP in cirrhosis: 17.65% complication rate, 2/3 in CTP-C with large ascites)	✓ Enhanced ergonomics; may allow precise dissection near fragile portal vessels → Insufficient evidence — not recommended over standard laparoscopy in LC
✗ Limited access for umbilical hernia repair; requires concurrent separate incision	✗ GA risk in decompensated cirrhosis; wound complications higher with ascites	✗ CO₂ pneumoperitoneum ↑ portal pressure, ↓ venous return; risk of ascitic leak; requires GA	✗ Long OR time; cost; requires GA; limited evidence in cirrhotic patients

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Mesh Use in Cirrhosis: Latest Evidence

Aksoy et al. — Frontiers in Surgery, 2025

Retrospective analysis, n=62 (inguinal + umbilical hernia repair in LC, 2007–2022)

- Mesh group vs. non-mesh group: No significant difference in postoperative complications or recurrence
- Ascites presence and emergency/elective status did not significantly affect the decision to use mesh
- MELD score (not mesh use) was the independent predictor of 90-day mortality ($p < 0.01$)
- Conclusion: Mesh can be safely used with appropriate perioperative management

10.8%	20.0%	~40%
Recurrence rate Mesh group (Aksoy 2025)	Recurrence rate Non-mesh group (Aksoy 2025)	Recurrence rate Sutured repair only (Umbilical, cirrhosis)

Key Message: Mortality in LC patients is driven by MELD score — not by whether mesh is used

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Guidelines on Mesh Use in Cirrhotic Hernia Repair

EHS / AHS Guidelines	HerniaSurge Update	EHS Mesh Selection
✓ Use mesh (open approach) • Sutured repair alone has very high recurrence rate → not recommended • Recommendation: Open repair with onlay or preperitoneal mesh for ventral hernias in compromised liver function	✓ Mesh per risk stratification • Cirrhosis = independent risk factor for hernia recurrence (HR 1.564, HR 1.663 for severe liver disease) • Technique and mesh selection should be guided by patient risk class (Child-Pugh / MELD) • Supports mesh use for inguinal hernia repair even in cirrhotic patients • High-quality evidence specifically for LC + inguinal hernia is still limited	△ Lightweight mesh preferred • Lightweight macroporous mesh preferred in open inguinal hernia repair (EHS Grade B) • Less chronic pain, less foreign body sensation vs. heavyweight mesh • Use with caution in large direct hernias (potential ↑ recurrence with LWM)
Henriksen et al., BJS Open 2020 • Open umbilical hernia repair with mesh is SAFE in cirrhosis with/without ascites (acceptable evidence) • Laparoscopic repair: safe without ascites; increased complications when ascites is present	Stabilini et al., BJS Open 2023	Cochrane / EHS Grade B

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Mesh in LC: Practical Summary & Conclusion

✓	Use mesh?	YES — standard of care; recurrence ↓ significantly vs. suture-only
✓	Mesh type	Lightweight macroporous mesh preferred (EHS Grade B); reduces infection/pain risk
⚠	With ascites?	Control ascites first (diuretics / paracentesis); mesh safe after optimization
⚠	Child-Pugh C?	Mortality - MELD, NOT mesh use; mesh complications comparable to non-mesh
⚠	Laparoscopic + mesh?	Safe in CTP-A/B without ascites; avoid laparoscopy in CTP-C or large ascites
✗	Suture repair only?	NOT recommended — very high recurrence; accept mesh with periop optimization

Pre-op Checklist before Mesh Repair in LC: ① Control ascites ② Correct coagulopathy (INR) ③ Rule out SBP ④ Albumin optimization ⑤ Lightweight macroporous mesh

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Practical Recommendations & Back to Case 1

Decision Algorithm for IH Repair in Cirrhosis

- 1 Assess Child-Pugh class + MELD score
- 2 Optimize: control ascites (diuretics, paracentesis), correct coagulopathy, treat infections
- 3 Anesthesia choice:
 - Child A/B → GA or spinal acceptable
 - Child C → LA strongly preferred
- 4 Technique:
 - LA + Lichtenstein: safest in CTP-C
 - Laparoscopic (TEP/TAPP): CTP-A/B with caution; avoid in CTP-C with large ascites
- 5 Simultaneous umbilical hernia repair:
 - Prefer if stable; consider staged repair in CTP-C

References: Andraus et al. BMC Surg 2015 | Park et al. J Gastroenterol Hepatol 2007 | Li et al. Hernia 2020 | EHS/AHS Guidelines BIS Open 2020 | Stabellini et al. (HerniaSurge) BIS Open 2023 | Hepatol Commun 2023



Symposium II

Mesh Choice and Placement by Location of Hernia

Chairs

Haechang Cho Daegu Fatima Hosp., Korea

Davide Lomanto National Univ. of Singapore, Singapore

Curriculum Vitae



Dong Gue Shin
National Medical Center, Korea

EDUCATION	1995	(MD) University of Kosin, School of Medicine, Busan Korea
	2006	(M.M.Sc) University of Kangwon, School of Medicine, Surgery, Chuncheon, Kangwondo, Korea

CAREER	1995–1996	Intern : Ewha woman's University Hospital, Seoul Korea
	1996–2000	Residency: General Surgery, Ewha woman's University Hospital, Seoul Korea
	2000–2003	Medical officer as Lieutenant in Korean Navy
	2003–2004	Clinical Fellow: Seoul Asan Medical Center, Stomach div. Seoul, Korea
	2008–2009	Clinical Fellow: Kanto Medical Center, Stomach div. Tokyo, Japan
	2004–2013	Staff: Seoul Medical Center, Department of Upper GI Surgery, Seoul Korea
	2014–2024	Seoul Red Cross Hospital, Department of Surgery, Seoul Korea
	2024–2025	Incheon Red Cross Hospital, Department of Surgery, Incheon Korea
	2025–present	National Medical Center, Department of Surgery, Seoul Korea

ACTIVITIES	Member, Korean Surgical Society
	Member, Korean Gastric Cancer Association
	Member, Korean Hernia Society
	Member, Korean Society of Clinical Oncology
	Member, Korean Society of Upper Gastrointestinal Surgery

Overview of Mesh in Abdominal Wall Reconstruction

Dong Gue Shin National Medical Center, Korea

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Introduction

In the USA

over 95% of all inguinal and ventral hernia are repaired with prosthetic material or device.

During laparotomy incisions,

Incisional hernia : 13 ~ 20% will happen.

Wound infection (+) → the risk increase fivefold

Management of Abd. Hernias. Karl A LeBlac, et al. Springer 109 page

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Introduction

Recurrence rate during Ventral hernia treatment

		1. NEJM 2000	2. JAMA 2016
Mesh	(-)	51%	17.1%
	(+))	10~24%	Open : 12.3%
			Lapa : 10.6%

1. A comparison of suture repair with mesh repair for incisional hernia. Luijendijk RW, et al. NEJM 2000
2. Long-term recurrence and complications with elective incisional hernia repair. Kokotovic D, et al. JAMA 2016



History of Prosthetic materials



History of Prosthetic materials

AD
25

Heliodorus ; an ancient Greek physician from the school of Alexandria used cellulose from a cotton or flax plant



Botanical illustration from 1887



History of Prosthetic materials

AD
25

Heliodorus ; an ancient Greek physician from the school of Alexandria used cellulose from a cotton or flax plant



Botanical illustration from 1887

AD
1900

Rudolf Goepel ; used the silver as synthetic prosthesis





History of Prosthetic materials

AD 25

AD 1900

AD 1910

Heliodorus ; an ancient Greek physician from the school of Alexandria used cellulose from a cotton or flax plant

Rudolf Goepel ; used the silver as synthetic prosthesis

Martin Kirschner ; myofascial replacement





Martin Kirschner (1879 ~ 1942)



History of Prosthetic materials

AD 25

AD 1900

AD 1910

AD 1940

Heliodorus ; an ancient Greek physician from the school of Alexandria used cellulose from a cotton or flax plant

Rudolf Goepel ; used the silver as synthetic prosthesis

Martin Kirschner ; myofascial replacement

Tantalum Mesh : metal mesh





Martin Kirschner (1879 ~ 1942)

Types of Tantalum Mesh

 Plain Weave	 Intercrimp
 Twilled Weave	 Expanded



History of Prosthetic materials

AD 25

AD 1900

AD 1910

AD 1940

AD 1944

Heliodorus ; an ancient Greek physician from the school of Alexandria used cellulose from a cotton or flax plant

Rudolf Goepel ; used the silver as synthetic prosthesis

Martin Kirschner ; myofascial replacement

Tantalum Mesh : metal mesh

Nylon Mesh





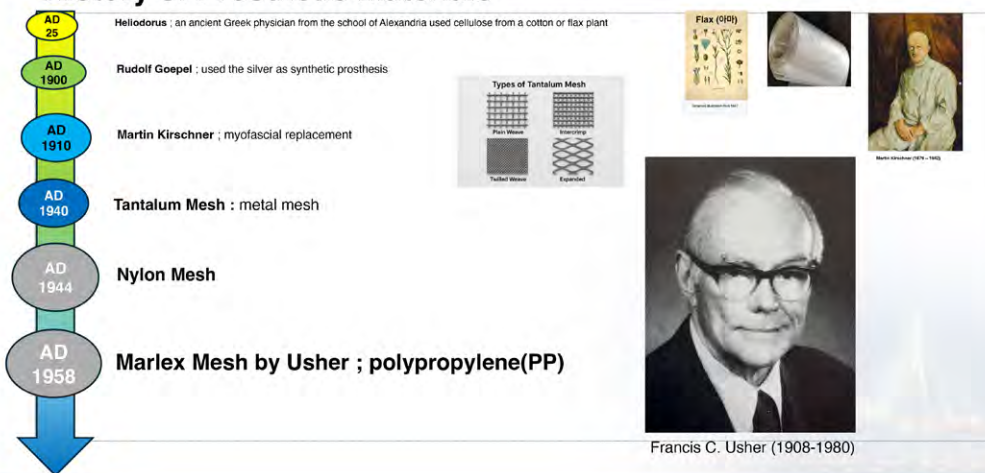
Martin Kirschner (1879 ~ 1942)

Types of Tantalum Mesh

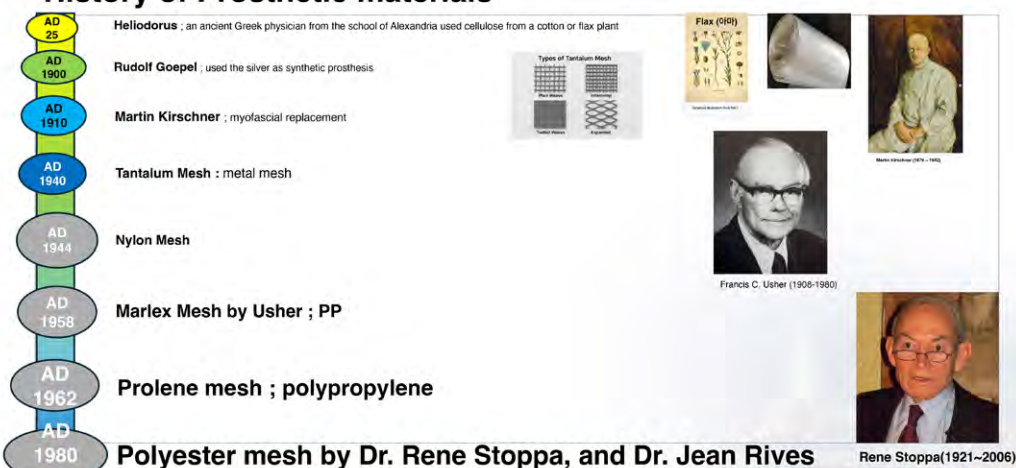
 Plain Weave	 Intercrimp
 Twilled Weave	 Expanded



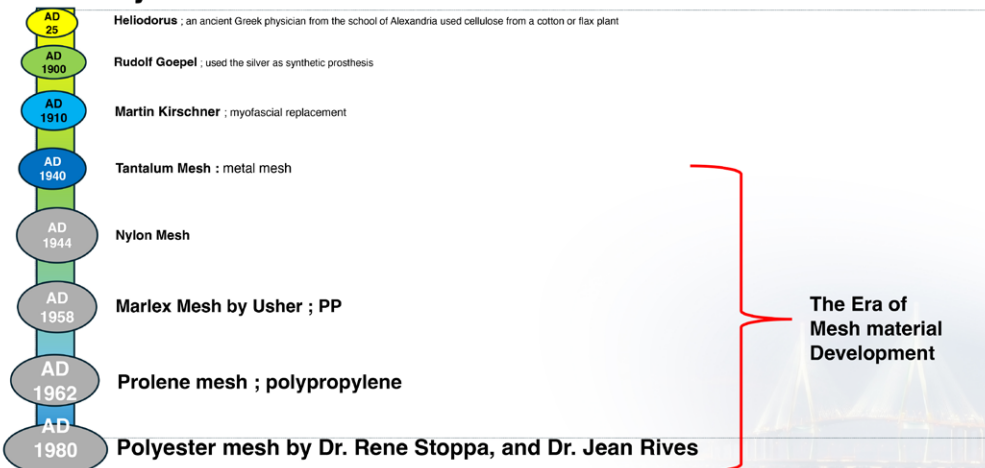
History of Prosthetic materials



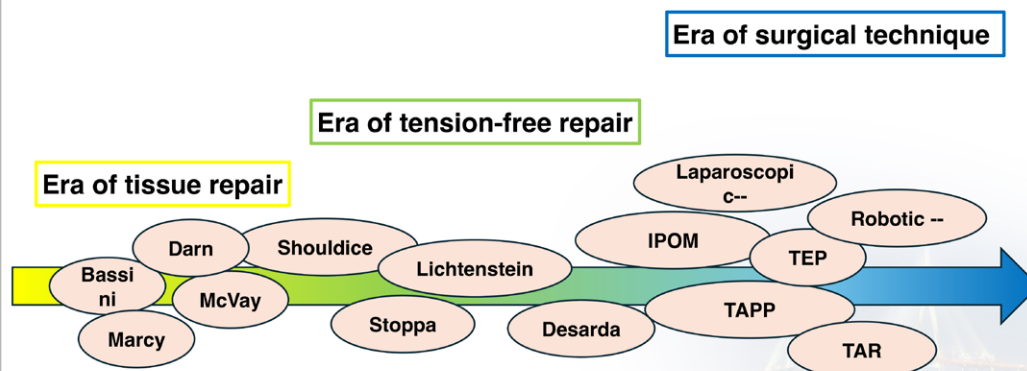
History of Prosthetic materials



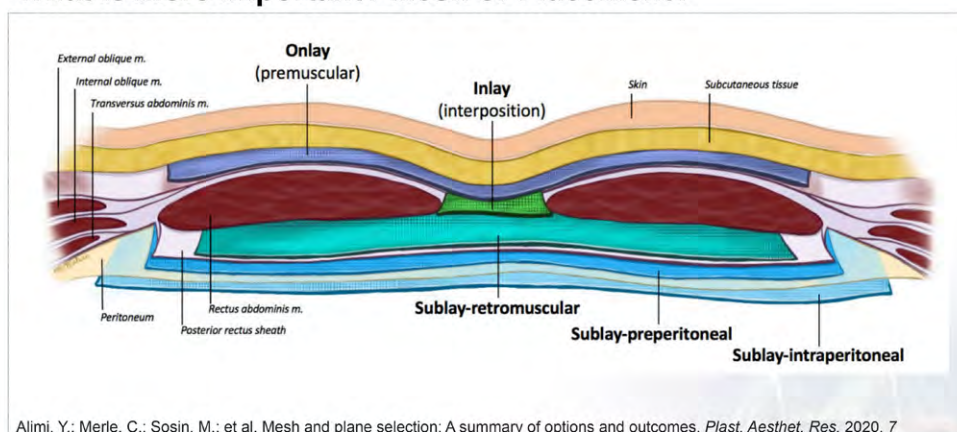
History of Prosthetic materials



History of the Development of modern Hernia Treatment



What is more important? Mesh or Placement?



What is “ideal mesh”?

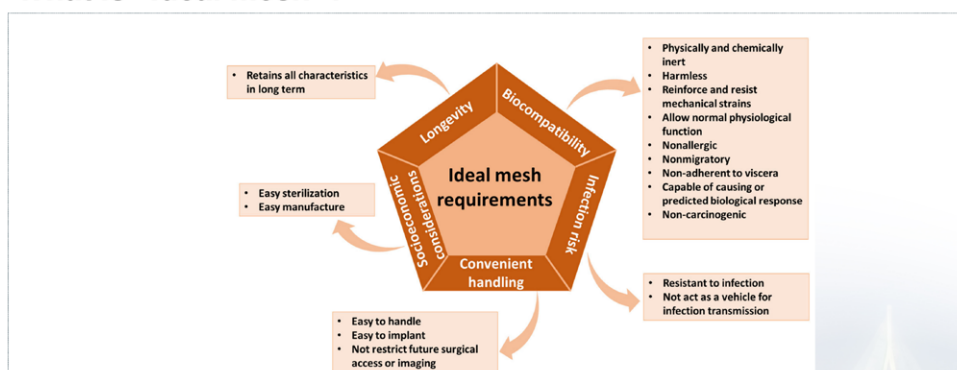


Figure 4. The main requirements of an “ideal mesh”.

A Review of Abdominal Meshes for Hernia Repair—Current Status and Emerging Solutions *Materials* 2023, 16(22), 7124;



Direct comparison of Mesh Materials

Mesh Category	Common Materials	Primary Advantages	Main Disadvantages	Typical Clinical Use
Synthetic	Polypropylene, Polyester, ePTFE	Permanent, high tensile strength, highly cost-effective.	Higher risk of chronic pain, stiffness, and visceral adhesions.	Standard, clean elective hernia repairs.
Biologic	Human acellular dermal matrix, Porcine/Bovine tissue.	Excellent biocompatibility, lower infection risk, naturally remodels into native tissue.	High structural recurrence rates over time, extremely expensive.	Contaminated, infected, or complex surgical fields.
Composite & Hybrid	Polypropylene base with a bioresorbable barrier layer.	Dual-surface prevents bowel adhesions while providing strong structural backing.	Variable inflammatory responses; can be complex to position perfectly.	Laparoscopic and robotic intraperitoneal repairs.

A Review of Abdominal Meshes for Hernia Repair—Current Status and Emerging Solutions *Materials* 2023, 16(22), 7124;



Overview of advantages and disadvantages of meshes

Mesh Category	Advantages	Disadvantages
Synthetic	Good mechanical strength Low cost	Prone to inflammation Stiffness Pain High rate of infection Formation of fistulae
Biologic	Mild inflammation Low formation of fistulae Reduced fibrosis	More expensive Lower mechanical strength
Composite & Hybrid	Low formation of fistulae	Various degrees of inflammation

A Review of Abdominal Meshes for Hernia Repair—Current Status and Emerging Solutions *Materials* 2023, 16(22), 7124;



Encountered issues after mesh implantation

- Inflammation
- Wound healing problem
- Postoperative and chronic pain
- Adhesions
- Migration & shrinkage of mesh

Wang See, C.; Kim, T.; Zhu, D. Hernia Mesh and Hernia Repair: A Review. *Eng. Regen.* **2020**, *1*, 19–33.
Falagas, M.E.; Kasiakou, S.K. Mesh-related infections after hernia repair surgery. *Clin. Microbiol. Infect.* **2005**, *11*, 3–8.
Winsnes, A.; Haapamäki, M.M.; Gunnarsson, U.; Strigård, K. Surgical outcome of mesh and suture repair in primary umbilical hernia: Postoperative complications and recurrence. *Hernia* **2016**, *20*, 509–516.



Mesh shrinkage rate

- **Human rates : 0.1 ~ 25%. Average 7.5 ~ 10%**
- **Timeline : majority of contraction within the first 7 ~ 14 days stabilizing around 1 year after surgery**
- **Animal studies : 10.2 ~ 41%**

Prospective cohort study on mesh shrinkage measured with MRI after robot-assisted minimal invasive retrorectus ventral hernia repair using an iron-oxide-loaded polyvinylidene fluoride mesh. Surg Endosc. 2023 Feb 28;37(6):4604-4612

Mesh shrinkage after transabdominal preperitoneal inguinal hernia repair. Sci Rep. 2023 Mar 8;13:3894

Mesh shrinkage depends on mesh properties and anchoring device: an experimental long-term study in sheep. Hernia 2017 Feb;21(1):107-113



Factors influencing the shrinkage rate

- **Placement location :**
 - retrorectus position → occasionally expansion
 - intraperitoneal position → universally shrink
- **Mesh Material:** Polypropylene (PP) < polyester (PE)
- **Anchoring Devices :** surgical tacks, sutures, glue → absorbable suture
- **Patient Factors :** Higher patient Body Mass Index (BMI)

Prospective cohort study on mesh shrinkage measured with MRI after robot-assisted minimal invasive retrorectus ventral hernia repair using an iron-oxide-loaded polyvinylidene fluoride mesh. Surg Endosc. 2023 Feb 28;37(6):4604-4612

Mesh shrinkage after transabdominal preperitoneal inguinal hernia repair. Sci Rep. 2023 Mar 8;13:3894

Mesh shrinkage depends on mesh properties and anchoring device: an experimental long-term study in sheep. Hernia 2017 Feb;21(1):107-113



Which mesh for hernia repair? Ann R Coll Surg Engl 2010;92:272-278

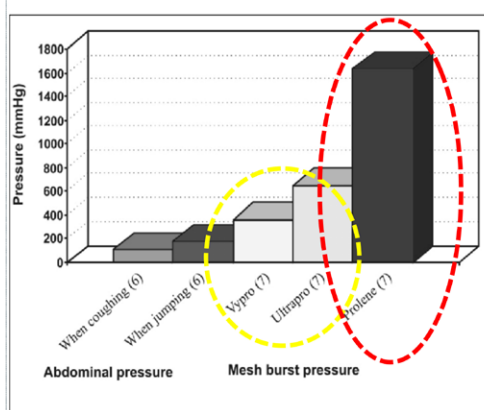
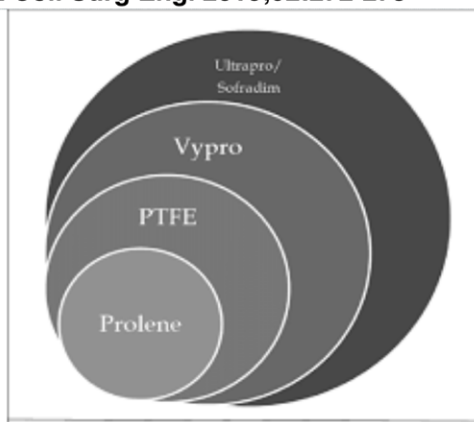


Figure 2 Comparison of mesh strength with abdominal wall pressures.



Which mesh for hernia repair? Ann R Coll Surg Engl 2010;92:272-278

Figure 4. Shrinkage properties of different meshes. Prolene shrinks 75–94%, PTFE shrinks 40–50%, Vypro II shrinks 29%, Ultrapro shrinks < 5%, and Sofradim shrinks < 5%.



Weight and Density

•**Heavy weight Mesh:** Features a higher density and smaller pore size. It yields a very high burst strength but can cause a "scar-plate" effect, leading to abdominal stiffness and patient discomfort.

•**Light weight Mesh:** Constructed with larger pores (>4mm) and a smaller overall surface area. It promotes flexible, 3-dimensional tissue integration ("scar-mesh") that matches natural abdominal compliance.

Mesh category	Mesh weight/density
Ultralight weight	<35 g/m ²
Light weight	35-50 g/m ²
Medium weight	50-90 g/m ²
Heavy weight	>90 g/m ²

Table 11 Commonly published density/weight ranges

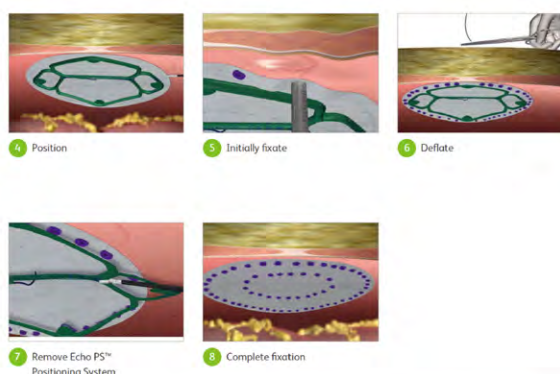


Other kinds of mesh : Echo PS Positioning system



Echo PS[®] Positioning System

With Ventralight[™] ST Mesh for laparoscopic ventral hernia repair



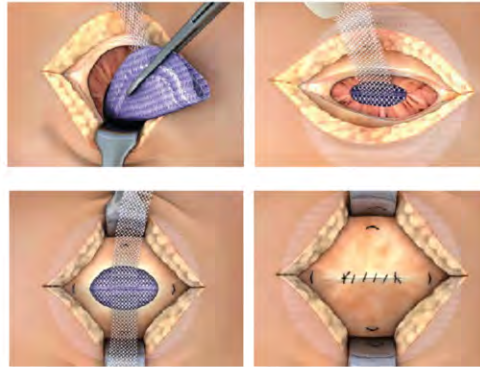


Other kinds of mesh : Ventralex ST Hernia Patch



Ventralex[™] ST Hernia Patch

A clinically proven umbilical hernia repair solution



Other kinds of mesh : ProGrip Mesh



Poly-lactic acid (PLA) resorbable microgrips

- Uniform fixation points^{1,2}
- Good tissue integration^{1,2}
- Prevent mesh shifting^{10,11}



Other kinds of mesh : 3D Max mesh



Bard[®] 3DMax[™] Mesh is designed to conform to the inguinal anatomy and retain this shape following laparoscopic introduction.



Conclusion

The ideal mesh's construction is still in progress.

Personalized hernia treatment is required to select the type of mesh considering the location and size of the hernia, the patient's condition, and the presence of infection.

Fixing a polypropylene mesh with an absorbable suture in the retrorectus position to slender patients results in the lowest mesh shrinkage rate.

[Personal Opinion]

Curriculum Vitae



Anil Sharma

Max Healthcare, India

EDUCATION

MBBS, Bombay University, Seth G. S. Medical College & K. E. M. Hospital, Bombay
 MS (General Surgery), Bombay University, Seth G. S. Medical College & K. E. M. Hospital, Bombay
 FRCS (Edinburgh), Royal College of Surgeons of Edinburgh
 FICS, International College of Surgeons
 FRCS (England), Royal College of Surgeons of England

CAREER

1994 Relocated from the United Kingdom to Sir Ganga Ram Hospital
 Since 1996 Associated with the founding of the Department of Minimal Access Surgery at Sir Ganga Ram Hospital
 Conducted numerous operative workshops and delivered international lectures on abdominal wall hernia surgery
 Contributed chapters to several international surgical publications
 Designed the Basic Medical Writing Course for Surgeons, a voluntary educational initiative for medical writing and presentation skills
 Conceptualized and established Hernia Essentials, a comprehensive hernia training program based on international hernia management guidelines

ACTIVITIES

Founding Member and President (2015–2017), Asia Pacific Hernia Society
 Chairman, Hernia Essentials Training Program, Asia Pacific Hernia Society
 Examiner and Overseas Clinical Tutor, Royal College of Surgeons of Edinburgh
 Examiner, Royal College of Surgeons of England
 Editor, Journal of Minimal Access Surgery
 Section Editor, Hernia
 Executive Committee Member, Indian Association of Gastrointestinal Endosurgeons
 Associate Editor, Indian Journal of Surgery
 Accredited Faculty and Examiner, National Board of Examinations for Fellowship in Minimal Access Surgery
 Founder and Director, Basic Medical Writing Course for Surgeons

Which Mesh Is the Best Choice in Inguinal Hernia Repair? – Open & MIS

Anil Sharma Max Healthcare, India

Title

Mesh choice in Inguinal Hernia repair: Open and minimally invasive approaches.

Introduction

Mesh-based repair is the standard for inguinal hernia surgery, significantly reducing recurrence. A variety of mesh material, porosity, weight and configuration are available for use in open and endolaparoscopic repair. This presentation reviews current evidence on mesh selection in open hernia repair, (Lichtenstein Repair) and endolaparoscopic repair.

Methods

Current literature including International guidelines, Systematic reviews, Meta-analysis and RCT's were reviewed to access recommendations and outcomes with varied mesh types.

Results

In open repair, meta-analyses of RCT's show that LW mesh significantly reduces chronic pain and foreign body sensation without increasing recurrence compared to HW mesh. In minimally invasive surgery, LW mesh similarly improves postoperative comfort, with most studies showing comparable recurrence rates. However, some recent analyses suggest a possible reduction in recurrence with HW mesh laparoscopic repair, indicating a trade-off between durability and comfort. Polypropylene remains the most widely used material, while biologic mesh have no established role in routine cases.

Conclusion

No single mesh is universally superior. LW meshes are generally preferred, particularly in open repair, due to improved patient comfort. In endolaparoscopic repairs, large pore medium to heavy weight meshes appear to be in favour. Surgical technique mesh size and mesh placement remain the most critical determinants of outcome.

Keywords: Inguinal hernia, mesh, lightweight, laparoscopic repair, chronic repair, recurrence.

Curriculum Vitae



Sujith Wijerathne

Alexandra Hosp., Singapore

EDUCATION

2008	MBBS, University of Colombo
2012	MRCS (Edinburgh), Royal College of Surgeons of Edinburgh
2016	MMed (Surgery), National University of Singapore
2017	FRCS (Edinburgh), Royal College of Surgeons of Edinburgh
2017	FAMS (General Surgery), Academy of Medicine Singapore
2017	Accredited as a Specialist in General Surgery by the Specialist Accreditation Board, Singapore

CAREER

2009	Joined National University Hospital and began medical career in Singapore
2010	Started General Surgery training at National University Hospital
2015–Present	Clinical Lecturer, Department of Surgery, Yong Loo Lin School of Medicine, National University of Singapore
2017	Completed Advanced Specialist Training in General Surgery
2018–Present	Involved in the establishment and development of General Surgery services at Alexandra Hospital
2021–Present	Adjunct Assistant Professor, Department of Surgery, National University of Singapore Present Senior Consultant, General Surgery, Endocrine Surgery, Hernia and Minimally Invasive Surgery, Department of Surgery, National University Health System Present Head, Surgical Services Planning, Clinical Services Planning Office, Alexandra Hospital

Curriculum Vitae

CAREER

2023–Present Head, General Surgery Service, Alexandra Hospital

Present Adjunct Associate Professor, Department of Surgery, Yong Loo Lin School of Medicine, National University of Singapore

Organized and instructed multiple basic and advanced laparoscopy and suturing workshops for surgical residents in Singapore and across South and Southeast Asia

Authored several publications and book chapters in minimally invasive surgery and hernia surgery

Frequently presented research at international scientific meetings and received multiple awards

ACTIVITIES

Active Member, Singapore Medical Association

Active Member, Endoscopic and Laparoscopic Surgeons of Asia

Active Member, Asia Pacific Hernia Society

Active Member, Society of American Gastrointestinal and Endoscopic Surgeons

Instructor for international basic and advanced laparoscopy workshops under the outreach program of Endoscopic and Laparoscopic Surgeons of Asia

Joint Secretary, Asia Pacific Hernia Society

Section Editor and Reviewer, Hernia

Chair, Sustainability and Green ELSA (SAGE) Committee, Endoscopic and Laparoscopic Surgeons of Asia

What Are the Key Factors in Choosing Mesh for Ventral/Incisional Hernia Repair?

Sujith Wijerathne Alexandra Hosp., Singapore

Mesh reinforcement remains integral to contemporary ventral and incisional hernia repair. However, optimal prosthesis selection is increasingly complex in the context of expanding mesh technologies and evolving reconstructive strategies. Decision making has shifted from a product focused approach toward a strategy driven paradigm, where mesh selection is tailored to patient factors, hernia characteristics, and operative objectives. This lecture presents a structured, evidence based framework for mesh selection, integrating current international guidelines, contemporary literature, and practical surgical principles.

Mesh selection is primarily determined by the interaction between wound environment and reconstructive intent, with permanent synthetic mesh remaining the standard in most elective settings. Achieving primary fascial closure with mesh reinforcement is consistently associated with superior outcomes compared to bridged repairs, underscoring the importance of integrating prosthesis choice with overall reconstructive planning. Mesh plane represents a critical and often underappreciated determinant of success. Retromuscular and preperitoneal mesh placement are generally

avored where feasible due to improved biomechanical integration and more favorable load distribution, while intraperitoneal positioning requires careful consideration of mesh viscera interaction and long term safety.

Hernia specific factors, including defect size, location, loss of domain, and prior repairs, play a central role in guiding mesh selection and placement strategy. Patient related factors such as obesity, smoking, diabetes, nutritional status, and immunosuppression further influence the risk of complications and recurrence and should be optimized whenever possible. In addition, mesh specific characteristics including material composition, pore size, weight, tensile strength, and tissue integration properties must be balanced against risks of infection, seroma formation, chronic pain, and long term durability. The role of fixation strategies and their interaction with mesh properties will also be considered, particularly in minimally invasive and robotic approaches.

Increasing emphasis is being placed on functional abdominal wall reconstruction, restoration of midline physiology, and long term patient reported outcomes, which refine prosthesis selection beyond recurrence alone. Cost and value considerations are also increasingly relevant, highlighting the need for judicious and evidence based use of available prosthetic options. In conclusion, optimal mesh selection requires a comprehensive, patient centered approach that integrates wound environment, anatomical considerations, and reconstructive strategy, with particular emphasis on appropriate mesh plane selection and durable fascial closure to achieve optimal clinical, functional, and value based outcomes.

Curriculum Vitae



Binggen Li

Southern Medical Univ., China

EDUCATION

1999–2004	M.D., Zhongshan School of Medicine, Sun Yat-sen University
2015	Surgical Intern, St. Josef Hospital of Ruhr University
2016	Visiting Scholar, Cleveland Clinic
2016	Visiting Scholar, Massachusetts General Hospital

CAREER

Chief Physician, Department of General Surgery, Nanfang Hospital, Southern Medical University

Affiliated with Guangdong Provincial Key Laboratory of Precision Medicine for Gastrointestinal Tumor

Specialties: Minimally Invasive Surgery, Hernia Surgery, Pediatric Surgery

ACTIVITIES

Member, Asian Hernia Society (AHS)

Member, European Hernia Society (EHS)

Member, Asia Pacific Hernia Society (APHS)

Member, International Endohernia Society Chinese Chapter (IEHS Chinese Chapter)

Youth Member, Committee of Chinese Hernia College of Surgeons (CHCS)

Contributing Editor, Chinese Journal of Hernia and Abdominal Wall Surgery (Electronic Edition)

Editor, International Journal of Abdominal Wall and Hernia Surgery

Mesh in Contaminated Field and Specialized Anatomic Locations

Binggen Li Southern Medical Univ., China

The management of complex ventral hernias (CVH) remains a big challenge for hernia surgeons, and there are currently no standardized guidelines for the treatment of these diseases. The definition of CVH is highly broad, encompassing various types of huge abdominal wall hernias, recurrent hernias with a history of multiple surgeries, cases requiring volume reduction due to loss of domain, scenarios involving contamination or infection, anatomically irregular location hernias, and special hernias requiring multidisciplinary intervention. Addressing the aforementioned issues requires not only conventional surgical techniques for abdominal wall reconstruction but also the application of comprehensive multidisciplinary knowledge and intraoperative critical decision making. This narrative review discusses the highly individualized comprehensive therapeutic techniques for complex, and illustrates this top challenging domain by several extreme CVH cases, then elucidates the critical decision-making tactic in this dilemmatic scenario.



CONGRESS OF THE KHS &
2026 INTERNATIONAL SYMPOSIUM

Building Bridges in Hernia Surgery: Education to Excellence

Day 1 - 7/3 (Fri)

Hanmi Hanmi Science

Luncheon Symposium I

Chair

Sang Eok Lee Konyang Univ., Korea

Curriculum Vitae



Hyuk Hur
Yonsei Univ., Korea

EDUCATION	1992–1995	Premedical Course, College of Liberal Arts and Science, Yonsei University, Seoul, Korea
	1995–1999	M.D. College of Medicine, Yonsei University, Seoul, Korea
	2008–2011	M.M.S. Graduate School, Yonsei University, Seoul, Korea
	2011–2017	Ph.D. Graduate School, Yonsei University, Seoul, Korea

CAREER	1999–2000	Internship: Severance Hospital, Yonsei University College of Medicine, Seoul, Korea
	2000–2004	Residency: Department of Surgery, Severance Hospital, Yonsei University College of Medicine, Seoul, Korea
	2004–2007	Military Service: The Republic of Korea Airforce
	2007–2009	Fellowship: Division of Colon & Rectal Surgery, Department of Surgery, Severance Hospital, Yonsei University College of Medicine, Seoul, Korea
	2009–2015	Assistant Professor, Division of Colon & Rectal Surgery, Department of Surgery, Severance Hospital, Yonsei University College of Medicine, Seoul, Korea
	2015–2023	Associate Professor, Division of Colon & Rectal Surgery, Department of Surgery, Severance Hospital, Yonsei University College of Medicine, Seoul, Korea
	2023–Present	Professor, Division of Colon & Rectal Surgery, Department of Surgery, Severance Hospital, Yonsei University College of Medicine, Seoul, Korea

Curriculum Vitae

CAREER

- 2024–Present Chief, Division of Colon & Rectal Surgery,
Department of Surgery, Severance Hospital,
Yonsei University College of Medicine, Seoul, Korea
- 2024–Present Director, Colorectal Cancer Center, Yonsei Cancer Hospital

ACTIVITIES

- The Korean Surgical Society
- The Korean Society of Coloproctology
- The Korean Society of Surgical Oncology
- The Korean Society of Endo-Laparoscopic & Robotic Surgery
- The Korean Hernia Society

Why I Use LiquiBand FIX8®: Fast and Safe Hernia Repair

Hyuk Hur Yonsei Univ., Korea

Background

Successful hernia repair depends on secure mesh fixation while minimizing tissue trauma and postoperative complications. Although mechanical fixation with tacks or sutures remains common, atraumatic fixation using surgical adhesive has emerged as an effective alternative. LiquiBand FIX8® is a laparoscopic cyanoacrylate adhesive delivery system that enables reliable mesh fixation and, when appropriate, peritoneal closure, potentially reducing tissue injury and improving operative efficiency.

Objective

This lecture will present my practical approach to using LiquiBand FIX8® in both inguinal and ventral hernia repair, highlighting techniques that contribute to faster procedures, safe mesh fixation, and improved patient recovery.

Content

The presentation will review the principles of atraumatic adhesive fixation and discuss its application in laparoscopic inguinal (TAPP and TEP) and ventral hernia repair. Through operative videos and representative cases, I will demonstrate key technical steps for effective mesh fixation, appropriate adhesive placement, and strategies to optimize efficiency while avoiding common pitfalls. For TAPP repair, the use of LiquiBand FIX8® for peritoneal closure will also be discussed. Current clinical evidence comparing adhesive fixation with conventional mechanical fixation methods will be reviewed, focusing on postoperative pain, operative time, mesh stability, recurrence, and overall safety. Practical tips for patient selection and integration of the device into routine surgical practice will be emphasized.

Conclusion

LiquiBand FIX8® has become a valuable tool in my minimally invasive hernia practice because it combines reliable mesh fixation with an atraumatic, efficient surgical technique. When applied appropriately in both inguinal and ventral hernia repair, it can simplify key operative steps, enhance surgical workflow, and support excellent clinical outcomes. This lecture will provide practical, evidence-based insights that surgeons can readily adopt in their own practice.



CONGRESS OF THE KHS &
2026 INTERNATIONAL SYMPOSIUM

Building Bridges in Hernia Surgery: Education to Excellence

Day 1 - 7/3 (Fri)

Special Lecture

Chair

HyungJin Kim The Catholic Univ. of Korea, Korea

Curriculum Vitae



Vimal K. Vasudevan

Gleneagles Hosp. Penang, Malaysia

EDUCATION

- 1991 MBBS, Karnatak Medical College, Karnatak Medical College
- 2000 M.S. (General Surgery), National University of Malaysia (UKM)
- 2006 FMAS (Fellow in Minimal Access Surgery), India
- 2007 Fellowship in Advanced Laparoscopy (with Prof. Dulucq), Bordeaux, France
- 2009 Bariatric Surgery Training, Brussels, Belgium

CAREER

- Laparoscopic colorectal trainer (ACRS program), National University of Malaysia (UKM)
- Member, Medical Advisory Committee (MAC), Gleneagles Hospital Penang
- Member, Credentialing & Privileging Committee (C&P), Gleneagles Hospital Penang
- Congress President, Endoscopic and Laparoscopic Surgeons of Asia (ELSA), Kuala Lumpur

ACTIVITIES

- President, Society of Endoscopic Laparoscopic and Robotic Surgery of Malaysia (SELSMAR)
- President, Malaysian Hernia Society (MHS)
- President-Elect, Asia Pacific Hernia Society (APHS)
- Advisory Board Member & Chairman, Congress Committee, Endoscopic and Laparoscopic Surgeons of Asia (ELSA)
- Life Member, Malaysian Oncology Society (MOS)
- Faculty Member, Asian Endosurgery Task Force (AETF)

Current Practice of Ventral Hernia in APHS

Vimal K. Vasudevan Gleneagles Hosp. Penang, Malaysia

MEMO



CONGRESS OF THE KHS &
2026 INTERNATIONAL SYMPOSIUM

Building Bridges in Hernia Surgery: Education to Excellence

Day 1 - 7/3 (Fri)

Symposium III

Morbid Obesity and Hernia

Chairs

Tae Kyung Ha Hanyang Univ., Korea

Hoon Ryu Yonsei Univ. Wonju, Korea

Curriculum Vitae



Kiyotaka Imamura

Yotsuya Medical Cube, Japan

EDUCATION

1999–2005 M.D., School of Medicine, University of Tsukuba

CAREER

2005–2008 Junior Resident, Kitakyushu General Hospital
 2008–2012 Senior Resident, Teine Keijinkai Hospital
 2012–2022 Consultant, Teine Keijinkai Hospital
 2022–Present Hernia Consultant, Minimally Invasive Surgery Center, Yotsuya Medical Cube
 2026–Present Director, Abdominal Hernia Center, Yotsuya Medical Cube

ACTIVITIES

Board Member, Lecturer for Seminar on Endoscopic Suturing and Ligation Procedures, Member of the International Affairs Committee, and Journal Editor, Japan Society for Endoscopic Surgery (JSES)
 Board Member and Member of the International Affairs Committee, Japan Hernia Society (JHS)
 Member, Japan Surgical Society (JSS)
 Board Member, Japan Surgical Association (JSA)
 Member, The Japanese Society of Gastroenterological Surgery (JSGS)
 Member, Asia Pacific Hernia Society (APHS)
 Information & Communication Committee Member (ICC&DT), Endoscopic and Laparoscopic Surgeons of Asia (ELSA)

Optimizing Hernia Outcomes in Obese Patients: Key Concepts in Prehabilitation

Kiyotaka Imamura Yotsuya Medical Cube, Japan

Background

Obesity is a major risk factor for the development, recurrence, and wound complications of incisional hernia. Obese patients often have more comorbidities and more complex abdominal wall defects, making prehabilitation, including weight reduction and metabolic optimization, important for improving surgical outcomes. This study evaluated the clinical characteristics and short-term outcomes of obese patients undergoing extended-view totally extraperitoneal repair (eTEP) for incisional hernia.

Methods

We retrospectively reviewed 237 patients who underwent eTEP repair for incisional hernia at our institution between November 2022 and May 2026. Our general indication for eTEP repair was BMI <40 kg/m². Patients were divided into two groups according to preoperative BMI: non-obese patients with BMI <30 kg/m² and obese patients with BMI ≥ 30 kg/m². Patient

characteristics, hernia features, perioperative outcomes, postoperative complications, 30-day readmission and reoperation, and postoperative recurrence were compared between the two groups. Preoperative weight reduction interventions in the obese group were also reviewed.

Results

There were 201 patients in the BMI <30 group and 36 patients in the BMI ≥30 group. Obese patients had higher rates of diabetes mellitus (41.7% vs 17.9%, $p=0.001$) and hypertension (66.7% vs 41.8%, $p=0.006$). They also had larger defect width (7.0 vs 5.5 cm, $p=0.008$) and a higher rate of EHS-defined complex hernia (50.0% vs 29.9%, $p=0.018$). Operative time and postoperative hospital stay were comparable between the groups, whereas mesh area was larger (561 vs 504 cm², $p=0.026$) and drain placement was more frequent in the obese group (55.6% vs 37.8%, $p=0.046$). There were no significant differences in SSI, SSO, 30-day readmission, 30-day reoperation, or postoperative recurrence. Among 36 obese patients, 17 underwent preoperative weight reduction interventions, including GLP-1 receptor agonist-related treatment, sleeve gastrectomy, and intragastric balloon therapy.

Table. Comparison of patients according to BMI

Variable	BMI <30 (n=201)	BMI ≥30 (n=36)	p value
Age, years	67.0	59.5	0.018
Diabetes mellitus	36/201 (17.9%)	15/36 (41.7%)	0.001
Hypertension	84/201 (41.8%)	24/36 (66.7%)	0.006
Defect width, cm	5.5	7.0	0.008
EHS-defined complex hernia	60/201 (29.9%)	18/36 (50.0%)	0.018
Operative time, min	196	211	NS
Mesh area, cm ²	504	561	0.026
Drain placement	76/201 (37.8%)	20/36 (55.6%)	0.046
Postoperative hospital stay, days	2.0	2.0	NS
SSI	3/201 (1.5%)	0/36 (0.0%)	NS
SSO	13/201 (6.5%)	0/36 (0.0%)	NS
30-day reoperation	4/201 (2.0%)	0/36 (0.0%)	NS
Postoperative recurrence	2/201 (1.0%)	0/36 (0.0%)	NS

Note: Continuous variables are shown as median values. Categorical variables are shown as n/N (%). BMI, body mass index; EHS, European Hernia Society; SSI, surgical site infection; SSO, surgical site occurrence; NS, not significant.

Conclusion

Obese patients undergoing incisional hernia repair had more comorbidities and more complex hernia features. However, with careful patient selection using BMI $<40 \text{ kg/m}^2$ as a general threshold, preoperative weight reduction when appropriate, and eTEP-based extraperitoneal reconstruction, acceptable short-term outcomes were achieved. Prehabilitation should be considered an essential component of abdominal wall reconstruction in obese patients.

Curriculum Vitae



Sang Hyun Kim
Soonchunhyang Univ., Korea

EDUCATION	2004	M.D., School of Medicine, Kyung Hee University
	2013	Master of Medical Science (M.M.Sc.), Graduate School, Kyung Hee University
	2017	Ph.D. in Medicine, Graduate School, Kyung Hee University

CAREER	2012–2013	Clinical Fellow, Division of Gastrointestinal Surgery, Department of Surgery, Kyung Hee University Hospital at Gangdong
	2013–2014	Clinical Fellow, Division of Gastrointestinal Surgery, Department of Surgery, Samsung Medical Center
	2014–2018	Clinical Assistant Professor, Division of Gastrointestinal Surgery, Department of Surgery, Kyung Hee University Hospital at Gangdong
	2018–2019	International Clinical/Research Fellow, Cancer Institute Hospital of JFCR & Yotsuya Medical Cube, Tokyo, Japan
	2019–2024	Associate Professor, Division of Gastrointestinal Surgery, Department of Surgery, Soonchunhyang University Seoul Hospital
	2024–Present	Professor, Division of Gastrointestinal Surgery, Department of Surgery, Soonchunhyang University Seoul Hospital

Curriculum Vitae

ACTIVITIES

2023–Present	Secretary, International Federation for the Surgery of Obesity and Metabolic Disorders - Asian Pacific Chapter (IFSO-APC)
2024–2026	Academic Director, Korean Society for Metabolic and Bariatric Surgery (KSMBS)
2024–Present	Director at Large, Korean Hernia Society (KHS)
2024–Present	Associate Editor-in-Chief, Journal of Minimally Invasive Surgery (JMIS)
2025–Present	Member, Communication Committee, International Federation for the Surgery of Obesity and Metabolic Disorders (IFSO)
2026–Present	Secretary General, Korean Society for Metabolic and Bariatric Surgery (KSMBS)

Nutrition, Exercise, Breathing Technique, Additional Supportive Care in Perioperative Care

Sang Hyun Kim Soonchunhyang Univ., Korea

The management of ventral and incisional hernias in patients with severe obesity presents distinct surgical challenges, characterized by elevated recurrence rates and perioperative complications. Historically, immediate surgical repair often yielded suboptimal outcomes due to unmitigated metabolic and mechanical stresses. Emerging evidence and international guidelines (EHS/AHS) increasingly advocate for 'prehabilitation'—a proactive, multidisciplinary optimization strategy prior to definitive abdominal wall reconstruction (AWR). This presentation delineates the clinical efficacy and structured implementation of perioperative nutrition, exercise, respiratory training, and advanced supportive care tailored for the population with severe obesity.

A comprehensive review of recent randomized controlled trials (RCTs), meta-analyses, and societal position statements was conducted to establish an evidence-based protocol.

- **Nutritional Optimization:** Emphasizes high-protein diets and micronutrient supplementation to counteract sarcopenic obesity, alongside strict glycemic control to mitigate surgical site infections (SSIs). Preoperative Very Low-Calorie Diets (VLCD), backed by recent general surgery and ventral hernia RCTs, are evaluated for their specific role in reducing visceral fat volume, decreasing waist circumference, and lowering intra-abdominal pressure (IAP) without compromising lean body mass.
- **Exercise Prehabilitation:** Focuses on structured core-stabilization and progressive resistance training to enhance abdominal wall compliance and functional capacity without exacerbating hernia symptoms.
- **Breathing Techniques:** Utilizes inspiratory muscle training (IMT) and incentive spirometry to optimize pulmonary function, critical for mitigating the risk of abdominal compartment syndrome following large defect closures.
- **Additional Supportive Care:** Evaluates the systematic application of progressive pneumoperitoneum (PPP), botulinum toxin A (BTA) chemical conditioning, and prophylactic negative pressure wound therapy (pNPWT).

Pooled data from high-quality literature demonstrate that structured prehabilitation significantly reduces total perioperative morbidity, shortens hospital length of stay, and decreases surgical site occurrences (SSOs).

Optimizing respiratory mechanics and reducing visceral volume through targeted VLCD directly facilitate tension-free fascial closure during AWR. Furthermore, addressing the physiological demands of severe obesity through advanced supportive care markedly lowers the risk of long-term recurrence.

Perioperative optimization is no longer optional but a fundamental prerequisite in contemporary bariatric hernia surgery. Implementing a standardized regimen of nutrition, exercise, and respiratory conditioning enhances patient readiness, optimizes surgical fields, and ultimately improves long-term outcomes in complex abdominal wall reconstruction.

Curriculum Vitae



Suthep Udomsawaengsup

Chulalongkorn Univ., Thailand

EDUCATION

1996	Doctor of Medicine (M.D.), Chulalongkorn University
1996	Diplomat, Thai Board of Family Medicine
2000	Diplomat, Thai Board of Surgery

CAREER

2004	Fellowship in Upper Gastrointestinal Surgery, Toranomom Hospital
2005	Fellowship in Minimally Invasive Surgery, Ruijin Hospital
2005–2006	Clinical Fellow in Flexible Surgical Endoscopy, Cleveland Clinic
2006–2007	Clinical Fellow in Advanced Laparoscopic and Bariatric Surgery, Bariatric and Metabolic Institute (BMI), Cleveland Clinic
Present	Laparoscopic and Bariatric Surgeon

ACTIVITIES

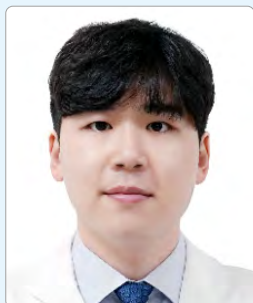
Laparoscopic Surgery
 Bariatric Surgery
 Flexible Surgical Endoscopy
 Minimally Invasive Surgery
 Upper Gastrointestinal Surgery

Concomitant Bariatric Surgery and Ventral Hernia Repair: Is It Safe?

Suthep Udomsawaengsup Chulalongkorn Univ., Thailand

MEMO

Curriculum Vitae



Dongjae Jeon

Seoul National Univ., Korea

EDUCATION

School of Medicine, Soonchunhyang University

CAREER

Residency in General Surgery, Soonchunhyang University Seoul Hospital

Clinical Fellow, Division of Gastrointestinal Surgery, H+ Yangji Hospital

Clinical Attending Physician, Division of Gastrointestinal Surgery,
Seoul National University Bundang Hospital

Clinical Professor, Division of Gastrointestinal Surgery,
Seoul National University Bundang Hospital

ACTIVITIES

Member, Academic Committee, Korean Society for Metabolic
and Bariatric Surgery

Member, Next-Generation Committee, Korean Society of Surgical Oncology

Editorial Board Member, Journal of Minimally Invasive Surgery

Prevention and Treatment for Internal Herniation After Bariatric Surgery

Dongjae Jeon Seoul National Univ., Korea

Internal herniation is a well-recognized late complication following bariatric and metabolic surgery. The creation of potential mesenteric spaces, including Petersen's defect and the jejunojejunostomy mesenteric defect, combined with progressive mesenteric fat loss after significant weight reduction, renders these spaces increasingly vulnerable over time. Despite its clinical importance, internal herniation remains diagnostically challenging owing to its nonspecific, intermittent, and self-reducing nature.

This presentation addresses two central themes in the management of internal herniation after bariatric surgery: prevention through appropriate defect closure and timely rescue when internal hernia occurs. Following a brief anatomical overview of surgically created potential spaces, including Petersen's defect, jejunojejunostomy mesenteric defects, and transverse meso-colic defects in retrocolic reconstruction, the lecture will address these two themes in sequence.

The prevention section will briefly summarize key principles of defect closure, including avoidance of residual gaps, excessive tension, limb twisting, and anastomotic kinking. Operative videos will be used to demonstrate practical closure techniques, including a hanging technique that may facilitate exposure and stable suturing of the defect.

The second part of the lecture will address diagnosis and rescue strategies. Clinical suspicion should be maintained in patients with recurrent or unexplained abdominal pain, postprandial symptoms, nausea, vomiting, or intermittent obstructive features after such reconstructive procedures. Computed tomography is useful, particularly when findings such as mesenteric swirl, clustered bowel loops, mesenteric edema, venous congestion, abnormal bowel position, or closed-loop obstruction are present. However, imaging findings may be equivocal, and persistent clinical suspicion should prompt early operative consideration. Surgical rescue requires systematic exploration, accurate identification of the reconstruction anatomy, gentle reduction of herniated bowel, assessment of bowel viability, and closure of all relevant defects.

Curriculum Vitae



Won Jun Seo
Korea Univ., Korea

EDUCATION	2003–2009	M.D., School of Medicine, Keimyung University
	2017–2019	Master of Medical Science (M.M.Sc.), Graduate School of Medicine, Yonsei University
	2020–2024	Ph.D. in Medicine, Graduate School, Korea University

CAREER	2009–2010	Internship, Severance Hospital, Yonsei University
	2010–2014	Residency in General Surgery, Severance Hospital, Yonsei University
	2017–2019	Clinical Fellow, Division of Gastrointestinal Surgery, Department of Surgery, Severance Hospital, Yonsei University
	2019–Present	Associate Professor, Department of Surgery, Korea University Guro Hospital

ACTIVITIES	Member, Korean Surgical Society
	Member & Research Committee Secretary, Korean Gastric Cancer Association
	Member, Korean Cancer Association
	Member & Academic Committee Member, Korean Society of Gastrointestinal Surgery
	Member, Korean Society for Metabolic and Bariatric Surgery
	Member & Policy Director, Korean Society of Peritoneal Surface Malignancies
	Member, Korean Society of Surgical Oncology
	Member & Executive Secretary, Korean Laparoscopic Gastrointestinal Surgery Study Group

Hiatal Hernia Repair During Sleeve Gastrectomy: Do or Not?

Won Jun Seo Korea Univ., Korea

MEMO



Symposium IV

Training the Next Generation: Surgical Education and Skill Acquisition in Inguinal Hernia Repair

Chairs

Yeon Jun Jeong Jeonbuk National Univ., Korea

Gil Ho Kang Cheonan Medical Center, Korea

Curriculum Vitae



Toshio Tanioka

Institute of Science Tokyo, Japan

EDUCATION

2000–2006	Faculty of Medicine, Kagawa University
2014–2019	Graduate Student, Department of Gastrointestinal Surgery, Tokyo Medical and Dental University

CAREER

2006–2009	Resident, International Medical Center of Japan
2009–2011	Resident in Surgery, Sapporo Kosei Hospital
2011–2014	Surgeon, Department of Surgery, Sapporo Kosei Hospital
2014–2019	Surgeon, Department of Gastric Surgery, Tokyo Medical and Dental University Hospital
2019–2022	Surgeon, Department of Gastroenterological Surgery, Tsuchiura Kyodo General Hospital
2022–2023	Surgeon / Assistant Professor, Department of Gastric Surgery, Tokyo Medical and Dental University Hospital
2023–Present	Surgeon / Junior Associate Professor, Department of Gastric Surgery, Tokyo Medical and Dental University Hospital
2024–Present	Surgeon / Junior Associate Professor, Department of Gastric Surgery, Science Tokyo Hospital



Mapping the Learning Curve in Hernia Repair: Learning Curve for Inguinal Hernia Repair

Toshiro Tanioka Institute of Science Tokyo, Japan

Background and Aim

Inguinal hernia repair has evolved from open anterior repair to minimally invasive approaches, including laparoscopic transabdominal preperitoneal repair (TAPP), totally extraperitoneal repair (TEP), and robot-assisted surgery. Although these approaches offer important clinical advantages, they require a precise understanding of preperitoneal anatomy, standardized operative steps, and advanced technical skills. The learning curve in inguinal hernia repair is not a simple process represented only by shorter operative time or increased case volume. Rather, it is a multidimensional process influenced by anatomical understanding, technical proficiency, intraoperative judgment, complication risk, case complexity, and the educational environment. In training the next generation of surgeons, recent concepts such as structured feedback and proficiency-based progression are becoming increasingly important. This presentation aims to review current knowledge regarding the learning curve in inguinal hernia repair and to introduce our institutional approach to surgical education and skill assessment.



Methods

At our institution, a stepwise training system has been implemented according to the surgeon's level of experience. In uncomplicated cases, open anterior repair is mainly performed by junior residents, laparoscopic repair by senior residents in the surgical training program, and robot-assisted repair by experienced surgeons. For TAPP training, trainees prepare preoperatively using an original curriculum, procedural manual, and model operative videos. After each operation, trainees complete an original 50-point self-assessment sheet, and feedback is provided by supervising surgeons. As part of our effort to visualize the learning process, we retrospectively reviewed 31 cases of unilateral primary inguinal hernia treated with TAPP by trainees between April 2023 and October 2025. The relationships among self-assessment scores, operative time, procedure-specific technical scores, and European Hernia Society (EHS) classification were analyzed.

Results

Our experience suggested that operative time decreased with accumulated experience, indicating progression along the learning curve. In a recent analysis of 31 TAPP cases, hernia size, according to EHS classification, was L2 in 23 cases and L3 in 8 cases. Although the total score on the self-assessment sheet was not significantly associated with operative time, a weak negative correlation was observed, suggesting that higher scores were associated with shorter operative time. Scores for individual technical steps, including hernia sac dissection, mesh deployment, and peritoneal closure,



were not clearly correlated with operative time. In contrast, larger hernia size was significantly associated with prolonged operative time, indicating that case complexity strongly influences operative performance and the apparent learning curve.

Discussion and Conclusions

Current evidence suggests that the learning curve in inguinal hernia repair should be interpreted as a multidimensional process rather than as a simple reduction in operative time. In TAPP, understanding preperitoneal anatomy, standardizing each operative step, selecting appropriate cases, and providing timely supervision are essential for safe skill acquisition. Our experience also indicates that operative time is affected not only by technical proficiency but also by case-related difficulty, particularly hernia size. Therefore, case volume alone is insufficient as a marker of surgical competency.

A structured educational system incorporating procedural manuals, video-based learning, self-assessment, and supervisor feedback may help visualize trainee progress and identify specific educational targets. Integrating these assessments into a proficiency-based progression model may allow trainees to advance stepwise based on both their technical ability and the complexity of the cases they handle. Applying current knowledge of the learning curve to daily surgical education may contribute to a safer, more efficient, and more reproducible training pathway for the next generation of hernia surgeons.

Curriculum Vitae



Saseem Poudel

Hokkaido Univ., Japan

EDUCATION

2000	Intermediate of Science (I.Sc), St. Xavier's Campus, Tribhuvan University
2002	Japanese Language Studies, Tokyo University of Foreign Studies / Japanese Language Center for Foreign Students, Tokyo, Japan
2008	Doctor of Medicine (M.D.), Hokkaido University
2017	Doctor of Philosophy (Ph.D.), Graduate School of Medicine, Department of Gastroenterological Surgery II, Hokkaido University

CAREER

2008–2009	Intern, Hokkaido University Hospital
2009–2010	Intern, Kushiro City General Hospital
2010	Medical Officer, Emergency Department, Kathmandu Medical College Hospital
2010–2011	Medical Officer, Emergency Department, Patan Hospital
2011–2012	Surgical Resident, Department of Surgery, KKR Tonan Hospital
2012–2013	Surgical Resident, Department of Surgery, Yoichi Kyokai Hospital
2013–2016	Surgical Resident, Department of Gastroenterological Surgery II, Hokkaido University Hospital
2013–2016	Teaching Assistant, Department of Gastroenterological Surgery, Hokkaido University Hospital
2016–2017	Gastrointestinal Surgical Fellow, Steel Memorial Muroran Hospital

Curriculum Vitae

CAREER

2017–2022	Gastrointestinal Surgeon, Steel Memorial Muroran Hospital
2017–2025	Visiting Researcher, Department of Gastroenterological Surgery II, Graduate School of Medicine, Hokkaido University
2022–2023	Colorectal Fellow, National Cancer Center Hospital East
2023–2025	Gastrointestinal Surgeon, Robotic and Endoscopic Surgical Center, Sapporo Keiyukai Hospital
2025–Present	Assistant Professor / Director, Clinical Simulation Center, Department of Gastroenterological Surgery II, Hokkaido University

ACTIVITIES

2016	Member, Surgical Training Curriculum Review Working Group, Japan Surgical Society Board Member, Hokkaido Hernia Society Organizing Committee Member, 13th Annual Meeting, Hokkaido Hernia Society
2017–Present	Member, Hernia Registry Committee, Japan Hernia Society Member, Guidelines Committee, Japan Hernia Society Member, Journal Committee, Japan Hernia Society Member, Research Project Committee, Japan Hernia Society Program Committee Member, 16th Annual Meeting, Japan Hernia Society
2022–Present	Board Member, Japanese Association of Surgical Education
2022–2023	Member, Trainee Taskforce, Association of Surgical Education
2022–2024	Member, Under 40 Working Group, Japan Surgical Society
2023–2024	Vice Chair, International Taskforce, Association of Surgical Education
2024–Present	Chair, International Taskforce, Association of Surgical Education Program Committee Member, 20th Annual Meeting, Japan Hernia Society



Building a Competency Pathway in Hernia Surgery

Saseem Poudel Hokkaido Univ., Japan

Background

Laparoscopic inguinal hernia repair (LIHR), particularly the transabdominal preperitoneal (TAPP) approach, presents a notoriously steep learning curve for novice surgeons. Historically, surgical training has relied heavily on an apprenticeship model driven by case volume and subjective evaluation. However, the modern era of surgical education demands a paradigm shift toward competency-based training to standardize skill acquisition and maximize patient safety. This lecture will review our ongoing work and systematic efforts to develop, validate, and implement a comprehensive educational pathway for LIHR.

Overview of Work

Over the past decade, our research group has systematically built an evidence-based framework to modernize TAPP training. The foundation of this pathway began with the development and validation of a procedure-specific objective assessment tool—the TAPP checklist—designed to reliably measure surgical performance. Building upon this evaluation metric,



we implemented and validated a novel clinical training system driven by structured assessment and formative feedback, demonstrating its superiority over traditional training in multicenter randomized controlled trials.

To further refine this pathway, we applied Item Response Theory to deconstruct the novice learning curve, successfully identifying specific procedural milestones—such as peritoneal traction, instrument handling, and workflow—that dictate surgical mastery. Recognizing the need to establish fundamental skills prior to operating room exposure, we subsequently developed and validated a structured telesimulation curriculum, effectively bridging the gap between foundational dry-lab practice and clinical reality.

Conclusion

Systematically utilizing validated assessment tools, feedback systems, and simulation training is integral in a competency-based pathway for the training of future hernia surgeons.

Curriculum Vitae



Jihoon Kim

The Catholic Univ. of Korea

EDUCATION

2004	M.D., School of Medicine, The Catholic University of Korea
2015	Ph.D. in Medicine, The Graduate School, The Catholic University of Korea

CAREER

2005	Internship, Catholic Central Medical Center
2009	Residency in General Surgery, Catholic Central Medical Center
2009–2012	Clinical Fellow, Division of Colorectal Surgery, Department of Surgery, Catholic University of Korea Incheon St. Mary's Hospital
2012–2017	Clinical Assistant Professor, Division of Colorectal Surgery, Department of Surgery, Catholic University of Korea Incheon St. Mary's Hospital
2017–2022	Assistant Professor, Division of Colorectal Surgery, Department of Surgery, Catholic University of Korea Incheon St. Mary's Hospital
2022–Present	Associate Professor, Division of Colorectal Surgery, Department of Surgery, Catholic University of Korea Incheon St. Mary's Hospital

ACTIVITIES

- Lifetime Member, Korean Surgical Society
- Lifetime Member, Korean Hernia Society
- Lifetime Member, Korean Society of Coloproctology
- Lifetime Member, Korean Society of Endo-Laparoscopic & Robotic Surgery



How Much Should Residents Do?: Supervision–Autonomy Balance, Credentialing Case Volumes, and the Patient Safety-Education Trade-off

Jihoon Kim The Catholic Univ. of Korea

Surgical education inevitably requires balancing two competing priorities: ensuring patient safety while providing residents with sufficient operative autonomy to achieve competency. This dilemma is particularly relevant in inguinal hernia surgery, which is often perceived as a suitable “beginner’s operation” despite requiring complex anatomical understanding, precise dissection, and sound intraoperative judgment.

Traditional apprenticeship-based models of surgical training have increasingly shifted toward competency-based education and mastery learning. However, defining the appropriate degree of resident participation remains controversial. Excessive supervision may delay the development of independent decision-making and technical confidence, whereas premature autonomy may increase operative time, complications, and recurrence rates. In addition, reliance on numeric credentialing alone is problematic, as operative case volume does not necessarily reflect true competency, quality of supervision, or technical standardization.



This lecture reviews the current concepts of graduated autonomy, learning curves in open and laparo-endoscopic inguinal hernia repair, and the limitations of volume-based credentialing systems. Particular emphasis is placed on the importance of cognitive competency, including anatomical recognition, safe plane selection, and intraoperative decision-making, which are frequently underestimated compared with technical dexterity alone. The role of structured supervision, stepwise resident participation, mastery-based assessment, and timely attending intervention will also be discussed.

Ultimately, the goal of surgical education should not be maximal autonomy, but safe autonomy. Effective surgical educators must simultaneously protect the patient of today while training the independent surgeon of tomorrow.

Curriculum Vitae



Joe Fan

Queen Mary Hosp., Hong Kong

EDUCATION

- 1999 Bachelor of Medicine and Bachelor of Surgery, The University of Hong Kong
- 2010 Master of Surgery, The University of Hong Kong
- 2021 醫療專業技術人員正高級職稱認定評審通過 - 主任醫師

CAREER

- 2006 Fellow of the Hong Kong Academy of Medicine (FHKAM)
- 2006 Fellow of the College of Surgeons of Hong Kong (FCSHK)
- 2006 Fellow of the Royal College of Surgeons of Edinburgh (FRCS Edin)
- 2018 Fellow of the American College of Surgeons (FACS)
- 2021 Approved for Senior Professional Technical Title Accreditation - Chief Physician
- Present Assistant Hospital Chief Executive, The University of Hong Kong-Shenzhen Hospital (HKUSZH)
- Present Director of International Medical Center, The University of Hong Kong-Shenzhen Hospital (HKUSZH)

ACTIVITIES

- Past President, Hong Kong Hernia Society
- Present Council Member, Hong Kong Hernia Society
- Present Council Member, Society of Hong Kong Minimal Access Surgery
- Present Council Member, Hong Kong Society of Coloproctology
- Present Board Member, Asia-Pacific Endo-lap Surgery Group (APELS)
- Present First International Honorary Fellow, Korean Society of Coloproctology
- Present Regular Instructor, Hernia Essential Course, Asia Pacific Hernia Society (APHS)
- Present Regular Reviewer, British Journal of Surgery and Hernia



The Beginner's Guide to Manuscript Submission Excellence- Strategies and Best Practices

Joe Fan Queen Mary Hosp., Hong Kong

Background

In specialized fields like hernia surgery, publishing high-quality evidence is vital to advancing clinical techniques and patient quality of life. However, early-career researchers frequently face desk rejections due to poor journal alignment and methodological pitfalls. This presentation outlines a roadmap from study design to successful publication.

Methods & Strategies

Achieving submission excellence requires a structured approach across four key pillars.

1. **Journal Alignment:** Authors must prioritize scope relevance and readership over Impact Factor alone. Matching findings to the right journal (e.g., "Hernia", "Surgical Endoscopy") prevents desk rejection.



2. Reporting Standards: Using the IMRaD narrative structure and EQUATOR Network checklists (“STROBE”, “CONSORT”, “PRISMA”) ensures transparent reporting. Hernia studies must clearly define primary outcomes and track long-term follow-up to avoid inflated success rates.
3. Ethical Compliance: Research must align with the Declaration of Helsinki. Submissions require IRB approval numbers, trial registration (e.g., ClinicalTrials.gov), conflict of interest (COI) disclosures, and explicit off-label device statements.
4. AI Integrity: While Generative AI aids grammar and text summarization, it cannot be listed as an author. Accountability remains 100% human, and explicit disclosure of AI usage is mandatory to prevent data fabrication.

Conclusion

Submission excellence requires transitioning from mere data reporting to a coherent narrative. Adhering to established guidelines, validating data tracking, and ensuring ethical transparency significantly boosts reviewer confidence and publication success.



Oral Presentation

Chairs

Joe Fan Queen Mary Hosp., Hong Kong

Sang Eok Lee Konyang Univ., Korea

KHS-O-01

Comparative Outcomes of Robotic Versus Laparoscopic Suprapubic eTEP Repair for Ventral Hernia

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Department of Surgery, Ewha Womans University College of Medicine, Seoul, South Korea

Background/Aims

To compare perioperative outcomes between robotic and laparoscopic approaches in suprapubic extended totally extraperitoneal (eTEP) repair for ventral hernia.

Methods

We retrospectively reviewed 35 consecutive patients who underwent suprapubic eTEP repair between June 2024 and March 2026. Patients were divided into robotic (n=18) and laparoscopic (n=17) groups. Baseline characteristics, hernia features, and operative outcomes were analyzed.

Results

The robotic group (n=18) was younger than the laparoscopic group (n=17) (51 vs. 69 years, $p=0.033$), had a higher proportion of female patients (94.4% vs. 41.2%, $p=0.001$), and demonstrated lower ASA classification ($p=0.029$). Preoperative hernia size was comparable between the robotic and

laparoscopic groups, with no significant differences in defect width (41 vs. 41 mm) or length (37.5 vs. 39 mm). All hernias were classified as M2 or M3, with the majority being M3. All procedures were performed by two surgeons; one performed all laparoscopic cases and part of the robotic cases, while the other performed robotic cases only. There were no significant differences in mesh size between the robotic and laparoscopic groups, including mesh length (18 vs. 23 cm) and width (13 vs. 14 cm). Operative time was comparable between the robotic and laparoscopic groups (155 vs. 140 minutes, $p=0.297$). Drain insertion rate was also similar (22.2% vs. 47.1%, $p=0.164$). There were no significant differences in hospital stay (3 vs. 4 days, $p=0.986$), complication rate (0% vs. 5.9%, $p=0.486$), or recurrence (0% vs. 11.8%, $p=0.229$). Blood loss was higher in the robotic group compared to the laparoscopic group (30 vs. 10 mL, $p=0.006$), although the absolute difference was not clinically meaningful.

Conclusion

Both laparoscopic and robotic suprapubic eTEP repairs provide equivalent perioperative outcomes, with no clinically meaningful differences between the two approaches. These findings suggest that both approaches yield similar clinical outcomes in suprapubic eTEP repair. Further studies with larger patient populations are required to validate these results.

Keywords: Extended TEP, Suprapubic, Ventral hernia, Robotic, Laparoscopy

Table 1. Comparison between Robotic and Laparoscopic Suprapubic eTEP Repair

Variable	Robotic (n=18)	Laparoscopic (n=17)	p-value
Age (years)	51 (35-70)	69 (32-85)	0.033
BMI (kg/m ²)	26.9 (18.7-32.7)	27.8 (18.8-37.6)	0.113
Sex (Female)	17 (94.4%)	7 (41.2%)	0.001
Smoking	1 (5.6%)	4 (23.5%)	0.177
ASA			0.029
I	4 (22.2%)	4 (23.5%)	
II	13 (72.2%)	6 (35.3%)	
III	1 (5.6%)	7 (41.2%)	
Diagnosis			0.045
Incisional hernia	18 (100%)	13 (76.5%)	
Umbilical hernia	0	4 (23.5%)	
Hernia classification			0.176
M2	0	2 (11.8%)	
M3	18 (100%)	15 (88.2%)	
Defect width (mm)	41 (26-60)	41 (10-61)	0.438
Defect length (mm)	37.5 (26-54)	39 (10-62)	0.830
Recurrence hernia	0	2 (11.8%)	0.229
Surgeon			0.008
Surgeon 1	11 (61.1%)	17 (100%)	
Surgeon 2	7 (38.9%)	0	
TAR	0	3 (17.6%)	0.104
Operative time (min)	155 (110-265)	140 (105-330)	0.297
Blood loss (mL)	30 (10-100)	10 (5-100)	0.006
Mesh length (cm)	18 (15-30)	23 (15-30)	0.103
Mesh width (cm)	13 (8-15)	14 (10-20)	0.111
Drain	4 (22.2%)	8 (47.1%)	0.164
Complication	0	1 (5.9%)	0.486
Hospital stay (days)	3 (2-6)	4 (2-5)	0.986
Recurrence	0	2 (11.8%)	0.229

KHS-O-02

Robotic Ventral Hernia Repair in an Asian Population: Outcomes, Risk Factors, and Learning Curve from 80 Consecutive Korean Patients

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Background/Aims

Robotic ventral hernia repair (RVHR) has demonstrated favorable outcomes over laparoscopic approaches in Western cohorts; however, evidence from Asian populations—characterized by distinct body habitus, hernia epidemiology, and healthcare systems—remains critically limited. This study aimed to evaluate perioperative outcomes, identify independent risk factors for complications and prolonged hospital stay, and define the surgical learning curve in the first large-volume Korean RVHR series.

Methods

We conducted a retrospective analysis of 80 consecutive patients undergoing RVHR at a single tertiary referral center between January 2022 and December 2025, with a minimum follow-up of 6 months. The predominant techniques were extended totally extraperitoneal (ETEP) repair (n=47, 58.8%) and transversus abdominis release (TAR, n=30, 37.5%).

Univariate and multivariate logistic regression identified independent predictors of postoperative complications and prolonged hospital stay. Cumulative sum (CUSUM) analysis assessed the learning curve, and Kaplan-Meier analysis estimated recurrence-free survival.

Results

The cohort included 64 females (80.0%) and 16 males (20.0%), with a mean age of 52.0 ± 13.5 years and mean BMI of 28.3 ± 5.6 kg/m². Postoperative complications occurred in 8 patients (10.0%), all managed without reoperation. On multivariate analysis, history of incarceration was the sole independent predictor of complications (adjusted OR 4.71; 95% CI: 1.21–17.83; $p=0.034$). Operative time ≥ 240 minutes (OR 5.13; $p=0.003$) and TAR technique (OR 3.50; $p=0.022$) were independently associated with prolonged hospital stay. CUSUM analysis demonstrated a learning curve inflection point at case 68.

Conclusion

This Korean single-center RVHR series demonstrated favorable short-term perioperative outcomes, with an overall complication rate of 10.0% and one observed recurrence during a median follow-up of 18.4 months. Incarceration history was associated with an increased risk of postoperative complications, highlighting the need for careful preoperative risk stratification in this subgroup. CUSUM analysis suggested a learning-curve inflection around case 68, although this finding should be interpreted in the

context of increasing case complexity over time. These findings support the feasibility of RVHR in an Asian population and provide a basis for future multicenter studies with longer follow-up.

Keywords: Robotic surgery; Ventral hernia repair; ETEP; Transversus abdominis release; Learning curve; Asian population

KHS-O-03

Preoperative ASIS-to-Symphysis Pubis Distance as a Guide for Mesh Size Selection in Laparoscopic Inguinal Hernia Repair

Joong-Min Park

Chung-Ang University Gwangmyeong Hospital

Background/Aims

Mesh size selection in laparoscopic inguinal hernia repair (TAPP/TEP) has traditionally relied on intraoperative surgeon judgment, a subjective process prone to inconsistency. We hypothesized that preoperative measurement of the anterior superior iliac spine-to-symphysis pubis (ASIS-SP) distance, reflecting the mediolateral extent of the preperitoneal space, could provide an objective criterion for mesh size selection.

Methods

We retrospectively reviewed 257 adults with primary inguinal hernia who underwent laparoscopic repair by a single surgeon (March 2022 – May 2026). After excluding open repairs, no-mesh cases, recurrent hernias, and post-prostatectomy cases, patients were divided into an empirical group (n=159; intraoperative judgment only) and a measured group (n=98; preoperative ASIS-SP recorded and used to guide selection).

Results

Large mesh use increased significantly from 12.6% (20/159) to 22.4% (22/98) after introducing measurement ($p=0.038$). In the measured group, ASIS-SP was significantly greater in large-mesh than medium-mesh patients (15.6 ± 0.6 vs. 13.9 ± 0.7 cm, $p<0.001$). A clear decision boundary emerged: ASIS-SP ≤ 14 cm uniformly corresponded to medium mesh (100%), while ≥ 16 cm corresponded to large mesh in 92.3% of cases. At 15 cm, intraoperative judgment remained the determining factor. ASIS-SP correlated significantly with body weight ($r=0.467$) and BMI ($r=0.449$), and larger-built patients had significantly greater anthropometric measures in the large-mesh group (all $p<0.01$). Operative time, seroma rate, and pain scores were comparable between groups.

Conclusion

Preoperative ASIS-SP measurement is a simple, reproducible, and equipment-free method for standardizing mesh size selection in laparoscopic inguinal hernia repair. Its introduction was associated with a significant increase in large mesh use without increased complications, suggesting systematic under-sizing under purely empirical practice. ASIS-SP ≤ 14 cm reliably identifies patients requiring medium mesh, while ≥ 16 cm near-reliably identifies those requiring large mesh, with surgeon judgment reserved for the borderline 15 cm range.

Keywords: Inguinal hernia, Laparoscopic hernia repair, Mesh size selection, Preperitoneal space, ASIS-SP distance

KHS-O-04

Incidence and Anatomical Variations of Corona Mortis During Single-Port Laparoscopic Inguinal Hernia Repair: A Prospective Observational Study

Gwan Chul Lee, Chul Seung Lee, Young Sun Choi, Choon Sik Chung

Hansol Hospital

Background/Aims

The corona mortis is an aberrant obturator vessel that poses a high risk of severe and difficult-to-control bleeding during pelvic dissection. While previous studies have primarily relied on angiography or cadaveric dissection—often focusing exclusively on arterial variants—this prospective observational study aimed to evaluate the actual intraoperative incidence and characteristics of corona mortis encountered during laparoscopic inguinal hernia repair.

Methods

Data were prospectively collected from 305 patients who underwent preperitoneal laparoscopic inguinal hernia repair at Hansol hospital between October 2023 and September 2025. Identification of the corona mortis was performed during pelvic dissection. Vascular diameter was estimated intraoperatively by comparing the vessels with tip parts of laparoscopic instruments.

Results

Out of 305 patients, 281 were analyzed, excluding 24 patients whose vascular anatomy could not be clearly verified. All patients underwent a single-port laparoscopic approach, consisting of 275 cases (97.9%) of totally extraperitoneal (TEP) repair and 6 cases (2.1%) of transabdominal preperitoneal (TAPP) repair. The corona mortis was identified in 112 patients (39.9%). Among these positive cases, 22 were arterial variants, 83 were venous variants, and 7 presented both arteries and veins. The median diameter was 2.8 mm (range, 2–7 mm) for arteries and 3.0 mm (range, 2–6 mm) for veins.

Conclusion

The incidence of corona mortis during laparoscopic inguinal hernia repair was 39.9%, with venous variants predominantly accounting for 74.1% of the detected vessels. Given the high risk of catastrophic hemorrhage, meticulous care and awareness of this anatomical variation are essential during preperitoneal pelvic dissection.

Keywords: Corona Mortis, Aberrant obturator vessel, TEP, TAPP

Table 1. Demographic and Clinical Characteristics of the Patients (N = 281)

Age (years), Mean (SD)	62.4 (14.9)
Sex, n (%)	
Male	261(92.9)
Female	20 (7.1)
BMI (kg/m²), Mean (SD)	23.3 (2.5)
ASA Physical Status, n (%)	
I	109(38.8)
II	148(52.7)
III	24(8.5)
Comorbidities, n (%)	
Hypertension	93 (33.1)
Benign Prostatic Hyperplasia (BPH)	42 (14.9)
Dyslipidemia	40 (14.2)
Diabetes Mellitus	33 (11.7)
Hernia History, n (%)	
Primary	269(95.7)
Recurrent	12 (4.3)

Abbreviations: BMI, body mass index; ASA, American Society of Anesthesiologists; SD, standard deviation.

Table 2. Operative Outcomes.

Surgical Approach (Single-Port), n (%)	
Totally Extraperitoneal (TEP)	275(97.9)
Transabdominal Preperitoneal (TAPP)	6 (2.1)
Hernia Location, n (%)	
Right	128(45.6)
Left	60 (21.4)
Bilateral	93 (33.1)
Hernia Type, n (%)	
Indirect	201(71.6)
Direct	67(23.8)
Pantaloon	11(3.9)
Femoral	2 (0.7)
Operative Time (minutes), Mean (SD)	46.2 (23.7)

Table 3. Clinical features of Corona Mortis

Corona Mortis Variation, n (%)	
Absence	169 (60.1)
Presence	112(39.9)
Artery alone	22(7.8)
Vein alone	83(29.5)
Both (Artery + Vein)	7 (2.5)
Vessel Size (mm), Median (Range)	
Artery	2.8 (2-7)
Vein	3.0 (2-6)

KHS-O-05

Short-Term Surgical Outcomes of Ventral Hernia Repair Using Ventralex ST™ Patch: A Single-Center Retrospective Study

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Background/Aims

The Ventralex ST™ patch enables intraperitoneal mesh placement through a small incision and is designed to simplify open repair of small-to-medium ventral hernias. However, outcome data specific to Korean patients remain limited.

Methods

This single-center retrospective study evaluated patients who underwent open ventral hernia repair using the Ventralex ST™ between January 2024 and June 2025. Demographics, hernia characteristics, operative variables, postoperative course, complications classified by Clavien-Dindo (C-D) grade, follow-up duration, recurrence, and costs were evaluated.

Results

A total of 29 patients were included (mean age 61.0 ± 13.6 years). Mean body mass index (BMI) was 28.6 ± 5.5 kg/m²; 27.6% had BMI ≥ 30 kg/m², 17.2% had liver disease including cirrhosis. Hernias were umbilical in 34.5% and incisional in 65.5%, with a mean defect size of 2.5 ± 1.6 cm (62.1% < 3 cm). Mesh sizes used were 4 cm in 24.1%, 6 cm in 27.6%, and 8 cm in 48.3%. Mean operative time for isolated ventral hernia repair, excluding the 5 combined operation cases, was 39.6 ± 15.2 minutes; estimated blood loss was low (3.7 ± 2.7 mL). Mean hospital stay was 2.7 ± 1.8 days, and visual analog scale of postoperative day 1 was 3.1 ± 1.4 . C-D IIIB complications occurred in 3 patients (10.4%). Mean follow-up was 4.7 ± 6.0 months; recurrence occurred in 2 patients (6.9%) at a mean 6.1 ± 2.7 months.

Conclusion

Open ventral hernia repair with Ventralex ST™ showed efficient perioperative outcomes and acceptable short-term morbidity in this Korean real-world cohort. However, the occurrence of severe bowel obstruction and the short follow-up period limit the assessment of long-term recurrence.

Keywords: Ventral hernia, Herniorrhaphy, Surgical mesh, Postoperative complications

Table 1. Patient characteristics and preoperative details

Variables	Value (n=29)
Age (yr)	61.0±13.6 [40-89]
Sex	
Male	
Female	
BMI (kg/m ²)	28.6±5.5 [19.6-44.9]
Risk factors	
Current smoker	1 (3.5)
Liver disease (liver cirrhosis)	5 (17.2)
Diabetes mellitus	4 (13.8)
Morbid obesity (BMI≥30)	8(27.6)
Previous operation history	19 (65.5)
Open	5 (17.2)
Minimally invasive surgery	14 (48.3)
ASA	
I	2 (6.9)
II	21 (72.4)
III	6 (20.7)
Type of ventral hernia	
Umbilical hernia	10 (34.5)
Incisional hernia	19 (65.5)
Hernia defect size (cm)	2.5±1.6 [1.0-7.0]
< 3	18 (62.1)
≥3	11(37.9)

Data presented as mean ± standard deviation [range], or number (%)

BMI = body mass index; ASA = American Society of Anesthesiologists.

Table 2. Intraoperative details and postoperative outcomes

Variables	Value (n=29)
Anesthesia	
General	29 (100.0)
Mesh location	
Intraperitoneal	29 (100.0)
Small (4 cm)	7 (24.1)
Mesh size	
Medium (6 cm)	8 (27.6)
Large (8 cm)	14 (48.3)
Combined operation	
Yes	5 (17.2)
Inguinal hernia repair	2 (6.9)
Laparoscopic exploration	2 (6.9)
Robot myomectomy	1 (3.5)
Operation time	
All	50.4±49.7 [20.0-295.0]
Ventral hernia repair	39.6±15.2 [20.0-75.0]
Estimated blood loss	
All	4.4±3.4 [1.0-15.0]
Ventral hernia repair	3.7±2.7 [1.0-10.0]
Hospital stay	
All	2.7±1.8 [0-8.0]
Ventral hernia repair	2.8±1.9 [0-8.0]
24 hr observation	7 (24.1)
> 24 hr stay	17 (58.6)
Postoperative VAS (POD 1)	3.1±1.4 [0-7.0]
0-3	24 (82.8)
4-6	4 (13.8)
7-10	1 (3.5)
Postoperative PCA use (POD 1)	
Yes	11 (37.9)
Cost (ventral hernia repair, n=24)	
Total	3,403,409.1±1,801,747.1
Out-of-pocket	1,217,081.9±1,249,734.4

Data presented as mean ± standard deviation [range], or number (%).

VAS = Visual Analog Scale; PCA = Patient-Controlled Analgesia; POD = postoperative day.

Table 3. Postoperative complication and recurrence

Postoperative outcomes	Timing, C-D	Value (n=29)
Complication		3 (10.4)
Seroma	Post-discharge, II	1 (3.5)
Wound erythema	In hospital, II	1 (3.5)
Bowel obstruction	In hospital, IIIB	1 (3.5)
Follow up period (mon)		4.7±6.0 [0-20.0]
Recurrence		2 (6.9)
Time to hernia recurrence (mon)		6.1±2.7 [4.2-8.0]

Data presented as mean ± standard deviation [range], or number (%).

C-D = Clavien Dindo classification.

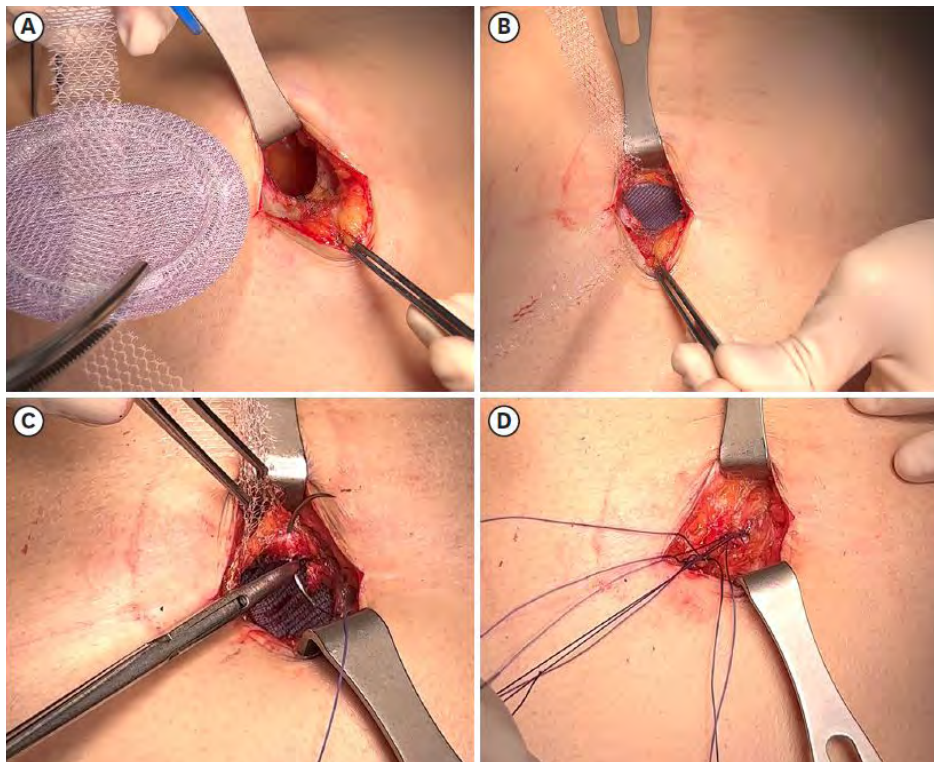


Figure 1. Step-by-step technique for open ventral hernia repair using the Ventralex ST™ patch. (A) Sac dissection and defect exposure. (B) Intraperitoneal patch insertion, deployment and mesh tensioning. (C) Fascial closure and anchoring the fixation strap to the fascia. (D) Final appearance after completion of ventral hernia repair using the Ventralex ST™ patch, before subcutaneous tissue and skin closure.

KHS-O-06

Learning Curve of Robotic Transabdominal Preperitoneal (TAPP) Inguinal Hernia Repair Using Separate CUSUM Analysis of Console Time and Total Operative Time

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Background/Aims

This study aimed to evaluate the learning curve of robotic TAPP inguinal hernia repair using separate cumulative sum (CUSUM) analyses of console time and total operative time. Perioperative outcomes were evaluated separately to assess the safety and feasibility of the procedure during the learning phase.

Methods

We retrospectively reviewed 52 consecutive patients who underwent robotic TAPP inguinal hernia repair at Konyang University Hospital between March 2022 and March 2026. All cases were included without exclusion. The procedures were performed by two board-certified surgeons experienced in laparoscopic hernia repair and robotic surgery, using the da Vinci Xi and SP systems. Patient demographics, operative variables, and postoperative outcomes were analyzed. The primary outcome was the inflection point defining the transition from the learning phase to the proficiency phase

in each CUSUM analysis. Secondary outcomes included comparisons of complications, pain, hospital stay, and 30-day clinical outcomes between phases.

Results

CUSUM analysis identified an inflection point at 11 cases for console time and 16 cases for total operative time, suggesting earlier technical proficiency than overall operative efficiency. Console time decreased from 74.9 ± 20.1 minutes to 55.2 ± 14.8 minutes, and total operative time decreased from 102.2 ± 24.8 minutes to 86.1 ± 15.5 minutes. When stratified by total operative time, Clavien-Dindo grade $\geq$ II complications, postoperative day 1 pain, and rescue analgesic use improved in the proficiency phase. No reoperations, 30-day readmissions, recurrences, or deaths occurred.

Conclusion

Robotic TAPP inguinal hernia repair demonstrated a relatively short learning curve, with technical proficiency achieved after 11 cases and overall operative efficiency after 16 cases. These findings suggest that the learning process involves not only improvement in operative time but also stepwise optimization of the entire surgical team.

Keywords: Inguinal hernia; Robotic inguinal hernia repair; Learning curve; CUSUM analysis

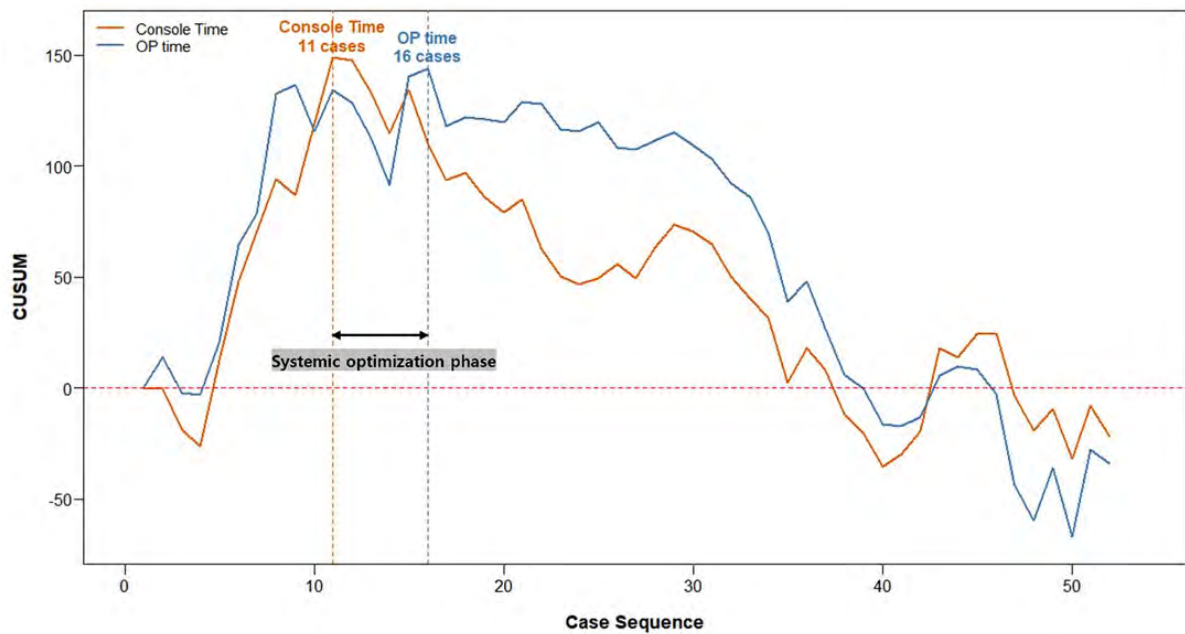


Figure 1. CUSUM based learning curve for console time(Console Time) and total operative time (OP time). The CUSUM curves demonstrate the learning process of robotic TAPP inguinal hernia repair. The inflection point for Console Time (orange line) was reached at 11 cases, and the inflection point for total operative time (blue line) was reached at 16 cases. The interval between these two inflection points is designated as the 'systemic optimization phase'

KHS-O-07

Common Mental Disorders and Risk of Incident Inguinal Hernia: A Nationwide Population-Based Cohort Study

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¹Korea University Guro Hospital,

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Background/Aims

Common mental disorders (CMDs), including depression, anxiety, and insomnia, are prevalent conditions with systemic biological effects that extend beyond the central nervous system. Although inguinal hernia primarily results from anatomical defects, systemic factors that affect connective tissue integrity may also contribute to its pathogenesis. This study aimed to examine the association between CMDs and incident inguinal hernia.

Methods

We conducted a nationwide retrospective cohort study using data from the National Health Insurance Service and the Health Insurance Review and Assessment Service in South Korea. Adults aged ≥ 20 years who underwent health screening in 2012 were followed through 2023. CMDs were identified using ICD-10 codes recorded within five years prior to baseline. The primary outcome was incident inguinal hernia requiring surgical repair. Hazard ratios

(HRs) with 95% confidence intervals (CIs) were estimated using adjusted Cox models. Dose-response relationships were evaluated according to the number of CMDs, and subgroup analyses were stratified by sex and clinical characteristics.

Results

Among 4,569,328 individuals, 26.4% had at least one CMD at baseline. During follow-up, 32,290 inguinal hernia surgeries were performed. CMDs were associated with an increased risk of hernia (adjusted HR, 1.13; 95% CI, 1.11– 1.16). A dose-response relationship was observed, with a higher risk in individuals presenting multiple CMDs (adjusted HR 1.17, 95% CI 1.12–1.22). These findings were consistent across the subgroups.

Conclusion

CMDs are associated with an increased risk of inguinal hernia, suggesting that systemic biological and behavioral alterations contribute to connective tissue vulnerability. These findings highlight the broader clinical relevance of CMDs and support integrated approaches for their prevention and risk assessment.

Keywords: Common mental disorders, Inguinal hernia, Connective tissue, Cohort study

KHS-O-08

Early Outcomes of LiquiBand FIX8® for Mesh Fixation in Laparoscopic Totally Extraperitoneal Inguinal Hernia Repair: Initial Experience at a Military Hospital

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Department of Surgery, Armed Forces Capital Hospital, Seongnam, Korea

Armed Forces Trauma Center, Armed Forces Capital Hospital, Seongnam, Korea

Background/Aims

This study evaluated the feasibility and early clinical outcomes of LiquiBand FIX8® for mesh fixation during laparoscopic totally extraperitoneal (TEP) inguinal hernia repair at a military hospital.

Methods

We retrospectively reviewed 51 consecutive patients who underwent laparoscopic TEP inguinal hernia repair with LiquiBand FIX8® between September 2023 and December 2025. Patients with incarcerated hernia or previous laparoscopic inguinal hernia repair were excluded. Demographic characteristics, operative variables, postoperative pain scores, and short-term postoperative outcomes were analyzed. Pain intensity was assessed using a numeric rating scale (NRS, 0–10) on postoperative day (POD) 0, POD1, POD2, 1 week, and 1 month. Postoperative complications were graded according to the Clavien-Dindo classification.

Results

All 51 patients were male, with a mean age of 30.0 ± 11.8 years and a mean body mass index of 24.7 ± 4.0 kg/m². The mean operation time was 48.9 ± 25.8 minutes and the mean laparoscopic time was 27.4 ± 20.1 minutes. Postoperative NRS pain scores decreased sequentially from 3.1 ± 0.5 on POD0 to 2.0 ± 0.6 on POD1, 1.3 ± 0.8 on POD2, 0.5 ± 0.7 at 1 week, and 0.1 ± 0.4 at 1 month. Four patients (7.8%) experienced short-term complications, including hematoma (n = 2, Grade I), postoperative pain/discomfort (n = 1, Grade I), and temporary ureteral stent insertion for suspected bladder injury (n = 1, Grade IIIa). No early recurrence was identified during the 1-month follow-up period.

Conclusion

In this initial series, mesh fixation using LiquiBand FIX8® during laparoscopic TEP inguinal hernia repair was technically feasible and showed acceptable short-term outcomes with low early postoperative pain. Comparative studies with larger cohorts and longer follow-up are needed.

Keywords: cyanoacrylate adhesive; inguinal hernia; laparoscopy; mesh fixation; totally extraperitoneal repair

Table 1. Baseline demographic and clinical characteristics of the 51 patients who underwent laparoscopic TEP inguinal hernia repair with LiquiBand FIX8® mesh fixation.

No. of patients	51
Age (yr)	30.0 ± 11.8
Body mass index (kg/m ²)	24.7 ± 4.0
Male sex	51 (100.0)
Symptomatic presentation	48 (94.1)
Hernia side, left	23 (45.1)
Hernia side, right	14 (27.5)
Hernia side, bilateral	14 (27.5)

Values are presented as mean ± standard deviation or number (%).

Table 2. Operative variables, length of hospital stay, and postoperative pain scores (NRS) measured at five time points from POD0 to 1 month.

Total hospital stay (day)	16.7 ± 16.6
Postoperative stay (day)	13.6 ± 15.7
Laparoscopic time (min)	27.4 ± 20.1
Pain score at POD0	3.1 ± 0.5
Pain score at POD1	2.0 ± 0.6
Pain score at POD2	1.3 ± 0.8
Pain score at 1 week	0.5 ± 0.7
Pain score at 1 month	0.1 ± 0.4

Values are presented as mean ± standard deviation. POD, postoperative day.

Table 3. Short-term postoperative complications graded by the Clavien-Dindo classification and early recurrence at 1-month follow-up.

Overall short-term complications	4 (7.8)
Hematoma, Grade I	2 (3.9)
Postoperative pain/discomfort, Grade I	1 (2.0)
Temporary ureteral stent insertion for suspected bladder injury, Grade IIIa	1 (2.0)
Early recurrence at 1 month	0

Values are presented as number (%).

KHS-O-09

Is the Robotic Ventral Hernia Repair Safe and Feasible? Comparing 100 Case of Robotic Ventral Hernia Repair to Laparoscopic Repair

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Background/Aims

We retrospectively compared robotic and laparoscopic ventral hernia repair with respect to postoperative complications and recurrence.

Methods

We retrospectively reviewed 100 consecutive robotic ventral hernia repairs at a single center and compared them with laparoscopic ventral hernia repairs. Demographics, postoperative complications, and recurrence were analyzed after 1:1 propensity score matching (PSM).

Results

Before matching, 211 patients (111 laparoscopic, 100 robotic) were included. The laparoscopic group was older (62.9 ± 13.0 vs. 51.9 ± 13.5 years, $P < 0.001$) and had more ASA grade $\geq$ III patients (14.4% vs. 1.0%, $P < 0.001$), type 2 diabetes (35.1% vs. 20.0%, $P = 0.021$), and hypertension (55.9% vs. 14.0%,

$P<0.001$). The robotic group had larger defects (35.4 ± 44.9 vs. 61.2 ± 60.0 cm², $P<0.001$) and longer operation times (81.4 ± 43.3 vs. 223.8 ± 86.6 min, $P<0.001$).

After 1:1 PSM, 164 patients (82 pairs) were matched. ASA grade $\geq$ III remained higher in the laparoscopic group (15.9% vs. 2.4%, $P=0.005$), and operation time remained longer in the robotic group (87.1 ± 43.6 vs. 192.1 ± 69.4 min, $P<0.001$). Hospital stay was shorter (4 [IQR, 2–6] vs. 2 [IQR, 1–2] days, $P<0.001$) and the postoperative complication rate lower (23.2% vs. 9.8%; OR=2.79, 95% CI 1.14–6.81) in the robotic group. Seroma, the most common complication, did not differ between groups (12.2% vs. 6.1%, $P=0.278$), whereas Clavien–Dindo grade $\geq$ IIIa complications were less frequent in the robotic group (14.6% vs. 1.2%, $P=0.002$). Over a median follow-up of 32 [IQR, 10–64] months, recurrence was more frequent in the laparoscopic group (24.4% vs. 0%; OR=54.12, 95% CI 3.21–912.19).

Conclusion

Robotic ventral hernia repair seems to be a safe and feasible procedure for selected patients in terms of shorter hospital stay, fewer postoperative complications, and less recurrence.

Keywords: Robotic surgery, Ventral hernia, Complication, Recurrence, Propensity score

KHS-O-10

Feasibility and Safety of Robotic Transabdominal Preperitoneal (TAPP) Inguinal Hernia Repair: A Multicenter Prospective Study from Four Korean Institutions

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²National Health Insurance Service Ilsan Hospital,

³The Catholic University of Korea St. Vincent's Hospital,

⁴Hanyang University Hospital

Background

Robotic TAPP (r-TAPP) inguinal hernia repair is increasingly adopted, but prospective multicenter data from Korea or other Asian countries remain limited.

Methods

We prospectively enrolled 73 patients with inguinal hernias who were scheduled to undergo r-TAPP at four Korean institutions between 2023 and 2025. All enrolled patients underwent r-TAPP and were included in the analysis. Feasibility was evaluated by conversion rate and operative time, and safety by intraoperative adverse events and postoperative complications. Baseline characteristics, intraoperative variables (operative time, docking time, blood loss, conversion, intraoperative adverse events),

and postoperative outcomes (length of stay, complications, reoperation, recurrence) at 1-week and 3-month follow-up were analyzed.

Results

Mean age was 60.7 ± 12.9 years; 95.9% were male; mean BMI 24.1 ± 3.1 . Bilateral hernias accounted for 31.5% (23/73). Mean operative time was 70.4 ± 25.5 min (unilateral 59.6 ± 18.6 ; bilateral 93.7 ± 23.0) with a mean docking time of 3.9 ± 2.2 min. Median estimated blood loss was 0 mL. The ilioinguinal nerve and gonadal vessels were preserved in all cases. There were no conversions to open or conventional laparoscopic surgery, and only one intraoperative adverse event (a vascular injury, 1.4%). Median length of stay was 2 days (range 1-5). At 1-week, minor postoperative complications occurred in 14 patients (19.2%), most commonly hematoma/seroma and scrotal edema; all were Clavien-Dindo grade I-II. Among 71 patients with 3-month follow-up, no persistent complications, reoperations, or recurrences were observed.

Conclusions

In this multicenter prospective cohort, r-TAPP inguinal hernia repair was feasible and safe, with no conversions, no early recurrences, minimal blood loss and short hospital stay, consistent with previously reported minimally invasive repair outcomes. These findings support r-TAPP as a safe and feasible option for inguinal hernia repair, though longer-term comparative data are needed.

Table 1. Baseline (preoperative) characteristics

Preoperative variable	Value (N=73)
Age, years, mean $\pm$ SD	60.7 $\pm$ 12.9
Sex, male, n (%)	70 (95.9)
Body weight, kg, mean $\pm$ SD	68.1 $\pm$ 10.3
Height, cm, mean $\pm$ SD	168.1 $\pm$ 6.0
BMI, kg/m ² , mean $\pm$ SD	24.1 $\pm$ 3.1

Table 2. Operative variables

Operative variable	Value (N=73)
Laterality, n (%)	
Unilateral	50 (68.5)
Bilateral	23 (31.5)
Hernia type, n (%) – per groin (95 groin)	
Direct	39 (40.6)
Indirect	49 (51.0)
Combined (direct + indirect)	6 (6.2)
Femoral	2 (2.1)
Hernia sac contents, n (%)	
None	54 (74.0)
Fat/lipoma	10 (13.7)
Bowel	3 (4.1)
Omentum	6 (8.2)
Operative metrics	
Operative time, mean $\pm$ SD	70.4 $\pm$ 25.5
Unilateral(n=50)	59.6 $\pm$ 18.6
Bilateral(n=23)	93.7 $\pm$ 23.0
Console time, min, mean $\pm$ SD	48.5 $\pm$ 23.6
Docking time, min, mean $\pm$ SD	3.9 $\pm$ 2.2
Estimated blood loss, mL, median (range)	0 (0–150)
Ilioinguinal nerve preserved, n (%)	73 (100)
Gonadal vessel preserved, n (%)	73 (100)
Intraoperative transfusion, n (%)	0 (0)
Conversion to laparoscopy/open, n (%)	0 (0)
Intraoperative adverse event, n (%)	1 (1.4)

Table 3. Postoperative outcomes

Postoperative outcome	Value
Length of stay, days, median (range)	2 (1–5)
Complications at 1 week, n(%) (N=73)	
Any complication	14 (19.2)
Clavien-Dindo grade I-II	14 (19.2)
Hematoma / seroma	8 (11.0)
Scrotal Edema	2 (2.7)
Voiding difficulty	2 (2.7)
Surgical-site pain / paresthesia	2 (2.7)
Clavien-Dindo grade $\geq$ III	0 (0)
Outcomes at 3 months, n (%) (N=71)	
Any complication	0 (0)
Recurrence	0 (0)
Readmission	0 (0)
Reoperation	0 (0)



CONGRESS OF THE KHS &
2026 INTERNATIONAL SYMPOSIUM

Building Bridges in Hernia Surgery: Education to Excellence

Day 2 - 7/4 (Sat)

Symposium V

Controversial Topics and Innovative Solutions in Modern Hernia Surgery

Chairs

Youn-Baik Choi Emeritus Professor, Univ. of Ulsan, Korea

Gyung Mo Son Pusan National Univ., Korea

Curriculum Vitae



Heon-Kyun Ha
Chung-Ang Univ., Korea

EDUCATION

- 1997–2003 Korea University, MD
- 2011–2014 Seoul National University, MS
- 2024– Kyungpook National Univ. in Ph.D. Program

CAREER

- 2004–2008 Residency, Department of Surgery, SNUH
- 2011–2013 Fellowship, Division of Colorectal Surgery, SNUH
- 2013–2020 Clinical Assistant Professor, Department of Surgery, Myongji Hospital
- 2020–2022 Assistant Professor, Department of Surgery, Uijeongbu Eulji Univ. Hospital
- 2022– Clinical Professor, Department of Surgery, Chung-Ang University Gwangmyeong Hospital

ACTIVITIES

- Korean Surgical Society
- Korean Society of Coloproctology
- Korean Society of Endo-Laparoscopic & Robotic Surgery (KSERS)
- Korean Geriatric Surgery Society (KGSS)

Prophylactic Mesh at Stoma Creation: Standard of Care or Still Controversial?

Heon-Kyun Ha Chung-Ang Univ., Korea

Background

Parastomal hernia (PH) is the most common long-term complication of stoma formation, affecting more than half of patients with an end colostomy on long-term, computed-tomography-based follow-up. Surgical repair is associated with high recurrence (up to 30–40 % even with mesh) and substantial morbidity and mortality, particularly when performed as an emergency (reported mortality 11–25 %). These figures have driven a paradigm shift from repair toward prevention at the time of stoma creation. This review summarises the current evidence for prophylactic mesh, the evolution of international guidelines, and two areas of persistent clinical uncertainty: the emergency setting and the impact on future stoma reversal.

Evidence

Early single-centre randomised controlled trials (RCTs) — Jänes (2004), Serra-Aracil (2009), López-Cano (2009) — consistently showed that prophylactic mesh approximately halved or better the incidence of PH without increasing complications, and early meta-analyses uniformly

favoured its use. However, larger, double-blind multicentre RCTs with CT-based endpoints have tempered this enthusiasm: while the Dutch PREVENT trial (Brandsma, Ann Surg 2017) remained positive (12 % vs 42 %), both STOMAMESH (Odensten, Ann Surg 2019; 1-year follow-up Ringblom 2023) and GRECCAR 7 (Prudhomme, Ann Surg 2021) found no significant reduction in PH. Pooled meta-analyses (Cochrane 2018, RR 0.53; Sahebally 2021; Emile umbrella review 2024) still favour mesh overall, but the effect size has narrowed as larger trials are incorporated, and significance is lost when the analysis is restricted to the most recent RCTs. Heterogeneity in mesh material, anatomical position (onlay vs sublay/retromuscular vs intraperitoneal), stoma type, diagnostic method, and follow-up duration largely explains the inconsistency.

Guidelines

Reflecting these data, the European Hernia Society recommendation has narrowed. The 2018 guideline (Antoniou, Hernia) made a strong recommendation for prophylactic synthetic non-absorbable mesh in elective end colostomy. The 2023 rapid guideline update (Stabilini, J Abdom Wall Surg) downgraded this to a conditional recommendation overall, reserving the strong recommendation for high-risk patients (e.g. obesity, prior abdominal wall hernia, connective tissue disorder, chronically raised intra-abdominal pressure, planned chemotherapy), with a retromuscular position preferred over onlay.

Unresolved debate 1 – the emergency setting

Emergency stoma formation is itself an independent risk factor for PH, yet emergency patients were effectively excluded from all major RCTs, so the evidence cannot be extrapolated to the contaminated abdomen. The historical concern of mesh infection in a contaminated or dirty field appears manageable with slowly resorbable or biosynthetic meshes: cohort and randomised data (Lykke 2017; PARTHENOPE, Pizza 2022; Alsaadi 2022) report no increase in mesh-related infection, although wound morbidity such as seroma may rise and the PH-prevention efficacy in this setting remains unproven. Routine prophylactic mesh in the unstable, contaminated emergency patient is therefore not currently justified.

Unresolved debate 2 – impact on future reversal

Up to a quarter of temporary stomas are never reversed. When reversal does occur, a mesh placed at creation can complicate the procedure: in small population based study (van Barneveld, Surg Endosc 2014), intraperitoneal parastomal mesh produced adhesions in every patient and one conversion to laparotomy, although no incisional hernia occurred at 26 months. Of the three available strategies for temporary stomas – no mesh, mesh only at reversal, or mesh at creation left in situ across reversal – the strongest current evidence supports placing mesh at the reversal operation, where recent RCTs report a marked reduction in stoma-site incisional hernia.

Conclusion

Prophylactic mesh most clearly benefits patients receiving a permanent end colostomy with a fair life expectancy who also carry high-risk features; here a synthetic non-absorbable, light-weight, large-pore mesh in the retromuscular position is preferred. For temporary stomas with anticipated reversal, mesh is better reserved for the closure operation than placed at creation. In the emergency or contaminated setting, decisions should be individualised according to haemodynamic stability, degree of contamination, and prognosis, favouring resorbable or biosynthetic materials when mesh is used at all. The field is moving decisively from a one-size-fits-all approach toward patient-tailored, risk-stratified prevention, and ongoing trials are expected to resolve the remaining questions in the emergency and reversal settings.

Keywords: parastomal hernia; prophylactic mesh; stoma; end colostomy; emergency surgery; stoma reversal; European Hernia Society guidelines

Key References

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Curriculum Vitae



Joe Fan

Queen Mary Hosp., Hong Kong

EDUCATION

- 1999 Bachelor of Medicine and Bachelor of Surgery, The University of Hong Kong
- 2010 Master of Surgery, The University of Hong Kong
- 2021 醫療專業技術人員正高級職稱認定評審通過 - 主任醫師

CAREER

- 2006 Fellow of the Hong Kong Academy of Medicine (FHKAM)
- 2006 Fellow of the College of Surgeons of Hong Kong (FCSHK)
- 2006 Fellow of the Royal College of Surgeons of Edinburgh (FRCS Edin)
- 2018 Fellow of the American College of Surgeons (FACS)
- 2021 Approved for Senior Professional Technical Title Accreditation - Chief Physician
- Present Assistant Hospital Chief Executive, The University of Hong Kong-Shenzhen Hospital (HKUSZH)
- Present Director of International Medical Center, The University of Hong Kong-Shenzhen Hospital (HKUSZH)

ACTIVITIES

- Past President, Hong Kong Hernia Society
- Present Council Member, Hong Kong Hernia Society
- Present Council Member, Society of Hong Kong Minimal Access Surgery
- Present Council Member, Hong Kong Society of Coloproctology
- Present Board Member, Asia-Pacific Endo-lap Surgery Group (APELS)
- Present First International Honorary Fellow, Korean Society of Coloproctology
- Present Regular Instructor, Hernia Essential Course, Asia Pacific Hernia Society (APHS)
- Present Regular Reviewer, British Journal of Surgery and Hernia

The True Preperitoneal Onlay Mesh Repair PPOM and tePPOM

Joe Fan Queen Mary Hosp., Hong Kong

Abstract

The long-term results of a novel preperitoneal technique, the totally endoscopic preperitoneal mesh (ePPM) repair, with the mesh placed between the posterior fascia and peritoneum, for patients with concurrent ventral abdominal wall and groin hernia.

Introduction

Laparoscopic repair of ventral hernias remains one of the most actively investigated and explored areas in hernia surgery. In 2015, the technique of positioning the mesh between the posterior fascia and the peritoneum, the preperitoneal onlay mesh repair (PPOM) was published.

The ePPM technique represents the further development of PPOM. With a totally endoscopic approach, the plane between the posterior fascia and the peritoneum can be taken down to repair the ventral hernia.

This study presents the first case series with long-term follow-up of up to 38 months.

Method and Results

This is a prospective cohort study from December 2022 to May 2025. In total, 19 patients received TEP and ePPM to repair their groin and primary ventral abdominal wall hernia. All patients were discharged the next day. The median follow-up was 31 months (15-38). There were no readmissions and no recurrence.

Conclusion

The ePPM is a feasible technique for repairing concurrent ventral abdominal wall and groin hernias. It is ideal for patients with concurrent groin and small to medium-sized ventral hernias. Further investigation and research study is required to explore its full potential.

Curriculum Vitae



Marc Ong Weijie

Khoo Teck Puat Hosp., Singapore

EDUCATION

2010	M.B.B.S., National University of Singapore
2015	Master of Medicine (Surgery), National University of Singapore
2018	Fellow of the Royal College of Surgeons (Edinburgh), Royal College of Surgeons of Edinburgh
2018	Specialist Accreditation in General Surgery, Ministry of Health, Singapore

CAREER

2023	Health Manpower Development Plan (HMDP) Fellowship Training, Ministry of Health Singapore – training in Tokyo, Japan Breast Surgery Fellowship, St Luke's International Hospital under Prof. Gen Shimada and Dr. Taketo Matsubara Hernia Surgery Training, St Luke's International Hospital Founding Lead, Hernia Surgery Service, Khoo Teck Puat Hospital Consultant Surgeon, Khoo Teck Puat Hospital
2025–Present	Head, Department of General Surgery, Khoo Teck Puat Hospital Clinical Lecturer, National University of Singapore (Yong Loo Lin School of Medicine) Clinical Lecturer, Lee Kong Chian School of Medicine Associate Program Director, National Healthcare Group General Surgery Residency Program

ACTIVITIES

Invited Speaker, international breast cancer conferences
Invited Faculty, IRCAD Taiwan training programs
Member, Asia Pacific Hernia Society
Member, Endoscopic and Laparoscopic Surgeons of Asia

Expanding Horizons: Potential Uses of Botulinum Toxin in Modern Hernia Surgery

Marc Ong Weijie Khoo Teck Puat Hosp., Singapore

Background

Complex ventral and incisional hernias remain surgically challenging due to reduced abdominal wall compliance, retraction and atrophy of the lateral abdominal wall musculature, and loss of domain (LOD). Achieving tension-free fascial closure in these patients may require extensive component separation techniques associated with significant morbidity. Botulinum Toxin A (BTA), through reversible chemical denervation of the lateral abdominal wall muscles, has emerged as an adjunctive strategy to facilitate abdominal wall reconstruction.

Methods

This presentation reviews the current role of BTA in modern hernia surgery, including indications, injection techniques, physiologic effects, and contemporary evidence. BTA is typically administered as a single outpatient procedure 3–4 weeks prior to surgery under ultrasound

guidance. A total dose of 200–300 units is injected into the external oblique, internal oblique, and transversus abdominis muscle layers at multiple sites bilaterally. Combination strategies incorporating progressive preoperative pneumoperitoneum (PPP) for large LOD hernias are also discussed.

Results

BTA produces reversible flaccid paralysis of the lateral abdominal wall muscles, resulting in elongation and thinning of the musculature, improved abdominal wall compliance, and reduced lateral traction forces. Contemporary imaging studies demonstrate mean reductions in hernia defect width of approximately 5–6 cm and significant increases in lateral abdominal wall muscle length following BTA administration. Patients with LOD greater than 20% appear to derive the greatest benefit.

When combined with PPP, synergistic effects are observed through simultaneous chemical relaxation of the abdominal wall and gradual expansion of the abdominal cavity. Studies have demonstrated high rates of fascial closure with reduced need for formal component separation procedures. BTA has generally been well tolerated, with most adverse effects limited to transient abdominal bloating, weakened cough effort, and mild discomfort.



Conclusion

Botulinum Toxin A is a safe, effective, and minimally invasive adjunct in complex abdominal wall reconstruction. Its greatest utility appears to be in patients with large defects, significant LOD, recurrent hernias, and marked lateral abdominal wall retraction. Although not a replacement for sound reconstructive technique, BTA may improve fascial closure rates, reduce operative tension, and facilitate multimodal strategies such as PPP and minimally invasive abdominal wall reconstruction.

Curriculum Vitae



Eun Key Kim
Univ. of Ulsan, Korea

EDUCATION	2002	Seoul National University, Medicine graduated
	2007	MS, Plastic Surgery, University of Ulsan College of Medicine
	2009	PhD, Plastic Surgery, University of Ulsan College of Medicine

CAREER	2003	Intern, Asan Medical Center
	2007	Resident, Plastic Surgery, Asan Medical Center
	2009	Clinical fellow, Plastic Surgery, Asan Medical Center
	2014–2015	Visiting professor at University of Chicago
	2017	Assistance professor, Plastic surgery, University of Ulsan, Asan Medical Center
	2023	Associate professor, Plastic surgery, University of Ulsan, Asan Medical Center
	2023–Present	Professor, Plastic surgery, University of Ulsan, Asan Medical Center

ACTIVITIES	The Korean Society of Plastic and Reconstructive Surgeons (Member)
	The Korean Society of Microsurgery (Member)
	The Korean Society of Craniomaxillofacial Surgery (Member)
	The Korean Society of Aesthetic Plastic Surgery (Member)



Reconstructive Strategies for Loss of Domain Hernias: A Comprehensive Review

Eun Key Kim Univ. of Ulsan, Korea

MEMO



Symposium VI

KHS–JHS Joint Symposium (Harmony in Technique, Philosophy, and Innovation of Hernia Surgery)

Chairs

Sung IL Choi Kyung Hee Univ., Korea

Hiroshi Hirukawa Tachikawa General Hosp., Japan

Curriculum Vitae



Takeshi Nagahama

Kudanzaka Hosp., Japan

EDUCATION

1980–1986	School of Medicine, Tokyo Medical and Dental University
1986	M.D. (cum laude), Tokyo Medical and Dental University

CAREER

1986–1988	Resident in Surgery, Tokyo Medical and Dental University Hospital
1989–1990	Clinical Fellow in Surgery, Nissan Welfare Association Tamagawa Hospital
1990–1993	Clinical Fellow in Surgery, Tokyo Medical and Dental University Hospital
1993–1995	Clinical Fellow in Surgery, Tokyo Metropolitan Komagome Hospital
1995–1996	Clinical Fellow in Surgery, Tokyo Medical and Dental University Hospital
1996–1997	Research Fellow in Surgery, University of California San Diego
1997–1998	Clinical Fellow in Surgery, Tokyo Medical and Dental University Hospital
1998–2003	Chief Medical Staff, Surgery, Tokyo Metropolitan Ohkubo Hospital
2003–2011	Chief Medical Staff, Surgery, Toshima Hospital
2011–2015	Director, Department of Surgery, Toshima Hospital
2015–Present	Director, Department of General Surgery, Kudanzaka Hospital

Curriculum Vitae

ACTIVITIES

Board Member / Councilor, Japanese Hernia Society
Board Certified Instructor, The Japanese Surgical Society
Board Certified Instructor, The Japanese Society of Gastroenterological Surgery
Board Certified Instructor, Japan Gastroenterological Endoscopy Society
Board Certified Instructor, The Japanese Society of Gastroenterology
Member, Japanese Society for Clinical Surgery
Board Member and Councilor, Japanese Hernia Society
Member, Japan Society for Endoscopic Surgery
Councilor, Japanese Society for Parenteral and Enteral Nutrition
Member, American Hernia Society
Member, Asia Pacific Hernia Society
Member, European Association for Endoscopic Surgery
Member, European Society for Clinical Nutrition and Metabolism



The Choice of MIS Inguinal Hernia Repair: TAPP in Japan

Takeshi Nagahama Kudanzaka Hosp., Japan

Background & Purpose

In Japan, approximately 120,000 to 150,000 radical surgeries for inguinal hernia are performed annually. Although the volume slightly declined between 2020 and 2021 due to the COVID-19 pandemic, the proportion of minimally invasive surgery (MIS)—specifically laparoscopic repair—has steadily increased. Since 2022, MIS has surpassed traditional open anterior repair. According to the registry data from the Japan Society for Endoscopic Surgery (JSES), the ratio of TAPP to TEP procedures is approximately 4:1. This overwhelming predominance of TAPP is a unique characteristic specific to Japan.

Current Situation and Influencing Factors

While the author exclusively prefers the TEP approach and highly values its anatomical rationality, several distinct factors contribute to the dominance of TAPP in Japan. First, TAPP encompasses all essential surgical maneuvers—including dissection, incision, suturing, and knot-tying—making it highly regarded as a crucial training modality for young surgeons. Second,



compared to TEP, where anatomical landmarks in the preperitoneal space can be difficult to identify, TAPP offers an intuitive intra-abdominal view, making the anatomy easier to comprehend. Furthermore, unique institutional factors, such as the strong influence of TAPP-advocating surgeons within the endoscopic surgical skill qualification system, have shaped the current landscape where a vast majority of Japanese surgeons select TAPP as their first choice.

Future Outlook

On the other hand, the gradual adoption of eTEP for abdominal wall reconstruction is raising awareness regarding the technical importance of preperitoneal space dissection inherent to the TEP approach. Additionally, with robot-assisted inguinal hernia repair becoming covered by national health insurance in June, it is expected that MIS in Japan will remain centered around TAPP and R-TAPP for the foreseeable future. Concurrently, in conjunction with abdominal wall reconstruction techniques such as eTEP, the utilization of the TEP approach is also projected to see a gradual increase.

Curriculum Vitae



Min-Su Park
Kyung Hee Univ., Korea

EDUCATION	2003	M.D., School of Medicine, Kyung Hee University
	2008	Master of Medical Science (M.M.Sc.), Graduate School, Kyung Hee University
	2013	Ph.D. in Medicine, Graduate School, Kyung Hee University
CAREER	2014–2018	Assistant Professor, Kyung Hee University Hospital
	2018–2023	Associate Professor, Kyung Hee University Hospital
	2023–Present	Professor, Kyung Hee University Hospital
ACTIVITIES	Information Director, Korean Hernia Society	
	Secretary General, Korean Society of Robotic Surgery	



The Choice of MIS Inguinal Hernia Repair: TEP in Korea

Min-Su Park Kyung Hee Univ., Korea

Minimally invasive inguinal hernia repair has been widely adopted because of its advantages, including reduced postoperative pain, faster recovery, and improved cosmetic outcomes. The two principal minimally invasive techniques are totally extraperitoneal repair (TEP) and transabdominal preperitoneal repair (TAPP). In Korea, TEP has been performed extensively for many years, resulting in substantial clinical experience and well-established surgical expertise.

This presentation aims to review the role of TEP in Korea, focusing on accumulated surgical outcomes, technical convenience, and operative efficiency in contemporary clinical practice.

TEP is performed entirely within the preperitoneal space without entering the peritoneal cavity, minimizing manipulation of intra-abdominal organs. In experienced centers, the procedure has become highly standardized, allowing consistent operative times and favorable perioperative outcomes. The same preperitoneal working space can be utilized effectively for bilateral and recurrent inguinal hernias, contributing to procedural efficiency.



Furthermore, TEP eliminates the need for peritoneal incision and closure, simplifying the operative workflow for experienced surgeons. From the perspectives of operating room management and instrument utilization, the procedure offers practical advantages that may improve surgical efficiency. Over the past two decades, Korean surgeons have accumulated extensive experience with TEP, leading to the development of standardized training systems and reproducible surgical techniques. This accumulated expertise has translated into low recurrence rates, acceptable complication profiles, rapid postoperative recovery, and the feasibility of ambulatory or short-stay surgery.

The establishment of key technical principles—including meticulous preperitoneal dissection, complete exposure of the myopectineal orifice, and adequate mesh coverage—has further enhanced the safety and reproducibility of the procedure.

TEP is not merely a preferred surgical approach in Korea; it represents a well-established minimally invasive technique supported by extensive surgical experience and standardized operative strategies. Given its operative efficiency, technical practicality, and reproducible clinical outcomes, TEP continues to play a significant role in the management of inguinal hernia in contemporary Korean surgical practice.

Curriculum Vitae



Nina Yoo
The Catholic Univ. of Korea, Korea

EDUCATION	2004	B.S. at the University of Michigan in Ann Arbor
	2010	M.D. at the Chunbuk National University Medical School
	2023	Ph.D. at the Catholic University of Korea

CAREER	2010	Internship at Bundang CHA Medical Center
	2015	Residency in General surgery at Bundang CHA Medical Center
	2015–2017	Fellowship in the Division of Colorectal Surgery at St. Vincent's Hospital, The Catholic University of Korea
	2018–2021	Clinical Assistant Professor designate in the Division of Colorectal Surgery at St. Vincent's Hospital, The Catholic University of Korea
	2021–2023	Clinical Assistant Professor in the Division of Colorectal Surgery at St. Vincent's Hospital, The Catholic University of Korea
	2023–2024	Clinical Assistant Professor in the Division of Colorectal Surgery at St. Mary's Hospital, Seoul, The Catholic University of Korea
	2024–2025	Clinical Assistant Professor in the Division of Colorectal Surgery at St. Vincent's Hospital, The Catholic University of Korea
	2025–	Assistant Professor in the Division of Colorectal Surgery at St. Vincent's Hospital, The Catholic University of Korea

ACTIVITIES	Life Member / Member, Academic Committee, The Korean Hernia Society
	Life Member, The Korean Society of Coloproctology
	Life Member, The Korean Society of Endo-Laparoscopic & Robotic Surgery

Robot vs Laparoscopy in MIS Ventral Hernia Repair: Is Robot Truly Superior?

Nina Yoo The Catholic Univ. of Korea, Korea

Ventral hernia repair is a high-volume procedure in which minimally invasive surgery has significantly reduced wound morbidity compared with open repair. Laparoscopic ventral hernia repair has long been considered the standard minimally invasive approach, particularly because of its lower surgical site infection rate and acceptable recurrence outcomes. However, the field has evolved from simple intraperitoneal mesh placement toward anatomical abdominal wall reconstruction, including fascial defect closure, extraperitoneal mesh positioning, and advanced techniques such as eTEP, E/MILOS, and component separation.

Robotic surgery has gained increasing attention as a platform that may facilitate technically demanding reconstructive procedures through enhanced dexterity, three-dimensional visualization, and improved suturing capability. Current evidence suggests that robotic ventral hernia repair provides outcomes comparable to laparoscopic repair, with potential advantages including fewer bowel injuries, fewer conversions to open surgery, and broader application of extraperitoneal or sublay mesh techniques. Compared with open repair, robotic surgery may reduce postoperative complications,



surgical site infection, blood loss, hospital stay, and readmission, although it is generally associated with longer operative time and higher cost.

The key question is therefore not whether ventral hernia repair can be performed robotically, but whether robotic surgery improves outcomes sufficiently to justify its added complexity and resource use. Robotic ventral hernia repair should not be viewed simply as “better laparoscopy,” but rather as an advanced tool that can expand the possibilities of minimally invasive abdominal wall reconstruction when applied with appropriate patient selection, sound anatomical understanding, and mastery of operative planes.

Curriculum Vitae



Fumitoshi Mizutani

Nagoya Ekisaikai Hosp., Japan

EDUCATION

2005

M.D., Gifu University School of Medicine

Postgraduate clinical training: Ogaki Municipal Hospital

Department of Surgical Oncology (formerly First Department of Surgery), Nagoya University Graduate School of Medicine

CAREER

Postgraduate clinical training, Ogaki Municipal Hospital

Department of Surgery, Nagoya Ekisaikai Hospital

Department of Surgery, Nagoya University Hospital

Emergency and Critical Care Center, Ogaki Municipal Hospital

Department of Surgery, Tokai Hospital

Chief, Department of Surgery, Nagoya Ekisaikai Hospital

Aichi Advanced Trauma Center, Japan

ACTIVITIES

Councilor, Japan Society for Endoscopic Surgery

Councilor, Japan Surgical Association

Councilor, Japanese Society for Abdominal Emergency Medicine

Councilor and Member, General Affairs Committee, Japan Hernia Society

Councilor and Member, General Affairs Committee, Japanese Society for Acute Care Surgery

Robot vs Laparoscopy in MIS Inguinal Hernia Repair: Is Robot Truly Superior?

Fumitoshi Mizutani Nagoya Ekisaikai Hosp., Japan

Background

According to the 17th Nationwide Survey of Endoscopic Surgery in Japan (2022–2023), 85% of laparoscopic inguinal hernia repairs are performed using the transabdominal preperitoneal (TAPP) approach, while 15% are performed using the totally extraperitoneal (TEP) approach. Although approximately 1,000 robot-assisted inguinal hernia repairs have been performed in Japan under self-pay medical care, nearly all were robot-assisted transabdominal preperitoneal repairs (RTAPP). Since RTAPP became reimbursable under the Japanese national health insurance system in June 2026, its utilization is expected to increase rapidly nationwide.

Methods

Our institution performed 259 RTAPP procedures between October 2021 and May 2026. We reviewed our experience with RTAPP, focusing particularly on cases predicted to be technically challenging for conventional TAPP. These included recurrent and re-recurrent hernias, obese patients, giant inguinal



hernias, cases with severe adhesions, and patients with a history of lower abdominal surgery, including urological procedures.

Results

Although objective scientific evaluation remains ongoing, RTAPP has provided several practical advantages. Conventional TAPP often requires surgeons and assistants to maintain ergonomically unfavorable positions and relies on rigid laparoscopic instruments that directly transmit hand tremor. Furthermore, visualization depends heavily on the stability of the assistant-controlled two-dimensional camera.

In contrast, RTAPP enables both the surgeon and assistant to remain seated throughout the procedure, reducing physical strain. Articulating robotic instruments with tremor filtration facilitate precise dissection and suturing, while the surgeon-controlled high-definition three-dimensional camera provides a stable and magnified operative view. These features appear particularly advantageous in complex cases requiring meticulous dissection within scarred or anatomically distorted operative fields.

Regarding patient outcomes, the recently reported multicenter prospective ROB-HER study and several retrospective observational studies have demonstrated the safety and feasibility of RTAPP. Although RTAPP has traditionally been associated with longer operative times and higher costs, increasing experience and procedural standardization have led to improved



efficiency. Recent reports have suggested that RTAPP may achieve operative times comparable to or even shorter than those of conventional TAPP.

Notably, a randomized controlled trial from Denmark published in *Hernia* in 2025 was the first study to demonstrate shorter operative times for RTAPP compared with TAPP in both standard and complex inguinal hernia cases.

Conclusions

RTAPP offers important ergonomic and technical advantages over conventional TAPP, particularly in complex inguinal hernia cases. Beyond potential patient benefits, RTAPP may reduce surgeon fatigue and psychological stress while facilitating precise surgical performance. As the surgical workforce ages and the number of gastrointestinal surgeons continues to decline in Japan, these advantages may become increasingly important. In this presentation, we will demonstrate the usefulness of RTAPP for complex hernia cases through representative operative videos and discuss its future role in minimally invasive hernia surgery.

Curriculum Vitae



Yoshitaka Kondo

Okayama Univ., Japan

EDUCATION

1994	B.Eng., The University of Tokyo
1996	M.Eng., The University of Tokyo
2002	M.D., Okayama University
2013	Ph.D. in Medicine, Okayama University

CAREER

2002–2014	Staff Surgeon, Okayama University Hospital and affiliated hospitals
2014–2019	Assistant Professor, Minimally Invasive Therapy Center, Okayama University Hospital
2019–Present	Assistant Professor, Department of Gastroenterological Surgery, Okayama University
	Current Position: Assistant Professor, Department of Gastroenterological Surgery, Okayama University

ACTIVITIES

Japan Surgical Society
 Japanese Society of Gastroenterological Surgery
 Japan Society for Endoscopic Surgery
 Japanese Hernia Society
 Japanese Society for Medical Education
 Japanese Society for Regenerative Medicine



Structured Training for Advanced Hernia Surgery in Japan: From Cadaver-Based Education to Clinical Mastery

Yoshitaka Kondo Okayama Univ., Japan

Background

Advanced hernia surgery requires a precise understanding of the abdominal wall as a layered, dynamic, neurovascular structure. Surgical failure is not limited to recurrence; chronic pain, denervation-related muscle atrophy, and functional impairment are also important outcomes. Cadaver surgical training (CST) provides a unique opportunity to learn anatomy and surgical techniques that cannot be fully acquired from textbooks, videos, or routine operative experience.

Methods

We reviewed the development and educational role of the CST program at Okayama University, which began in 2012 after the establishment of appropriate guidelines for CST in Japan. The program is based on realistic cadaver preparation, including CT-based pre-evaluation and improved



fixation methods; a practical operative environment using real surgical instruments and devices; and a needs-based curriculum for surgeons at different career stages.

Results

Over 14 years, more than 300 surgeons have participated in the Okayama University CST program, which covers the entire gastrointestinal surgical field, including hernia surgery. In hernia training, CST has evolved from TAPP and basic preperitoneal anatomy to open component separation, transversus abdominis release, eMILOS, and eTEP. CST enables surgeons to understand the retromuscular and preperitoneal planes, perform nerve-preserving dissection, and safely learn unfamiliar surgical approaches before clinical application. It is also useful for simulation of complex abdominal wall defects after tumor resection and for understanding nerve anatomy related to chronic postoperative pain, including CPIP and ACNES.

Conclusion

Structured CST is a bridge from anatomical understanding to safer clinical practice. It supports the safe adoption of advanced hernia procedures and may serve as an important platform for training the next generation of hernia surgeons.

Curriculum Vitae



Jaeim Lee
Catholic Kwandong Univ., Korea

EDUCATION	1996–2002	Graduate (M.D.) College of Medicine, Dongguk University
	2005–2007	Mastered Postgraduate School College of Medicine, The Catholic University of Korea, Seoul General Surgery (M.S.)
	2012–2015	Mastered Postgraduate School College of Medicine, The Catholic University of Korea, Seoul General Surgery (Ph.D.)
CAREER	2012–2017	Clinical Assistant Professor in Department of Surgery, Uijeongbu St. Mary's Hospital
	2017–2019	University of Texas, Health Science Center at Houston
	2017–2021	Clinical Associate Professor in Department of Surgery, Uijeongbu St. Mary's Hospital
	2021–2025	Assistant Professor in Department of Surgery, Uijeongbu St. Mary's Hospital
	2025–2025	Associate Professor in Department of Surgery, Uijeongbu St. Mary's Hospital
	2025–Present	Professor in Department of Surgery, Catholic Kwandong University, International St. Mary's Hospital
ACTIVITIES	2003–Present	Korean Surgical Society
	2008–Present	The Korean Society of Coloproctology
	2022–Present	Korean Hernia Society (KHS), Director of the Training committee
	2024–Present	The Korean Society for Parenteral and Enteral Nutrition (KSPEN), Director of the Finance Committee
	2025–Present	The Korean Society of Coloproctology (KSCP), Public Relations Committee
	2025–Present	Korean Surgical Society (KHS), Director of the DEI Committee



Training Program for Advanced Hernia Procedures in Korea

Jaeim Lee Catholic Kwandong Univ., Korea

Korea has a mature minimally invasive hernia practice: laparoscopic inguinal repair has been performed since the mid-1990s, and robotic surgery has been established for over two decades. Its application to hernia repair, however, is recent—introduced only about four to five years ago—so robotic hernia repair represents an emerging frontier built on a solid minimally invasive foundation. Building on this, the Korean Hernia Society has developed structured advanced-training programs spanning laparoscopic and robotic inguinal and ventral hernia repair, combining lectures, hands-on sessions with animal models, and graded proctoring. Aligning this education with proficiency-based progression and validated metrics is the next step for advanced hernia surgery in Korea.



CONGRESS OF THE KHS &
2026 INTERNATIONAL SYMPOSIUM

Building Bridges in Hernia Surgery: Education to Excellence

Day 2 - 7/4 (Sat)

LIV'SMED

Luncheon Symposium II

Chair

Sung Ryul Lee Damsuyu Hosp., Korea

Curriculum Vitae



Nina Yoo
The Catholic Univ. of Korea, Korea

EDUCATION	2004	B.S. at the University of Michigan in Ann Arbor
	2010	M.D. at the Chunbuk National University Medical School
	2023	Ph.D. at the Catholic University of Korea

CAREER	2010	Internship at Bundang CHA Medical Center
	2015	Residency in General surgery at Bundang CHA Medical Center
	2015–2017	Fellowship in the Division of Colorectal Surgery at St. Vincent's Hospital, The Catholic University of Korea
	2018–2021	Clinical Assistant Professor designate in the Division of Colorectal Surgery at St. Vincent's Hospital, The Catholic University of Korea
	2021–2023	Clinical Assistant Professor in the Division of Colorectal Surgery at St. Vincent's Hospital, The Catholic University of Korea
	2023–2024	Clinical Assistant Professor in the Division of Colorectal Surgery at St. Mary's Hospital, Seoul, The Catholic University of Korea
	2024–2025	Clinical Assistant Professor in the Division of Colorectal Surgery at St. Vincent's Hospital, The Catholic University of Korea
	2025–	Assistant Professor in the Division of Colorectal Surgery at St. Vincent's Hospital, The Catholic University of Korea

ACTIVITIES	Life Member / Member, Academic Committee, The Korean Hernia Society
	Life Member, The Korean Society of Coloproctology
	Life Member, The Korean Society of Endo-Laparoscopic & Robotic Surgery



Robotic-like Dexterity at the Laparoscopic Console: ARTISENTIAL in Hernia Repair

Nina Yoo The Catholic Univ. of Korea, Korea

MEMO



CONGRESS OF THE KHS &
2026 INTERNATIONAL SYMPOSIUM

Building Bridges in Hernia Surgery: Education to Excellence

Day 2 - 7/4 (Sat)

President Lecture

Chair

Sung Heun Kim Dong-A Univ., Korea

Curriculum Vitae



Sung IL Choi

Kyung Hee Univ., Korea

EDUCATION

1989–1996	College of Medicine, Kyung Hee University, Seoul, Korea: M.D.
1998–2000	Graduate School, Kyung Hee University, Seoul, Korea: M.S.
2002–2005	Graduate School, Sungkunkwan, Seoul, Korea: Ph.D.
2014–2016	M.D. Anderson Cancer Center (Visiting Scholar)

CAREER

Korean Hernia Society, PRESIDENT
 APHS Board member (Treasure)
 Korean Gastric Cancer Association Director
 Korean Society of Endoscopic and Laparoscopic Surgeon Board Member,
 Director of the Medical Insurance Committee
 Korean Society of Metabolic and Bariatric Surgery Board Member, Chair,
 Financial Committee

ACTIVITIES

Korean Hernia Society
 Asia Pacific Hernia Society
 International Federation of Metabolic and Bariatric Surgery
 Korean Society of Metabolic and Bariatric Surgery
 Korean Gastric Cancer Association
 International gastric cancer association
 Korean Society of Endoscopic and Laparoscopic Surgeon



A Historical Perspective on Hernia Surgery in Korea: Transition from Open to Robotic Surgery

Sung IL Choi Kyung Hee Univ., Korea

MEMO



Symposium VII

Management of Complications

Chairs

Ji-Young Sul Chunnam National Univ., Korea

Taesoon Lee Dream Hosp., Korea

Curriculum Vitae



Marc Ong Weijie

Khoo Teck Puat Hosp., Singapore

EDUCATION

2010	M.B.B.S., National University of Singapore
2015	Master of Medicine (Surgery), National University of Singapore
2018	Fellow of the Royal College of Surgeons (Edinburgh), Royal College of Surgeons of Edinburgh
2018	Specialist Accreditation in General Surgery, Ministry of Health, Singapore

CAREER

2023	Health Manpower Development Plan (HMDP) Fellowship Training, Ministry of Health Singapore – training in Tokyo, Japan Breast Surgery Fellowship, St Luke's International Hospital under Prof. Gen Shimada and Dr. Taketo Matsubara Hernia Surgery Training, St Luke's International Hospital Founding Lead, Hernia Surgery Service, Khoo Teck Puat Hospital Consultant Surgeon, Khoo Teck Puat Hospital
2025–Present	Head, Department of General Surgery, Khoo Teck Puat Hospital Clinical Lecturer, National University of Singapore (Yong Loo Lin School of Medicine) Clinical Lecturer, Lee Kong Chian School of Medicine Associate Program Director, National Healthcare Group General Surgery Residency Program

ACTIVITIES

Invited Speaker, international breast cancer conferences
Invited Faculty, IRCAD Taiwan training programs
Member, Asia Pacific Hernia Society
Member, Endoscopic and Laparoscopic Surgeons of Asia

Critical Intraoperative Complications During Inguinal Hernia Repair: Focus on Genitourinary Structures

Marc Ong Weijie Khoo Teck Puat Hosp., Singapore

Background

Inguinal hernia repair is one of the most commonly performed operations worldwide. Although generally safe, genitourinary (GU) complications may occur and can result in significant morbidity, chronic pain, infertility, urinary dysfunction, and testicular loss. A detailed understanding of groin anatomy, early recognition of injury, and appropriate preventive strategies are essential to minimize adverse outcomes.

Methods

This presentation reviews the spectrum of GU complications encountered during and after inguinal hernia repair, including mechanisms of injury, risk factors, prevention strategies, and contemporary management principles. Complications discussed include bladder and urethral injury, vas deferens injury, testicular vessel injury, postoperative urinary retention (POUR), and scrotal complications.

Results

Bladder injury most commonly occurs in large direct or sliding hernias, recurrent cases, and patients with previous lower abdominal surgery. Early recognition through identification of clear fluid leakage, Foley catheter visualization, or unexpected medial sac structures allows prompt repair with favorable outcomes.

Injury to the vas deferens and testicular vessels may result from excessive cord dissection, ligation, thermal injury, or misidentification of structures. Potential sequelae include infertility, testicular ischemia, and atrophy. Prevention relies on meticulous anatomical identification and avoidance of unnecessary skeletonization of cord structures.

Postoperative urinary retention remains one of the most frequent GU complications. Identified risk factors included advanced age, prior urinary retention, prolonged operative duration, bladder involvement within the hernia, and temporary intraoperative catheterization.

Scrotal complications, including hematoma and seroma formation, are particularly associated with large inguinoscrotal hernias and extensive sac dissection. Most cases can be managed conservatively with analgesia and scrotal support, although selected patients may require drainage or surgical evacuation.

Conclusion

Most genitourinary complications during inguinal hernia repair are preventable. Careful anatomical dissection, heightened awareness of high-risk situations, and early recognition of complications are critical in improving surgical outcomes. Adoption of standardized preventive strategies and meticulous operative technique may reduce morbidity and improve patient safety in both open and minimally invasive groin hernia repair.

Curriculum Vitae



Jun Woo Bong

Korea Univ., Korea

EDUCATION

Yonsei University, Computer Science, B.E

Kyung Hee University College of Medicine, M.D.

Korea University Graduate School of Medicine, Ph.D.

CAREER

Kyung Hee Medical Center, Intern

Gangdong Kyung Hee Medical Center, Resident, Department of Surgery

Asan Medical Center, Division of Colorectal Surgery, Department of Surgery

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Department of Surgery

Intraoperative Vascular Complications in Hernia Surgery: From Corona Mortis to Major Vessel Injury Prevention

Jun Woo Bong Korea Univ., Korea

In laparoscopic inguinal hernia repair, especially totally extraperitoneal (TEP) and transabdominal preperitoneal (TAPP) repair, a precise understanding of preperitoneal vascular anatomy is essential. The corona mortis, meaning “crown of death,” is an important vascular variation that connects the obturator vessels with the external iliac or inferior epigastric vascular system. It may be arterial, venous, or both, and is usually located near the superior pubic ramus, Cooper’s ligament, and the obturator canal.

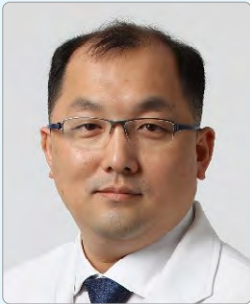
The corona mortis is clinically important because injury to this vessel can cause significant bleeding in a narrow operative field. During laparoscopic hernia repair, it may be injured during medial dissection, reduction of a direct hernia sac, exposure of Cooper’s ligament, or mesh fixation using tacks, staples, or sutures. Therefore, surgeons should maintain a clear understanding of the relationship between the pubic tubercle, Cooper’s ligament, inferior epigastric vessels, external iliac vessels, and obturator canal. Careful dissection along the correct anatomical plane, avoidance of blind coagulation, and prevention of deep fixation near the lateral aspect of

Cooper's ligament are important preventive strategies.

If bleeding occurs, the surgeon should first maintain visualization and avoid uncontrolled suction or blind dissection. Temporary increase of pneumoperitoneum or preperitoneal pressure, followed by direct compression with gauze or a laparoscopic swab, is often effective. Persistent bleeding may require bipolar coagulation, clipping, or laparoscopic suture ligation. In cases of pulsatile arterial bleeding, poor visualization, expanding hematoma, or hemodynamic instability, additional ports, conversion from TEP to TAPP, open conversion, or vascular surgical assistance should be considered.

In conclusion, the corona mortis is an unpredictable but clinically significant vascular structure in laparoscopic inguinal hernia repair. Awareness of its anatomy, meticulous dissection around Cooper's ligament, cautious mesh fixation, and a structured approach to bleeding control are essential for safe surgery.

Curriculum Vitae



Kyung Won Seo
Kosin Univ., Korea

EDUCATION	2000	Kosin University, College of Medicine, Busan, Korea; M.D.
	2010	Kosin University, Graduate school , Busan, Korea; M.M.Sc
	2017	Kosin University, Graduate school , Busan, Korea; Ph.D.
CAREER	2000	Internship, Kosin University Gospel Hospital, Busan, Korea
	2001–2004	Resident, Department of Surgery, Kosin University Gospel Hospital, Busan, Korea
	2008	Clinical Fellow, Department of Surgery, Kosin University Gospel Hospital, Busan, Korea
	2012	Mini-Fellowship for Bariatric & Metabolic Surgery, Bariatric & Metabolic International (B.M.I) Surgery Center, Minimally Invasive Surgery Training Center, E-Da hospital/ I-Shou University, Kaohsiung county, Taiwan (Dr. Chih-Kun Huang (黃致錕))
	2015–2016	Postgraduate Medical Education of UCLA (University of California, Los Angeles) Ronald Reagan Medical Center, Minimally invasive and bariatric surgery, USA (Dr. Erik P. Dutson)
ACTIVITIES	2024–2026	Chair, Continuing Education Committee, Korean Society for Metabolic and Bariatric Surgery
	2024–2026	Director of Multidisciplinary Committee, Korean Society for Surgical Metabolism and Nutrition
		Director, KOSMOS International Symposium
		Member, Korean Surgical Society
		Member, Korean Gastric Cancer Association
		Member, Korean Hernia Society

Immediate Recurrence After Hernia Repair: Root Causes and Rapid Response Strategies

Kyung Won Seo Kosin Univ., Korea

Immediate recurrence after inguinal hernia repair, occurring within one to two years post-operatively, is almost exclusively driven by technical errors and mechanical failures rather than patient biology. Despite the near-universal adoption of prosthetic mesh materials and advanced laparo-endoscopic techniques, early recurrence rates remain a major clinical challenge that can be controlled through standardized prevention and rapid response strategies.

Large-scale epidemiological data indicate that inguinal hernia repairs account for approximately 97% of all groin hernia surgeries. Within this population, primary direct inguinal hernias exhibit a significantly higher recurrence risk compared to indirect inguinal hernias. Direct inguinal hernia stands as a substantial independent risk factor for recurrence, yielding a Hazard Ratio of 1.90 ($p < 0.001$) in male patients. Furthermore, there is a profound type-consistency between primary and recurrent hernia subtypes. A primary direct hernia has an Odds Ratio of 7.1 of presenting as a direct recurrence, while a primary indirect hernia yields an Odds Ratio of 3.0 of

recurring as an indirect defect. This phenotypic consistency highlights a systemic connective tissue matrix weakness in the direct space, demanding meticulous technical execution during primary repair.

Gender-specific data reveal that female patients undergoing elective inguinal hernia repairs demonstrate a unique risk profile. A primary direct inguinal hernia in a female patient carries an extreme recurrence risk, resulting in an 11.0% reoperation rate and a Hazard Ratio of 3.1 ($p < 0.001$) compared to primary indirect defects. More importantly, a severe diagnostic and technical trap exists regarding female groin hernias. Nationwide registry data show that 100% of all registered femoral recurrences occurred exclusively after an open anterior Lichtenstein approach had been utilized at the primary operation, whereas zero femoral recurrences were recorded following laparo-endoscopic posterior repairs ($p < 0.001$). This demonstrates that open anterior repairs frequently miss synchronous femoral hernias in women, which subsequently present as immediate pseudo-recurrences.

The root causes of immediate laparo-endoscopic recurrence include inadequate dissection of the preperitoneal space, which prevents full exposure of the myopectineal orifice. This leads to mesh sizing and positioning errors, such as using a mesh smaller than the recommended 15x10 cm, which fails to provide sufficient overlap to compensate for an average 20% post-operative mesh shrinkage. Mechanical errors, such as mesh folding, curling, or displacement during abdominal desufflation, as well as over-looking a direct component or a large cord lipoma, also drive early failures. For open anterior Lichtenstein repairs, the primary root causes

involve using short-term absorbable sutures that lose fixation strength before tissue ingrowth, failing to extend the mesh at least 1.5 to 2.0 cm medial to the pubic tubercle, and faulty execution of the mesh slit around the spermatic cord. These technical errors are highly correlated with the surgeon's learning curve, as a minimum of 50 to 100 supervised procedures is required to stabilize laparo-endoscopic outcomes and minimize early failures.

When immediate recurrence occurs, the surgeon must manage a compromised operative field filled with active inflammation and dense scar tissue. To minimize the risk of nerve injury, bleeding, and testicular atrophy, international guidelines mandate strict adherence to the "Principle of the Opposite Approach" as a strong recommendation. Failures after an anterior repair must be managed via a posterior laparo-endoscopic approach, while failures after a posterior repair must be revised using an open anterior approach. This strategy ensures that the revision surgery goes through an undisturbed anatomical plane. For complex, serially recurrent cases where both planes have already been violated, immediate management by an expert hernia surgeon is strongly recommended.

The absolute prevention of immediate recurrence requires strict technical standards during primary interventions. While routine mesh fixation is unnecessary in standard laparo-endoscopic repairs, mechanical fixation is strongly recommended for large medial defects measuring 3 cm or greater (EHS Class M3) to prevent early mesh migration. To reduce the risk of early post-operative pain, atraumatic fixation techniques, such as fibrin sealants or cyanoacrylate glues, should be considered. Furthermore, universal coverage

of the myopectineal orifice must be guaranteed by using wrinkle-free, large monofilament flat meshes of at least 15x10 cm. Finally, due to the high incidence of missed femoral hernias, all female patients presenting with groin hernias should undergo a laparo-endoscopic posterior repair as the first-line choice to automatically cover and prevent early femoral recurrence.

Curriculum Vitae



Jiwei Yu

Shanghai Jiaotong Univ., China

EDUCATION

- 1990–1995 M.D., Bachelor of Medicine, Clinical Medicine Department, Shanghai Second Medical University
- 2005–2008 Master's Degree Student, Shanghai Jiao Tong University School of Medicine
- 2007–2008 International Student, Faculty of Medicine, Showa University
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CAREER

- 1995–2007 Attending Physician, The Ninth People's Hospital, Shanghai Jiao Tong University School of Medicine
- 2007–2013 Deputy Chief Physician, The Ninth People's Hospital, Shanghai Jiao Tong University School of Medicine
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ACTIVITIES

- Member, Colorectal Physicians Branch, Chinese Medical Association
- Member, General Surgery Group, Shanghai Medical Association
- Member, Colorectal Surgery Group, Shanghai Medical Association General Surgery Specialty
- Vice Chairman, Surgical Women Physicians Professional Committee, Shanghai Women Physicians Association
- Member, Inflammatory Bowel Disease Committee, Proctology Branch, Chinese Medical Association
- Member, Endoscopy Group, Shanghai Anti-Cancer Association
- Member, Laparoscopy Committee, Colorectal Cancer Professional Committee, Chinese Medical Association
- Editorial Board Member, Chinese Journal of Hernia and Abdominal Wall Surgery

Chronic Postoperative Inguinal Pain (CPIP): Risk Factors and Management Strategies

Jiwei Yu Shanghai Jiaotong Univ., China

The Clinical Significance of Chronic Postoperative Inguinal Pain (CPIP)

- Inguinal hernia repair ranks among the most common general surgical operations.
- With mesh technology lowering recurrence rates, chronic pain has emerged as the major long-term complication.
- It seriously affects quality of life, work performance and mental health.
- International guidelines state that prevention of chronic pain is as important as recurrence control.

Definition of Chronic Postoperative Inguinal Pain (CPIP)

- Persistent inguinal pain > 3 months after surgery
- Significant impact on daily activities
- Frequently accompanied by burning, electric shock-like, foreign body and radiating pain
- A typical chronic neuropathic pain syndrome

Epidemiological characteristics

- Incidence of clinically significant pain: 10%–12%

- Severe functional impairment: 0.5%–6%
- Higher risks in young and female patients
- Obvious differences in incidence across surgical approaches

Anatomy of the Inguinal Nerves

- Iliohypogastric nerve
- Ilioinguinal nerve
- Genitofemoral nerve
- Nerve injury, entrapment and scar encapsulation are the core mechanisms of CPIP.

Pain Transmission and Central Sensitization

Peripheral Nerve Injury → DRG Sensitization → Dorsal Horn Activation → Central Sensitization

- Microglia activation
- Upregulation of BDNF
- CCL2 inflammatory pathway
- Abnormal expression of P2X3 receptors

Pathogenesis of CPIP

- Neuropathic pain: Nerve transection, entrapment and neuroma formation
- Mesh-related pain: Fibrosis, meshoma and chronic inflammation
- Central sensitization: Persistent abnormal discharges and pain amplification

Associated Risk Factors

Patient-related factors

- Young age
- Female gender
- Preoperative pain
- Anxiety and depression

Surgery-related factors

- Open surgery
- Staple fixation
- Nerve exposure

Open Surgery vs Laparoscopic Surgery

Laparoscopic repair (TEP/TAPP) has a lower overall incidence of chronic pain compared with Lichtenstein procedure.

Advantages

- Reduced nerve exposure
- Decreased tissue tension
- Alleviated mesh-related inflammation

Clinical Manifestations

- Stabbing pain, burning sensation and electric shock-like pain
- Provoked by movement or coughing
- Radiating pain to the scrotum and medial thigh
- Accompanied by paresthesia and allodynia

Auxiliary Examinations and Assessment

- Ultrasonography
- MRI neurography

- Nerve block test
- DN4 scale
- Pain scales

Treatment Principles

International Consensus

Treatment is escalated gradually from conservative therapy to invasive interventions.

- Pharmacotherapy
- Nerve block
- Pulsed Radiofrequency (PRF)
- Surgical treatment

Latest Research Hotspots

- Morphological changes of dorsal root ganglion (DRG) detected by MRI
- BDNF and CCL2 as serological biomarkers
- Artificial intelligence (AI) prediction models
- Individualized surgical management
- Neuroprotective strategies

Conclusion

- CPIP is a major long-term complication after inguinal hernia repair.
- It results from combined nerve injury and central sensitization.
- Laparoscopic procedures help reduce the risk.
- MDT and individualized therapy represent future directions.

Curriculum Vitae



Seung-Rim Han

Ain Hosp., Korea

EDUCATION

- 2000–2007 Bachelor of Science degree, Biogenetic engineering from Korea University, Korea
- 2007–2011 Master's Degree, Pusan National University School of Medicine, Korea
- 2020–2022 Doctor of Medicine, Graduate School of Medicine, The Catholic University of Korea

CAREER

- 2011–2012 Internship, Severance Hospital, Yonsei University College of Medicine
- 2012–2016 Resident, Department of Surgery, Samsung Medical Center, Sungkyunkwan University School of Medicine
- 2016–2017 Clinical fellow, Division of colorectal Surgery, Department Surgery, Samsung Medical Center, Sungkyunkwan University School of Medicine
- 2017–2019 Clinical fellow, Division of colorectal Surgery, Department Surgery, St. Vincent Hospital, Catholic University College of Medicine
- 2019–2023 Clinical Assistant Professor, Division of colorectal Surgery, Department Surgery, Seoul St. Mary's Hospital, Catholic University College of Medicine
- 2023–Present Director of general surgery and robotic hernia center, AIN Hospital, Incheon

ACTIVITIES

- 2017– Regular member of the Korean Surgical Society
- 2017– Lifetime member of the Korean Society of Coloproctology
- 2017– Lifetime member of the Korean Hernia Society
- 2020– Regular member of the Korean Society of Surgical Metabolism and Nutrition

Mesh Infection After Surgery - Prevention and Management Strategies

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The use of prosthetic mesh has become the gold standard practice in not only abdominal wall but also inguinal hernia repair, either by open procedure or laparoscopic approach. Although the use of mesh significantly reduces hernia recurrence rate, mesh implementation is associated with a new set of mesh-related complications, including mesh infection, visceral adhesion, enteral fistula, chronic pain, and even systematic immune disease. Despite the use of a sterile technique and prophylactic antibiotics, mesh infection incidence ranged from less than 1% to as high as 7%–8% has been reported. The average cost in the USA per surgical site infection (SSI) event is US\$11,000, whilst mesh infection cost over US\$75,000 and enterocutaneous fistula greater than US\$200,000 per event.

Patients with large, complex ventral or inguinal herniae requiring open surgery who have multiple comorbidities (advanced age, American Society of Anaesthesiologists (ASA) score ≥ 3 , malnutrition, diabetes, immunosuppression, tobacco smoking or obesity (BMI ≥ 35 kg/ m²)) are particularly at risk.

In this lecture, I intend to cover the overall risk factors, properties of mesh, and microbiology of mesh infection. Additionally, I will summarize the literature on the most important aspects of mesh infection prevention and management.

It was thought that the mesh infection rates may be underestimated. Conventional teaching has advocated complete infected mesh removal due to the difficulty of mesh infection treatment. There is no question that the infected mesh removal would create even larger defect than before, lead to a high incidence of hernia recurrence, furthermore, the operation procedure to remove the infected mesh was challenging. More recently, management of mesh-infection patients has shifted to an attempt of conservative method, try to salvage the mesh without surgical removal. Therefore, I will outline the flowchart for establishing a plan for such management.

Curriculum Vitae



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EDUCATION

1992–1998	M.D., Faculty of Medicine, Prince of Songkla University
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2014–2015	Research Fellowship in Minimally Invasive and Bariatric Surgery, University of California San Francisco

CAREER

2002–Present	Instructor of General Surgery and Minimally Invasive Surgery, Department of Surgery, Prince of Songkla University
2003–Present	Surgeon and Lecturer, Emergency Medicine Unit, Prince of Songkla University
2011–Present	Member, Minimally Invasive Surgery Audio-Visual Committee, Royal College of Surgeons of Thailand
2011–Present	Instructor, Soft Cadaveric Surgical Workshops (bariatric, colorectal, hernia repair, single-port surgery), King Chulalongkorn Memorial Hospital
2012–Present	Mentor, Live Surgery (TEP) Programs, multiple provinces in Thailand
2012	Lecturer, "Train the Trainer" Laparoscopic Colorectal Surgery Course, Vietnam

Curriculum Vitae

CAREER

2013–Present	Director and Instructor, PSU Soft Cadaveric Workshop for Surgical Residents, Prince of Songkla University
2013–Present	Mentor, Laparoscopic Colorectal Surgery Live Workshops, Thailand
2015–Present	Chief, Minimally Invasive Surgery, Prince of Songkla University
2019–Present	Chair, Robotic Surgery Steering Committee, Prince of Songkla University
2022–Present	Consultant and Mentor, Robotic Surgery, DT Company
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2023–Present	Instructor, IRCAD Taiwan Advanced Hernia and Abdominal Wall Reconstruction Course
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ACTIVITIES

2019–Present	Senior Committee Member, Thai Bariatric and Metabolic Surgery Society (TSMBS)
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	Member, Royal College of Surgeons of Thailand
	Member, Thai Breast Cancer Society
	Member, Thai Emergency Medicine Society
	Member, European Association for Endoscopic Surgery (EAES)
	Member, Society of American Gastrointestinal and Endoscopic Surgeons (SAGES)
	Member, Society of Robotic Surgery (SRS)

Lethal Complications After Correcting LOD or Huge Ventral Hernia

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MEMO



CONGRESS OF THE KHS &
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Symposium VIII

Expert Insights

Chairs

Jong-Han Kim Korea Univ., Korea

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Curriculum Vitae



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ACTIVITIES

2005	Korean Board of General Surgery
2015	Director of Korean Association of Pediatric Surgeons
2015	Member of Korean Society of Endo-Laparoscopic and Robotic Surgeons
	Editorial Board in JMIS (Journal of Minimally Invasive Surgery)
2022–Present	Member of Korean Society of Perinatology
	Member of Scientific Committee, The Korean Society of Perinatology
2023–Present	Editorial Board in ASTR(Annals of Surgical Treatment and Research)
2025–Present	Director of the Korean Hernia Society

Minimizing Recurrence in Pediatric Inguinal Hernia Repair: Technical Considerations and Long-Term Outcomes

Eunyoung Jung Keimyung Univ., Korea

Inguinal herniotomy is the most frequently performed operation in pediatric surgery. The overwhelming majority of pediatric inguinal hernias are indirect and arise from a patent processus vaginalis rather than from a true weakness of the abdominal wall; consequently, the operation is fundamentally one of high ligation of the hernia sac, not reinforcement of the inguinal floor. Although recurrence is uncommon, it remains the principal technical endpoint against which any repair is judged, because a failed repair returns the child to the operating room for dissection in scarred tissue, where the vas deferens and testicular vessels are at appreciably higher risk of injury. Understanding precisely why repairs fail—and how each surgical approach defends against those failure modes—is therefore central to durable, low-morbidity care.

This lecture reviews the determinants of recurrence after pediatric inguinal hernia repair and contrasts the open and laparoscopic approaches in a deliberately balanced, technique-level manner. The evidence base is

nuanced. Pooled randomized data show statistically comparable ipsilateral recurrence between open high ligation and laparoscopic repair, with laparoscopy offering shorter operative times, particularly for bilateral disease. In contrast, large registry analyses suggest a modestly higher same-side recurrence after laparoscopy (approximately 1.5% versus 0.4% for open repair, with an adjusted odds ratio near 3.7). This apparent disadvantage is offset by a substantial reduction in metachronous contralateral hernia after laparoscopy (risk ratio approximately 0.11), reflecting the ability to inspect and, when indicated, close a contralateral patent processus vaginalis during the same anesthetic. The net burden of return to theatre is broadly similar between approaches; the two simply distribute that risk differently—same side now versus the contralateral side later—which has direct implications for preoperative counseling.

Recurrence is rarely random. In open repair it tracks consistently with incomplete high ligation at the neck of the sac, a missed or inadequately addressed second sac, tearing of a friable sac, and failure to specifically manage a large or sliding hernia. In laparoscopic repair, the dominant mechanism is peritoneal tearing from a suture placed too superficially, which leaves the knot off the defect under pneumoperitoneum, together with incomplete encirclement of the internal ring—especially an inadequate medial bite. Accordingly, the open repair is optimized by circumferential dissection to the true neck, opening the sac to exclude a sliding or second sac, a high transfixion ligature with durable suture, and deliberate narrowing of a wide ring rather than a simple tie. The laparoscopic repair is optimized by deep, full-thickness subperitoneal bites, complete encirclement of the

ring with a secure medial stitch, non-absorbable monofilament suture, consideration of sac disconnection with proximal peritoneal closure (which has shown lower recurrence than purse-string ligation alone), and light cauterization to encourage reperitonealization.

Across both approaches, surgeon experience is repeatedly identified as among the strongest predictors of recurrence, and most recurrences manifest within the first few postoperative months—arguments for standardizing the operative steps and for early postoperative review. Recurrence risk is further concentrated in identifiable subgroups, including premature and small infants, incarcerated hernias repaired on edematous tissue, large or sliding hernias, connective-tissue disorders, and reoperative cases. The session closes with long-term outcomes—recurrence timing, testicular viability and position, fertility considerations, the rarity of chronic pain in the absence of mesh, and cosmesis and quality of life—and distills the foregoing into a practical, technique-level checklist intended to support an individualized, recurrence-minimizing strategy in children.

Keywords: pediatric inguinal hernia; herniotomy; high ligation; laparoscopic repair; recurrence; metachronous hernia; surgical technique.

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ACTIVITIES

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MIS eTEP cTAR for Large Incisional Hernia

Piyanun Wangkulangkul Prince of Songkla Univ., Thailand

Minimally invasive abdominal wall reconstruction has evolved substantially over the past decade, with robotic eTEP-TAR emerging as a valuable option for complex ventral hernias. At our institution, ventral hernia surgery began with laparoscopic repair in 2019 and transitioned toward robotic reconstruction in 2021. To date, robotic repair represents the majority of our ventral hernia practice, with robotic eTEP-TAR becoming the preferred approach for large incisional hernias and selected loss of domain (LOD) cases.

Large ventral hernias, particularly those exceeding 10 cm in width, frequently present with significant anatomical distortion and functional impairment. Patients often experience reduced quality of life, impaired mobility, chronic back pain, respiratory compromise, and altered core mechanics. These challenges become even greater in patients with LOD, where a substantial proportion of the abdominal viscera permanently resides outside the abdominal cavity. LOD can be quantified using volumetric methods such as the Tanaka ratio ($HSV/ACV \geq 25\%$) or the Sabbagh ratio ($HSV/TPV \geq 20\%$). This condition reflects the “broken cylinder” concept of abdominal wall failure and may lead to respiratory, gastrointestinal, and

functional dysfunction. During reconstruction, reduction of hernia contents may increase intra-abdominal pressure, creating challenges in fascial closure and increasing the risk of abdominal compartment syndrome.

The goal of abdominal wall reconstruction extends beyond simple defect closure. Successful repair should restore abdominal domain, regain abdominal wall function, reduce recurrence, and minimize wound morbidity. Robotic surgery offers several advantages that facilitate achievement of these goals through enhanced visualization, improved ergonomics, precise dissection, and secure retromuscular reconstruction.

Patient selection begins with meticulous preoperative CT assessment. CT morphology determines not only whether a minimally invasive approach is feasible but also the optimal operative strategy. Important considerations include the presence of a suitable virgin plane for initial access, defect width, hernia sac volume, abdominal cavity volume, and skin or soft tissue involvement. In selected patients, defects up to 15–20 cm may still be amenable to robotic reconstruction. Likewise, patients with relatively small defects but large hernia sac volumes remain suitable candidates for robotic eTEP-TAR, although restoration of abdominal domain may be technically demanding. Large sac volume alone should not be considered a contraindication to minimally invasive reconstruction.

For patients with large defects or significant LOD, we routinely employ preoperative Botulinum Toxin A (BTA) injection as a form of chemical component separation. At our institution, BTA is generally considered

for defects greater than 10 cm or when volumetric analysis demonstrates significant LOD. Ultrasound-guided injections are administered 4–6 weeks before surgery to facilitate abdominal wall relaxation, improve medialization of the lateral abdominal muscles, and increase the likelihood of tension-free fascial closure. This strategy may also contribute to improved postoperative comfort and facilitate minimally invasive reconstruction in otherwise challenging cases.

Operative planning is individualized according to CT findings. Both bottom-up and top-down robotic eTEP-TAR approaches are utilized depending on defect location, available working space, and abdominal wall morphology. In patients with narrow rectus muscles or limited retromuscular workspace, a TAR-first strategy may facilitate exposure and improve operative ergonomics. Hybrid reconstruction is reserved for selected patients with significant skin involvement, attenuated or fragile soft tissue coverage, severe fibrosis, contracted scars, or inadequate space for safe fascial closure. In such situations, combining minimally invasive and open techniques may provide the safest and most effective reconstruction.

Our experience demonstrates that robotic eTEP-TAR can successfully restore abdominal domain and abdominal wall function even in patients with massive LOD. Patients frequently achieve early ambulation, rapid recovery, and meaningful functional improvement. Long-term follow-up, including annual non-contrast CT evaluation, has demonstrated restoration of abdominal contour, maintenance of abdominal domain, and durable reconstruction. Even in elderly patients with massive LOD, robotic

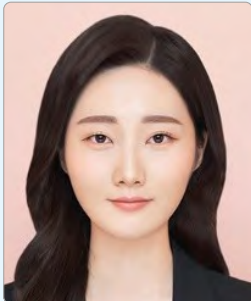
reconstruction combined with appropriate adjunctive strategies can provide sustained functional and anatomical benefits.

Key Takeaways

Robotic eTEP-TAR is reproducible in carefully selected complex ventral hernia patients. Successful outcomes depend on detailed CT-based planning, individualized operative strategy, and appropriate use of adjunctive techniques such as BTA and hybrid reconstruction when necessary.

The robot is not the solution—the strategy is. Success begins with a commitment to help the patient, understanding the underlying anatomy and physiology, selecting the most appropriate approach, and having the determination to execute that plan safely. When intention, planning, and technique come together, even the most complex hernias can be successfully reconstructed.

Curriculum Vitae



So Young Lee
Korea Univ., Korea

EDUCATION

- 2009–2015 M.D., School of Medicine, Catholic University of Daegu
- 2017–2019 Master of Medical Science (M.M.Sc.), Graduate School, Catholic University of Daegu

CAREER

- 2016–2020 Residency, Department of Anesthesiology and Pain Medicine, Daegu Catholic University Hospital
- 2020–2021 Clinical Fellow, Department of Anesthesiology and Pain Medicine, Seoul St. Mary's Hospital
- 2021–2022 Clinical Fellow, Department of Anesthesiology and Pain Medicine, Daegu Catholic University Hospital
- 2022–2024 Assistant Professor, Department of Anesthesiology and Pain Medicine, Catholic University of Daegu School of Medicine
- 2025–Present Clinical Assistant Professor, Department of Anesthesiology and Pain Medicine, Korea University Guro Hospital

ACTIVITIES

- 2022–2024 Member, Research and Development Committee, Korean Pain Society
- 2022–2024 Secretary General, Korean Society of Neuroscience in Anesthesiology and Critical Care

Chronic Abdominal Wall Pain After Hernia Surgery - Management Strategies

So Young Lee Korea Univ., Korea

Mechanisms of Pain

Abdominal wall pain after hernia surgery often cannot be attributed to a single cause. The most important mechanism is peripheral nerve injury or entrapment. After inguinal hernia repair, the ilioinguinal, iliohypogastric nerves, genital branch of the genitofemoral nerve, the lateral femoral cutaneous nerve, or irritation of nerves around the deeper preperitoneal plane may be responsible. A neuropathic pain component should be suspected when the pain is described as burning, stabbing, or electric shock-like, or when it is accompanied by sensory loss, allodynia, hyperalgesia, or a Tinel's sign.

A second mechanism is related to the mesh, fixation, scar, and fibrosis. Mesh-based repair is the standard of care and reduces recurrence, but in some patients mesh folding, shrinkage, meshoma, suture irritation, or a foreign-body reaction can become a source of pain. In these cases the pain is usually described as deep aching, pulling, pressure, or tightness rather than burning, and it may be aggravated by sitting, coughing, walking, hip

movement, increased intra-abdominal pressure, or direct compression. In practice, nerve injury, mesh-related fibrosis, scar entrapment, myofascial pain, and central sensitization frequently overlap in the same patient.

Third, pain after hernia surgery may present as one of the classic abdominal wall pain syndromes, such as anterior cutaneous nerve entrapment syndrome, scar-related pain, or myofascial pain. In these cases the pain is often so localized that the patient can point to it with a single finger, and a positive Carnett test, pain that persists or worsens when the abdominal muscles are tensed, is an important diagnostic clue. When focal abdominal wall tenderness is clearly present in the absence of recurrence, infection, seroma, hematoma, mesh complication, or urologic or gynecologic disease, these syndromes should be actively considered.

Diagnostic Approach

The diagnostic approach begins with broadly mapping the location of the pain. The groin, the lower abdomen, the lateral border of the rectus abdominis, the area around the anterior superior iliac spine, the suprapubic area, the pubic tubercle, the inguinal canal, the scrotum or labia, the testis, the upper medial thigh, the open incision scar, and laparoscopic trocar sites should all be examined. The next step is to review the original surgical approach, the position of the mesh, the fixation method, whether nerves were identified or divided, and whether any reoperation was performed. On physical examination, look for bulging or a cough impulse suggesting

recurrence, pubic tubercle tenderness, spermatic cord tenderness, scar tenderness, sensory change, allodynia, hyperalgesia, the Carnett test, and a Tinel's sign. Ultrasound, CT, and MRI should also be used effectively when needed.

Diagnostic Injection and Peripheral Nerve Block

Diagnostic injection and peripheral nerve block play a central role in both the diagnosis and the treatment of abdominal wall pain after hernia surgery. In patients with focal abdominal wall tenderness or a positive Carnett test, a local anesthetic trigger point injection has diagnostic value: a meaningful reduction in pain after the injection supports an abdominal wall origin. For lower abdominal wall or suprapubic neuropathic pain, iliohypogastric and ilioinguinal nerve blocks can be considered, and for scrotal skin pain or genital pain, a genitofemoral nerve block or spermatic cord block may be appropriate. Block responses, however, must be interpreted with caution. Because of injectate spread, placebo response, overlapping innervation, and central sensitization, the decision to operate should not be based on a block response alone; it must be judged together with the pain map, sensory findings, imaging, and the operative report.

Treatment

Treatment should be directed by the underlying cause and the pain phenotype. The first step is patient education and reassurance. Patients should understand that pain does not necessarily indicate recurrence or mesh failure, and that irritation of the abdominal wall nerves, scar entrapment, fibrosis, myofascial pain, or sensitization may be responsible. This explanation helps reduce anxiety and avoids unnecessary repeat investigations. For pharmacologic treatment, acetaminophen or NSAIDs can be considered when nociceptive pain predominates, whereas a gabapentinoid, a tricyclic antidepressant, or a serotonin-norepinephrine reuptake inhibitor can be considered when neuropathic features are prominent.

When conservative treatment is insufficient or when focal pain is prominent, ultrasound-guided intervention is performed. Trigger point injection, ilioinguinal/iliohypogastric nerve block, genitofemoral nerve block, spermatic cord block, TAP block, and rectus sheath block are selected according to the distribution of pain. If repeated blocks relieve the pain for a period of time, the same site is likely to be the principal pain generator, and advanced pain procedures such as pulsed radiofrequency or peripheral nerve stimulation can be considered. These treatments are promising options, but high-level evidence is still limited; they are therefore better presented not as first-line treatment but as options to be considered selectively in refractory neuropathic pain.

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Curriculum Vitae



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EDUCATION

1999–2005 M.D., School of Medicine, University of Tsukuba

CAREER

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 2012–2022 Consultant, Teine Keijinkai Hospital
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ACTIVITIES

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Revision Surgery Strategies: Removal Strategies, Reconstruction Options, and Staged Repair

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Background

Revisional surgery for recurrent incisional hernia requires an individualized strategy based on the previous repair technique, prior mesh location, infection status, and available reconstructive plane. Key issues include whether previous mesh should be removed, how the abdominal wall should be reconstructed, and how staged repair should be applied. Our institution is a 19-bed specialized clinic and does not routinely manage acute open abdomen or uncontrolled infection. However, we perform elective abdominal wall reconstruction using extended-view totally extraperitoneal repair (eTEP) for complex or recurrent incisional hernias referred after previous treatment at other institutions.

Strategy

Mesh removal was not performed routinely. It was reserved for suspected infection or when the existing mesh interfered with safe reconstruction.

The standard reconstruction option was eTEP-based extraperitoneal repair. When safe laparoscopic dissection or fascial closure was difficult, open-assisted hybrid repair was performed. In our practice, staged repair was broadly defined as delayed definitive reconstruction after patient optimization or acute-phase management at referring hospitals. This included delayed hernia repair after bariatric surgery or stoma closure, as well as definitive reconstruction after infection control, temporary closure, or open abdomen management at referring hospitals.

Methods

We retrospectively reviewed 237 patients who underwent eTEP-based repair for incisional hernia between November 2022 and May 2026. To evaluate the impact of previous repair planes on revisional difficulty, patients were classified into three groups: initial eTEP repair, simple revision after suture or onlay repair, and complex revision after IPOM, Kugel, underlay, or previous eTEP repair. Perioperative outcomes were compared among the three groups.

Results

There were 195 initial eTEP repairs, 24 simple revisions, and 18 complex revisions. Mesh removal was required in only one patient with a history of conservatively treated mesh infection after IPOM. In the other patients, previous mesh was not removed because there was no indication for

explantation; in selected cases, the existing IPOM mesh was incorporated into the posterior layer during eTEP-based reconstruction. Hybrid repair was performed in seven patients: four initial repairs, no simple revisions, and three complex revisions. Complex revision was associated with larger defect width, longer operative time, more frequent use of TAR, and longer postoperative hospital stay. However, there were no significant differences in SSI, SSO, Clavien-Dindo grade ≥ 2 complications, 30-day reoperation, or postoperative recurrence. (Table 1)

Conclusion

The surgical strategy for recurrent incisional hernia should be selected according to the previous repair technique, mesh location, infection status, and available reconstructive plane. In our practice, mesh removal was selective, eTEP was the standard reconstruction option, hybrid repair was used when necessary, and staged repair was positioned as delayed definitive reconstruction after patient optimization or acute-phase management.

Table 1. Three-group comparison according to previous repair technique

Variable	Initial eTEP repair (n=195)	Simple revision (n=24)	Complex revision (n=18)	p value
Age, years	65.0 [55.5–74.0]	64.5 [56.8–72.2]	75.5 [63.0–77.0]	0.094
BMI, kg/m ²	25.1 [22.7–28.0]	27.7 [24.8–30.3]	26.8 [24.5–30.3]	0.014
Diabetes mellitus	36/195 (18.5%)	5/24 (20.8%)	10/18 (55.6%)	0.001
Defect width, cm	5.7 [4.0–8.9]	5.5 [4.4–6.8]	7.2 [5.5–13.8]	0.024
Operative time, min	209.0 [156.0–273.5]	211.0 [164.0–261.2]	258.0 [220.5–346.0]	0.017
TAR	159/195 (81.5%)	14/24 (58.3%)	17/18 (94.4%)	0.008
Hybrid repair	4/195 (2.1%)	0/24 (0.0%)	3/18 (16.7%)	-
Postoperative hospital stay, days	2.0 [2.0–3.0]	2.0 [2.0–3.0]	3.0 [2.0–4.0]	0.003
SSI	2/195 (1.0%)	1/24 (4.2%)	0/18 (0.0%)	0.380
SSO	9/195 (4.6%)	3/24 (12.5%)	1/18 (5.6%)	0.278
Clavien-Dindo grade ≥2	10/195 (5.1%)	1/24 (4.2%)	1/18 (5.6%)	0.975
30-day reoperation	4/195 (2.1%)	0/24 (0.0%)	0/18 (0.0%)	0.645
Postoperative recurrence	2/195 (1.0%)	0/24 (0.0%)	0/18 (0.0%)	0.805

Note: Continuous variables are presented as median [interquartile range], and categorical variables as n/N (%). p values indicate comparisons among the three groups.



CONGRESS OF THE KHS &
2026 INTERNATIONAL SYMPOSIUM

Building Bridges in Hernia Surgery: Education to Excellence

Day 2 - 7/4 (Sat)

Video Presentation

Chairs

Hoon Ryu Yonsei Univ. Wonju, Korea

Hyun Ho Joo DR. JOO Day Surgery Clinic

KHS-V-01

Robotic Incisional Hernia Repair Using the HUGO™ RAS System: Video Demonstration of IPOM Plus and eTEP with Bilateral TAR

Kyoyoung Park¹, Seong-Ho Kong²

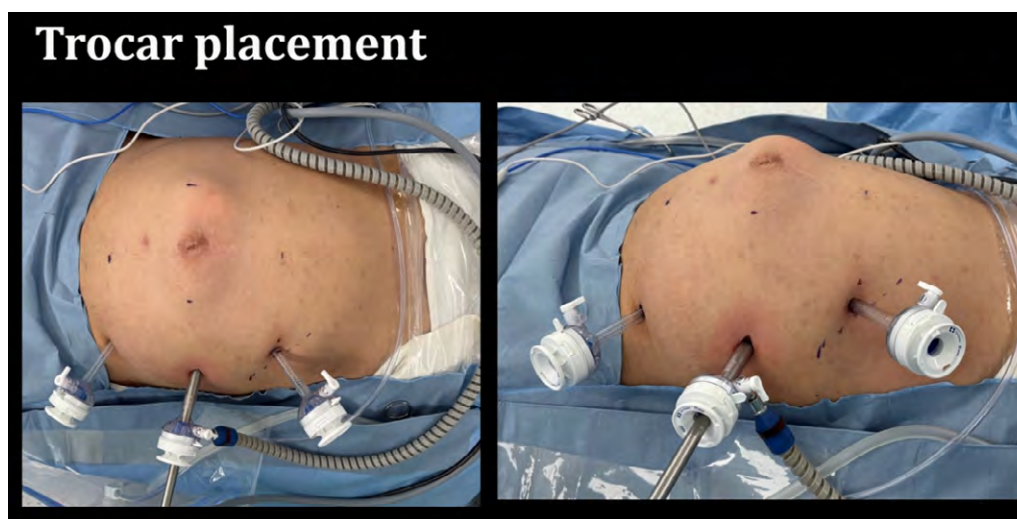
¹Ewha Womans University Seoul Hospital,

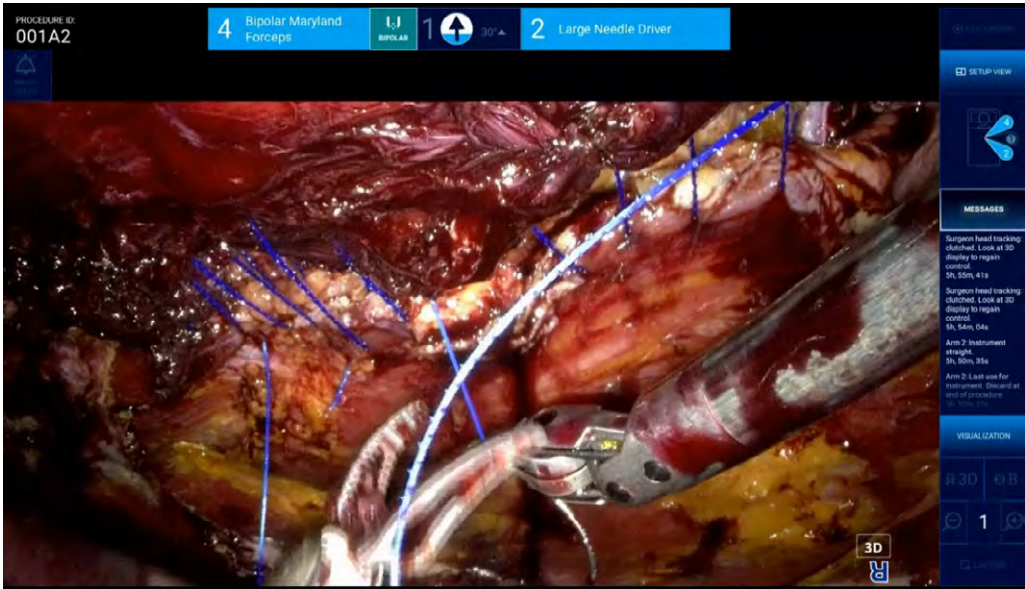
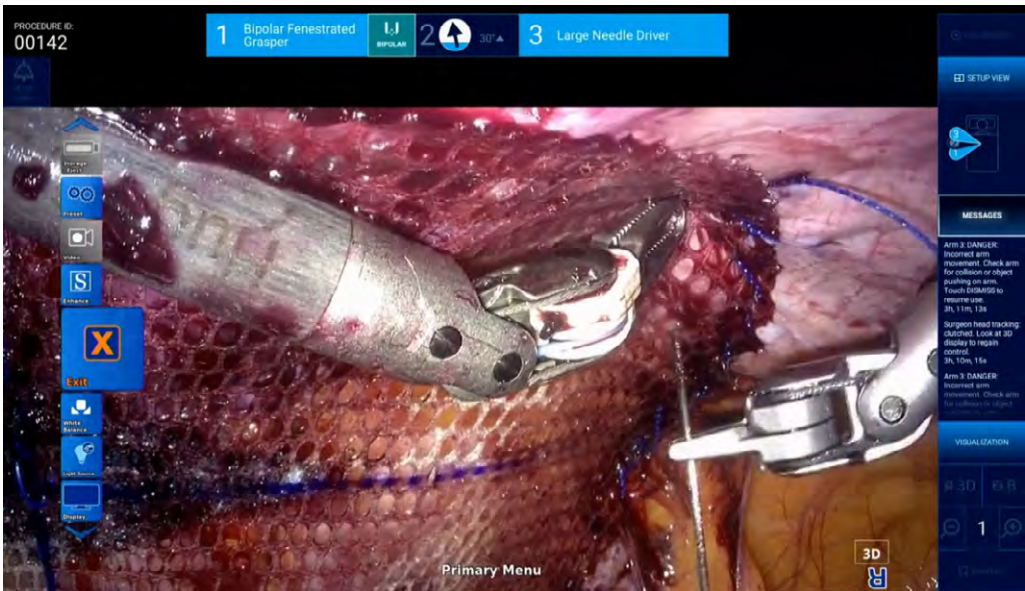
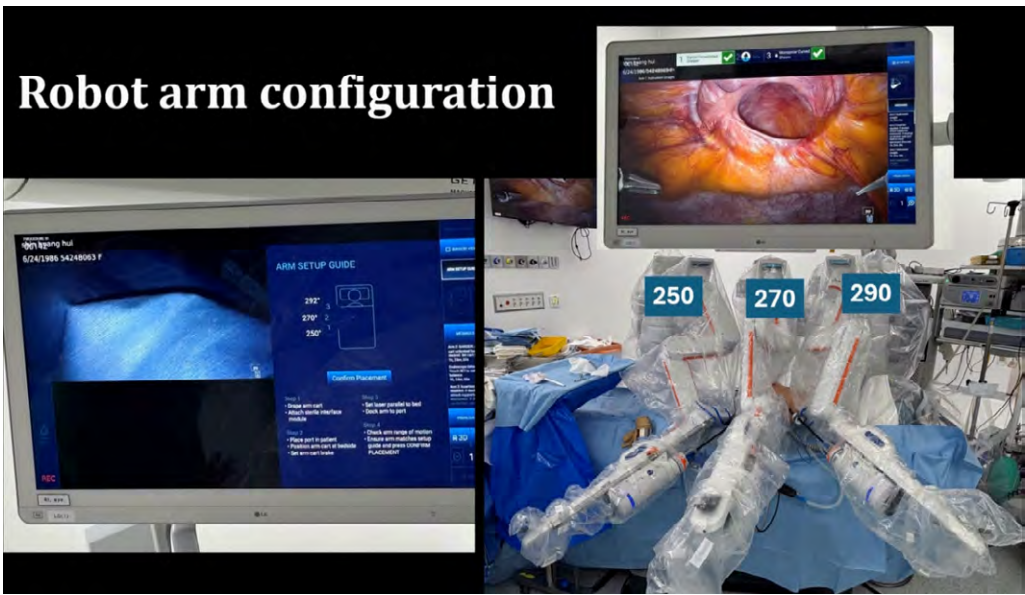
²Seoul National University Hospital

Minimally invasive approaches are increasingly used for incisional hernia repair, and robotic platforms offer improved visualization and instrument articulation for complex abdominal wall surgery. The recently introduced HUGO™ robotic-assisted surgery (RAS) system represents a new robotic platform; however, its application in abdominal wall reconstruction has been rarely reported. We present two representative cases of robotic incisional hernia repair using different surgical strategies with the HUGO™ RAS system. Two patients with incisional hernia underwent robotic repair using the HUGO™ RAS system. In the first case, robotic IPOM plus repair was performed with intracorporeal fascial defect closure followed by intraperitoneal mesh placement. In the second case, robotic extended totally extraperitoneal (eTEP) repair with bilateral transversus abdominis release (TAR) was performed to achieve posterior component separation and retromuscular mesh reinforcement. Key operative steps including port placement, robotic docking, retrorectus dissection, TAR, fascial closure, and mesh placement were recorded and edited into a surgical video. Both procedures were successfully completed using the HUGO™ RAS system

without conversion to open surgery. The robotic platform provided stable visualization and enhanced dexterity, facilitating precise adhesiolysis, fascial closure, and mesh placement. The eTEP-TAR approach enabled wide retromuscular space creation for abdominal wall reconstruction. Both patients had uneventful postoperative recovery without major complications. Robotic incisional hernia repair using the HUGO™ RAS system is feasible for both intraperitoneal mesh repair and complex abdominal wall reconstruction. The presented video demonstrates two different surgical strategies—IPOM plus and eTEP with bilateral TAR—and highlights the versatility of the HUGO™ robotic platform in ventral hernia surgery.

Keywords: Robotic surgery, Incisional hernia, HUGO RAS system





KHS-V-02

eTEP Reconstruction for Giant (>30 cm) Right Lateral Abdominal Wall Pseudohernia after Right Nephrectomy: Technical Tips and Surgical Pearls

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We present a video demonstrating laparoscopic extended totally extraperitoneal (eTEP) reconstruction for a giant (>30 cm) right lateral abdominal wall pseudohernia following right nephrectomy in 2016, a rare and technically challenging condition.

A 70-year-old woman presented with progressively enlarging right flank bulging after right nephrectomy for renal cell carcinoma. Preoperative computed tomography demonstrated marked thinning and attenuation of the right lateral abdominal wall musculature with a bulging lesion exceeding 30 cm in width, without a definite fascial defect. Although the lesion initially appeared consistent with a giant lateral incisional hernia, imaging findings suggested diffuse abdominal wall weakness rather than true fascial disruption.

The video demonstrates key operative steps and technical considerations including:

- Creation of a wide extraperitoneal working space using the eTEP approach

- Intraoperative assessment of the abdominal wall and differentiation between pseudohernia and true incisional hernia
- Identification of diffuse lateral abdominal wall weakness with internal oblique muscle diastasis in the absence of a discrete fascial defect
- Exposure of the right 11th rib and right anterior superior iliac spine (ASIS) to establish reliable anatomical landmarks for lateral mesh positioning and fixation
- Plication of the attenuated abdominal wall beginning from the right 11th rib to reinforce muscle weakness, restore abdominal wall tension, and improve contour
- Stepwise mesh placement and reinforcement for broad lateral abdominal wall support

Intraoperatively, no definite fascial defect was identified, confirming the diagnosis of postoperative pseudohernia rather than true incisional hernia. Postoperatively, the patient showed marked improvement of abdominal wall contour without recurrence.

This video demonstrates that laparoscopic eTEP reconstruction can be adapted for selected patients with giant postoperative lateral abdominal wall pseudohernia and highlights important technical considerations and surgical pearls for minimally invasive lateral abdominal wall reconstruction.

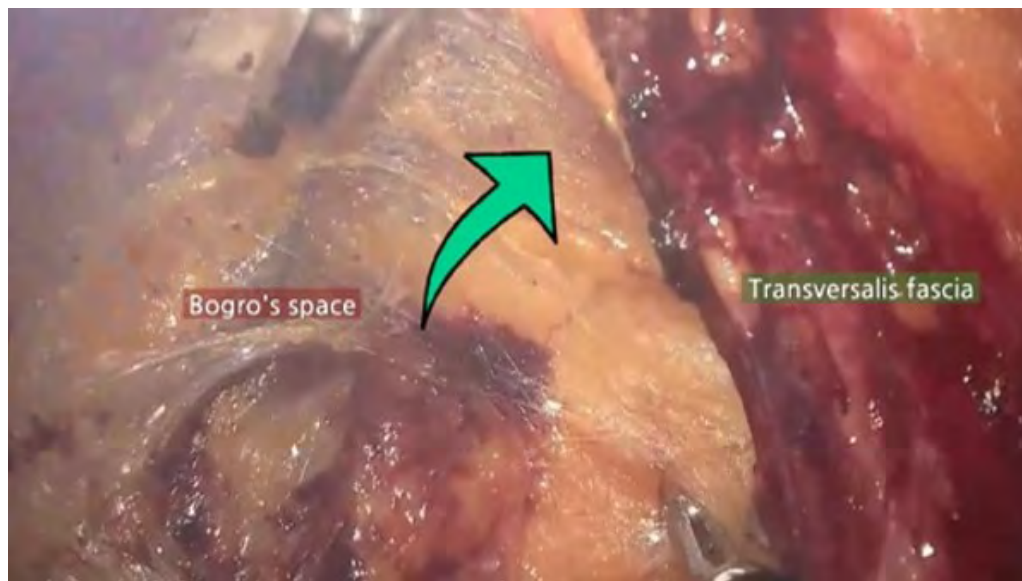


Figure 1. Dissection of bogro's space, preserving the transversalis fascia

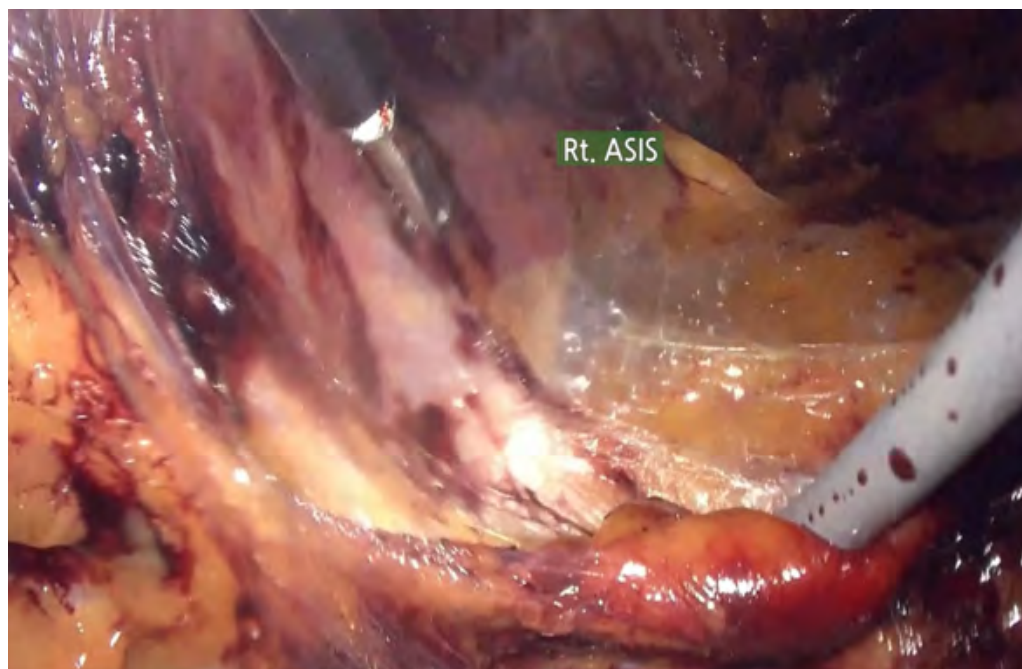


Figure 2. Exposure of right anterior superior iliac spine (ASIS) for tacker apply

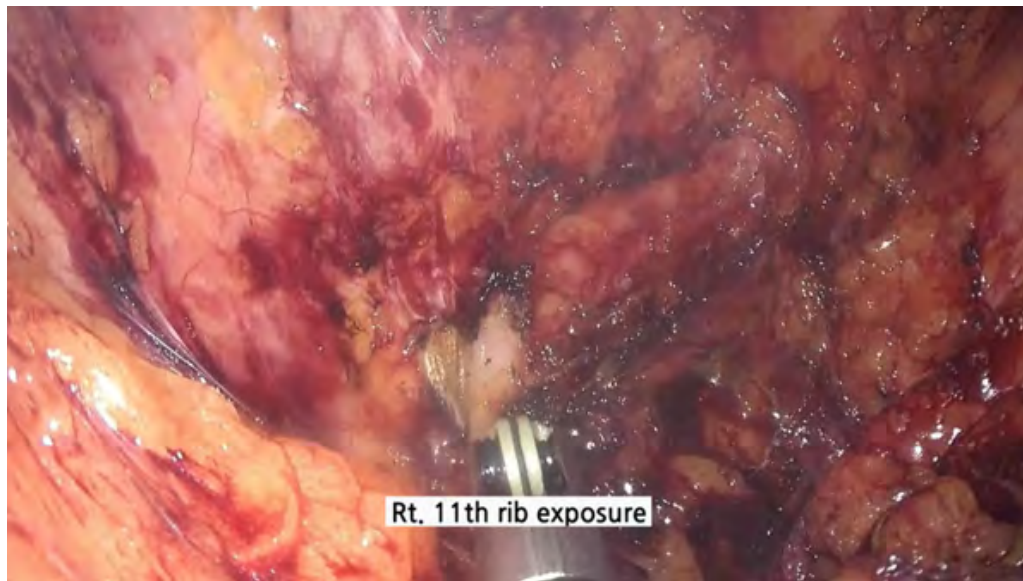


Figure 3. Exposure of the right 11th rib for tacker apply



Figure 4. Mesh placement and tacker apply into Right ASIS and right 11th rib

KHS-V-03

Single-Port Extended-View Totally Extraperitoneal Repair with Transversus Abdominis Release; Arcuate Line initiated Preperitoneal High Approach (SP eTEP-TAR; ALPHA) for Incisional Ventral Hernia: A Case Report

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^aDepartment of Surgery, St. Vincent's Hospital, The Catholic University of Korea, Suwon, Korea

Extended-view totally extraperitoneal (eTEP) repair combined with transversus abdominis release (TAR) has emerged as an effective minimally invasive strategy for complex ventral hernia repair. TAR facilitates posterior component separation, preserves neurovascular bundles, and creates a large retromuscular space for wide mesh overlap and tension-free abdominal wall reconstruction. However, achieving an optimal dissection plane and preserving neurovascular structures during minimally invasive TAR may remain technically challenging. We introduce a novel technical modification, the Arcuate Line-initiated Preperitoneal High Approach (ALPHA), applied during single-port eTEP-TAR.

A 61-year-old female (BMI 26.8 kg/m²) presented with an incisional ventral hernia after previous open total abdominal hysterectomy and bilateral salpingo-oophorectomy for an ovarian tumor in 2024. Preoperative CT demonstrated a fascial defect measuring approximately 6 × 11 cm. The procedure was performed using a single-port platform through a 3-cm

Pfannenstiel incision. In the ALPHA approach, dissection was initiated inferiorly by identifying the Bogros space and the lateral termination of the arcuate line, where only the transversalis fascia and peritoneum remain. This anatomical landmark facilitated identification of the proper plane and enabled a progressive inferior-to-superior dissection. TAR was then completed in a bottom-up fashion with release of the transversus abdominis insertion. During this approach, the neurovascular bundles were clearly visualized and preserved throughout the procedure. A 15 × 25 cm mesh was placed within the retromuscular plane with adequate overlap. Total operative time was 3 hours and 30 minutes. No intraoperative complications occurred. The postoperative course was uneventful, and the patient was discharged on postoperative day 4 without significant events.

SP eTEP-TAR using the ALPHA approach appears to be a feasible technical modification for complex ventral hernia repair. Initiating dissection at the arcuate line through a preperitoneal pathway may facilitate identification of the correct surgical plane and improve visualization of neurovascular bundles, potentially enabling safer and more reproducible TAR dissection.

Keywords: ventral hernia, minimally invasive surgery, eTEP, TAR

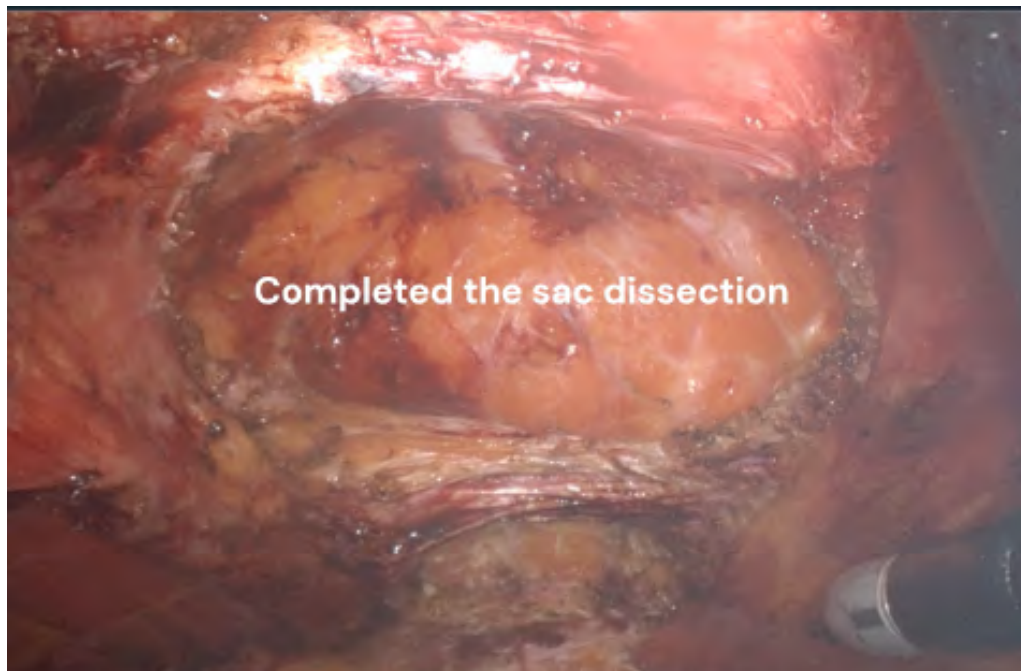


Figure 1. Hernia sac dissection was completed

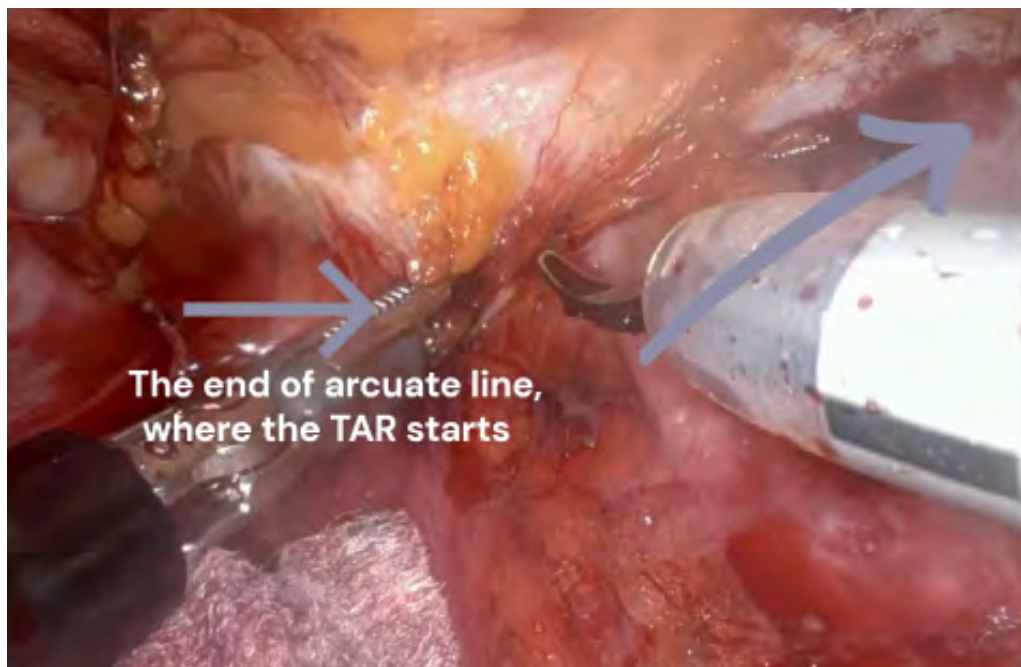


Figure 2. TAR was initiated inferiorly by identifying the lateral termination of the arcuate line

KHS-V-04

Bottom-Up Approach of Modified Madrid Transverse Abdominis Release (TAR) Using SP da Vinci Platform for Complex Ventral Hernias

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Introduction

Techniques in complex abdominal wall reconstruction have developed rapidly over the past decades. Transversus abdominis release (TAR) is rapidly becoming a worldwide phenomenon in abdominal wall reconstruction. Recently, the Madrid modification of TAR has emerged as a surgical technique. Unlike the conventional TAR, this modification to preserve the TA muscle cranially may contribute to the stabilization and mobilization of the trunk, resulting in lower recurrence rate. The purpose of this presentation is to introduce new technique, SP robotic eTEP with modified Madrid TAR (SP eTEP mTAR) for complex ventral hernia repair using SP da Vinci platform.

Cases 1

A 43-year-old female patient underwent SP robotic eTEP with bilateral modified Madrid TAR with complaining of abdominal protruding mass. The incisional hernia defect was approximately 5 cm wide at the M3 level. Diastasis recti was located at M1 to M3 and was approximately 8 cm wide,

resulting in a total hernia defect length of approximately 15 cm, as observed on abdomen CT scan.

Case 2

This is a 44-year-old female patient with an incisional hernia following a laparoscopic donor nephrectomy. This patient underwent SP robotic eTEP with unilateral mTAR. The incisional hernia defect was approximately 8 cm wide at the M 2,3 level and 9 cm long, as observed on the abdominal CT scan. Unlike conventional TAR, this surgeries were performed by cutting only posterior rectus sheath fiber. And then TA fascia dissection laterally performed as same the conventional TAR. After completing dissection, the hernia defect and diastasis were closed using barbed suture. The huge polypropylene mesh was placed. The surgery took approximately 275 minutes and was completed without any special events. Patients were discharged on POD #3 and #5 without any specific complications.

Conclusion

SP robotic eTEP with modified Madrid TAR was feasible and safe. It may be a good surgical option for complex ventral hernia.

Keywords: complex ventral hernia, transverse abdominis release, robotic hernia repair, single-port robotic surgery



Figure 1. The "bottom-up" approach of transverse abdominis release starts at the arcuate line

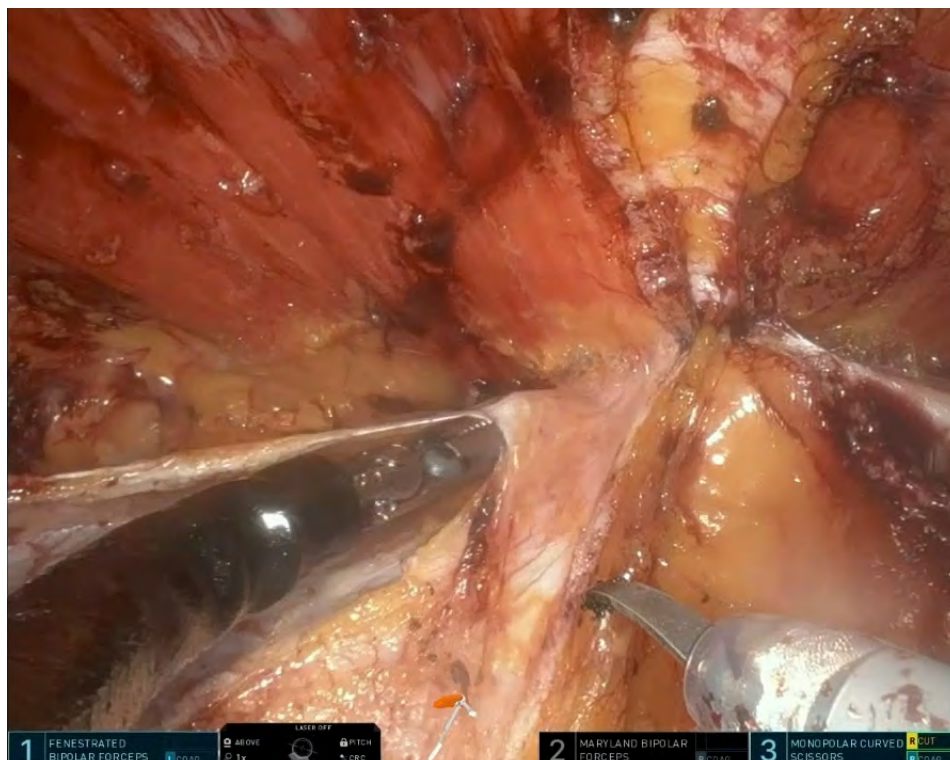


Figure 2. The modified Madrid TAR preserves the transverse abdominis muscle and cuts the posterior rectus sheath

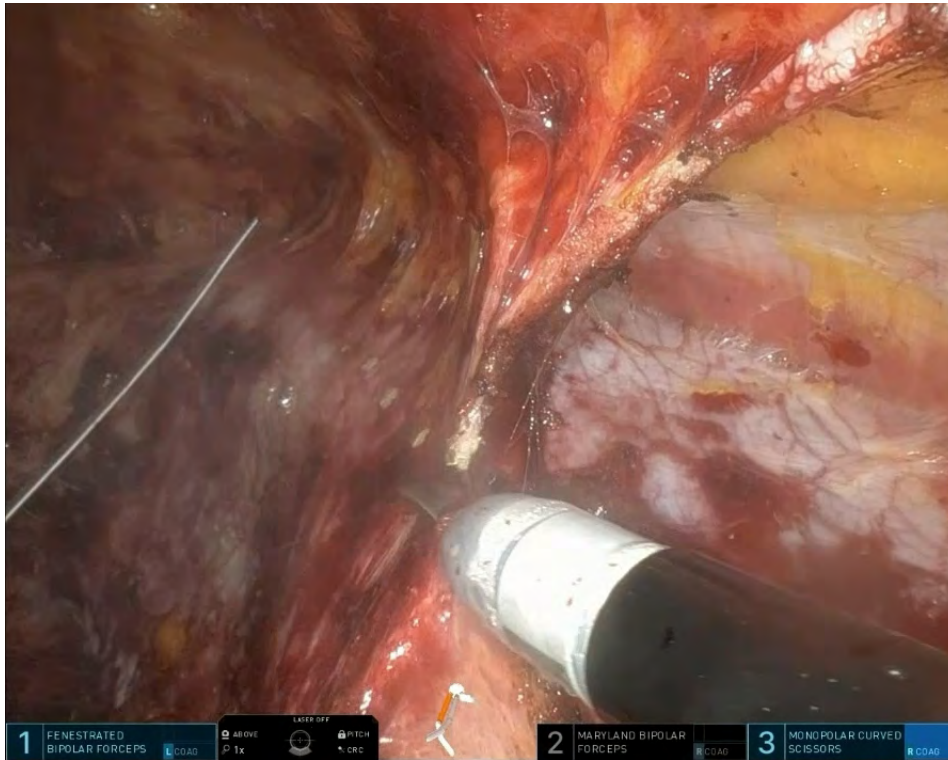


Figure 3. mTAR is performed followed by dissecting in lateral preperitoneal space, and cuts the posterior rectus sheath medially of the neurovascular bundles

KHS-V-05

Robotic-Assisted Repair of Type III Paraesophageal Hernia with Modified-Watson Fundoplication: A Video Presentation

Sirichan Busayarasamee, Piyanun Wangkulangkul, Siripong Cheewatanakornkul

Prince of Songkla University

Introduction

Type III paraesophageal hernia involves herniation of both the gastroesophageal junction and stomach into the mediastinum. Surgical repair is indicated in symptomatic patients to prevent progressive symptoms and potential complications.

Clinical Scenario

A 79-year-old woman presented with intermittent epigastric fullness and regurgitation. Her medical history included hypertension and osteoporosis. Chest radiography demonstrated an air-fluid level within the mediastinum. Barium swallow showed normal swallowing and herniation of EGJ and gastric fundus above the left diaphragm. Upper gastrointestinal endoscopy confirmed a type III hiatal hernia without esophagitis or mucosal abnormality. Computed tomography revealed a 3.2-cm paraesophageal hernia with herniation of the gastroesophageal junction and stomach. Owing to progressive symptoms of dysphagia and significant weight loss with BMI 20 kg/m², surgical intervention was undertaken.

Operative Technique

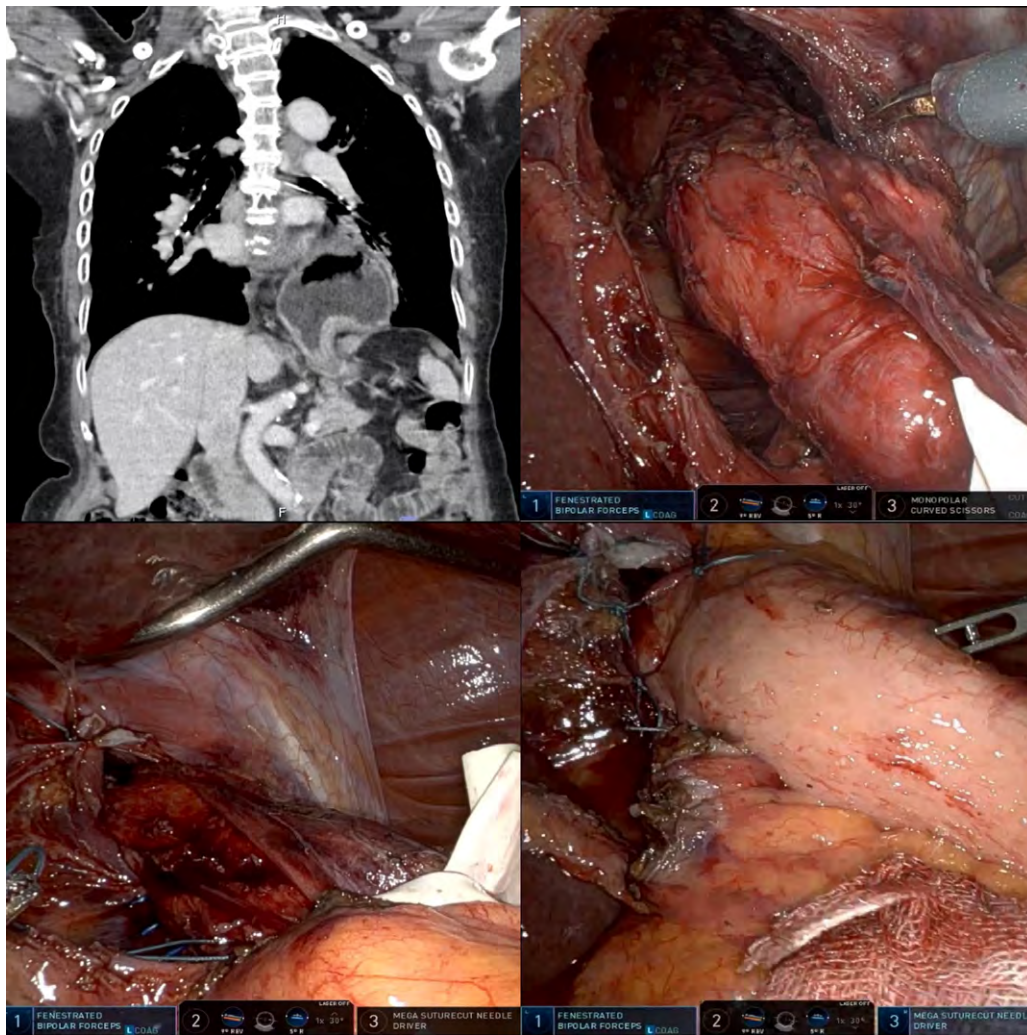
The video highlights robotic-assisted reduction of the herniated stomach, complete excision of the hernia sac, circumferential mediastinal esophageal mobilization, posterior cruroplasty, and hiatal reconstruction. Intraoperatively, a 4-cm paraesophageal defect with herniation of the gastric fundus into the mediastinum was identified. Following hiatal repair, a modified-Watson anterior partial fundoplication was performed to provide reflux control while minimizing postoperative dysphagia.

Results

The operation was completed successfully without intraoperative complications. The postoperative course was uneventful, with low pain scores and no requirement for opioid analgesia. The patient was discharged on postoperative day 4. At follow-up, dysphagia and reflux symptoms had resolved, and oral intake was well tolerated.

Conclusion

Paraesophageal hernia repair with modified-Watson fundoplication is a feasible, safe and simple approach in elderly patient with acceptable outcome. This video demonstrates key technical steps of mediastinal dissection, hiatal reconstruction, and modified-Watson fundoplication, offering educational insights for surgeons managing hiatal hernias.



KHS-V-06

Robotic eTEP-TAR Incisional Hernia Repair Using da Vinci SP System: Video Demonstration and Early Clinical Outcomes

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Korea University College of Medicine, Seoul, Korea

Background/Aims

The extended totally extraperitoneal (eTEP) approach has emerged as an effective technique for ventral and incisional hernia repair, enabling retromuscular mesh placement while avoiding intraperitoneal mesh-related complications. However, reports of eTEP repair using the da Vinci Single Port (SP) platform remain limited. We present a video demonstrating robotic eTEP repair with bilateral transversus abdominis release (TAR) using the da Vinci SP system.

Methods

A 40-year-old man presented with a symptomatic incisional hernia one year after single-port robotic cholecystectomy. Preoperative CT revealed a 5 × 8 cm midline fascial defect. Through a 3-cm Pfannenstiel incision, the da Vinci SP system was docked. The medial edge of the rectus sheath was incised and the retromuscular plane was developed in the cranial direction. Bilateral TAR was performed to facilitate medial advancement of the abdominal wall and tension-free defect closure. The fascial defect was closed

using 2-0 barbed sutures, and the peritoneal defect was repaired with 3-0 barbed sutures. A 15 × 20 cm polypropylene-polyethylene mesh was placed and secured with suture fixation.

Results

The operation was completed successfully without intraoperative complications. Operative time was 190 minutes. Oral feeding was initiated on postoperative day 1, and recovery was uneventful. The patient reported minimal postoperative pain and expressed satisfaction with the rapid recovery and favorable cosmetic outcome associated with the small incision. The patient was discharged on postoperative day 6.

Conclusion

Robotic eTEP-TAR using the da Vinci SP platform is feasible and allows comprehensive abdominal wall reconstruction through a single concealed incision. The video highlights the key technical steps of SP-assisted retromuscular dissection, TAR, and mesh placement for incisional hernia repair. In addition to this video case, early perioperative outcomes from a consecutive series of 17 patients who underwent robotic eTEP repair using the da Vinci SP system will also be presented.

Keywords: Hernia, ventral, Herniorrhaphy, Robotic surgical procedures, Minimally invasive surgical procedures



Figure 1. Intraoperative view demonstrating complete development of the retrorectus space to the cranial limit of the dissection

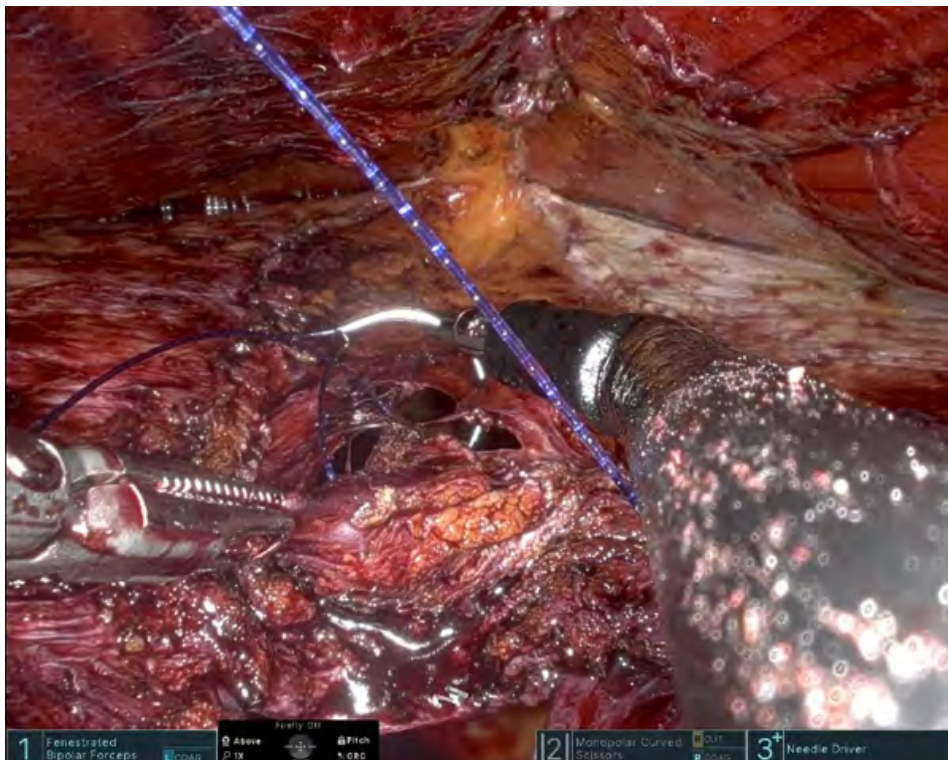


Figure 2. Intraoperative view demonstrating running closure of the peritoneal defect following completion of fascial defect repair



Figure 3. Intraoperative view demonstrating suture fixation of the mesh

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