AUGUST 2025

VOLUME 06
ISSUE 02

ENEWSLETTER

SRI LANKA ASSOCIATION OF MINIMAL ACCESS AND DIGITAL SURGEONS

LIVE OESOPHAGECTOMY WORKSHOP IN GALLE

SLAMADS conducted a live oparating workshop 'Masterclass on Minimal Access Oesophageal Surgery' at National Hospital, Karapitiya

LAPAROSCOPY TRAINING WORKSHOPS FOR MEDICAL OFFICERS

SLAMADS successfully launched basic laparoscopy training workshops for medical officers, filling a significant gap in the laparoscopy training in Sri Lanka. This quarter we have conducted two workshops in Matara and Nuwaraeliya

KUDA B GALKETIYA
RAAYIZ RAZICK
RIFAT JAMALDEEN

Introducing
PORTS & PIXELS
series - page 11

PRESIDENTS' MESSAGE

Dear readers,
Greetings from SLAMADS,

It is with immense pride and gratitude I reflect on the journey of SLAMADS during the past few months since we issued our last newsletter in April. We began with the vision to strengthen the reach and impact of minimal access surgery across our island. One of our proudest achievements has been the successful completion of two workshops for medical officers in surgery, first in Matara and then in Nuwara-Eliya.

These sessions featured hands on training and enthusiastic participation which reflected a long-term vacuum in training medical officers in minimal access surgery. We have successfully collaborated with the Sri Lanka Association of Surgical Oncologists, Sri Lanka Society of Gastroenterology, and the Southern Chapter of the College of Surgeons of Sri Lanka to host a live operating workshop - Masterclass on Minimal Access Oesophagectomy.

Our continuous commitment to organise webinars on the first Sunday of every month has become a valuable platform

DR. VENGADASALAM SUTHARSHAN
PRESIDENT
SLAMADS

for knowledge sharing and innovation with local and international participation.

Looking ahead I am looking forward to the Sri Lanka Surgical Congress, where SLAMADS is geared to host a series of pre-congress workshops, breakfast sessions, symposia and a debate spanning across various topics relevant to minimal access surgery.

I take this opportunity to thank you all for your continuous support.


VISIT
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FOR UPDATES

ARTIFICIAL INTELLIGENCE VS SURGICAL EXCELLENCE-A REFLECTION BY A UROLOGIST

Urologists were into minimal access well before other surgical specialties using cystoscopes. Then came in minimal access stone surgery by cystourethroscopy and keyhole access to the renal pelvis. The same holds true for major urological resections. In many countries, urologists have pioneered robotics.

Point of view in this issue reflects recent advances in minimal access urology.

In this article, it is interesting to note that open surgery is mentioned, which we believe must remain as a strong foundation in surgical training. If a minimally invasive surgery fails, the surgeon should be competent to complete the procedure with open access. There is reasonable doubt whether present surgical trainees get exposure to some open procedures. These are surgeries which almost always happen by minimally invasive techniques. The list is growing, and it is time to consider introducing cadaver training as a regular feature for open skills.
The article features an interesting comparison of open, laparoscopic, and robotics in minimal access urology.

Artificial intelligence (AI) has swept away human intelligence in many fields. Quicker and more accurate responses devoid of human error at a low cost are appealing features of AI. Human error can be disastrous for others, like in aviation or surgery, and cause self-harm, like in driving. On the other hand, AI in industry has caused job redundancy, which will be counterproductive in the long run. Quite interestingly, AI in industry uses customers as free employees; internet banking and self-checkouts at supermarkets, where customers navigate AI. AI in medicine is unlikely to cause exceptions, patients navigating AI at least for minor medical problems, and job redundancy for doctors.

Author touches on AI in the article, mentioning levels of autonomy, pushing robot from slave to master. The conceptual level of full autonomy mentioned is probably not far away. During surgery, in addition to visual cues, an ultrasound probe could provide details of exact anatomical structures and planes. Beyond doubt, patients will benefit from AI-governed master robots performing excellent surgery. The mention about the surgeon sitting with the master robot is interesting: “The surgeon may observe or intervene only if desired”.

Will the surgeon be adequately skilled to bail out the former slave but current master?

POINT OF VIEW

ADVANCES IN MINIMAL ACCESS AND DIGITAL UROLOGY

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Surgery, like most other fields, is currently advancing at an exponential rate. Urology has historically been in the forefront of technological advancement. From endourological procedures, laparoscopy, robotics, and even targeted therapies, urology is a field which has embraced novel technologies. Current days are no different, and urological surgery is heading towards exciting times.

This review aims to shed light on several areas of advancement that can be expected to shape the horizon of urological and surgical patient care in the next decade. These include the revolution of robotics in the newer competitive markets, the role of laparoscopy and open surgery in the era of robotics, and the role and future directions of artificial intelligence.

ROBOTIC REVOLUTION

Robotics is no longer a novel technology but rather the standard of care in a significant majority of operative procedures. With Da Vinci systems' (Intuitive Surgical, USA) key patents starting to expire from 2019, we have seen an exponential rise in robotic platforms coming from all over the world, and hence the term revolution. This healthy competition has led to a reduction in cost, which was the main limiting factor in the widespread adoption of robotic services in developing economies.

One of the challenges to promoting newer, more cost-effective platforms in developed countries with already established robotic services is the reluctance of established surgeons to re-learn and adapt to newer platforms. Sri Lanka and other countries which are still in the process of initiating robotics are at a unique advantage since most surgeons are still naïve to platforms and will likely be open to training on newer platforms. It's likely the newer robotic companies will be keen to explore the untreaded market, which will eventually give significant potential for growth if established.

LAPAROSCOPY AND OPEN SURGERY IN THE ERA OF ROBOTICS

Table 1: Comparative evidence for different surgical approaches for common urological procedures

Surgery	Open vs. Minimally invasive (MIS)	Laparoscopic vs Robot assisted	Notes
Radical Nephrectomy	Analgesic requirement, inhospital stay, readmission rate better in MIS(8)	No difference in oncological, peri-operative and long term outcomes(9) but RA had longer operative time and higher cost(10)	EAU guidelines notes LRN lower morbidity [1b], shorter LOS, Lower blood loss [2b] and strongly recomends Lap RN over open RN(11)
Partial Nephrectomy	PFS, OS, positive margin rate similar MIS- Shorter LOS, Lower blood loss (12)	Robotic approach was found to be superior to laparoscopy with regards to estimated blood loss(12), shorter warm ischemia time, lower rate of conversion (to open or radical nephrectomy) and lower reduction in eGFR(13)	Strong recomedation not to perform Lap RN if PN is feasible by robotic or open methods, but if feasible MIS superior to open(11)
Radical Prostatectomy	Similar oncological outcomes Significantly lower blood loss, LOS, and wound complications with MIS(14)	RARP superior to LRP for earlier return of continence and return of erectile function. Oncological outcomes and long term continence no significant difference between the 2 techniques (15)	RARP superior with regards to nerve sparing, however LRP retains most other advantages of MIS over ORP
Radical Cystectomy	No difference in oncological outcomes, Shorter LOS, lower blood loss and transfusion rate for MIS (mainly RARC) Operative time longer for RARC (16)	Inadequate evidance for lap RC and majority of MIS performed robotically with intra/ extracorporeal reconstruction	EAU recommendation for selection of experienced center than ORC vs RARC (17)
Pyeloplasty	MIS shown to be superior regarding blood loss, analgesic requirement (18,19)	Similar short and long term outcomes with shorter operative time favouring Laparoscopy over robotic	Laparoscopic pyeloplasty most cost effective over robotic as well as open with equal or superior outcomes (20)

The above table highlights the available evidence for different surgical modalities and the advantages and disadvantages of each. Even in the current day, all 3 surgical approaches have their merits, but minimally invasive surgery is superior in most aspects of urological surgery, especially regarding perioperative outcomes. However, the gap between robotic and laparoscopy is less distinct except in the case of radical prostatectomy and selected cases of partial nephrectomy.

Another interesting observation is that the cost and cost-effectiveness of open surgery often exceeds laparoscopy in most of the described studies. However, even this sentiment remains to be tested in the Sri Lankan healthcare setting as the evidence is predominantly from studies conducted in centers with different health economics.

CONCLUSION

Robotics demonstrates superior outcomes in selected operations such as radical prostatectomy (especially nerve sparing/ or salvage post RT), complex partial nephrectomy, difficult RPLND (seminoma), IVC thrombectomy. It also significantly improves surgeon comfort and reduces the learning curve for complex procedures. Over utilization is a significant risk given the surgeon's comfort and marketing aspects.

Cost-effectiveness should be considered beyond the upfront cost itself when considering surgical modalities. On a larger scale, the hype of robotics when coupled with Sri Lanka's healthcare image may provide investment opportunities for healthcare tourism.

Currently, laparoscopy remains the best of both worlds until robotics is better established; traditional boundaries of laparoscopy are pushed with an increase in surgical expertise.

INTELLIGENT USE OF ARTIFICIAL INTELLIGENCE

The pioneer members of SLAMADS were true visionaries as they included the digital aspect of surgery when forming this organization. Several years after coining the term we are entering into the era of artificial intelligence. As with any new technology it brings new opportunities as well as challenges.

INTRODUCTION TO AI

- **Artificial Intelligence (AI) is designing computer systems to perform tasks that typically require human intelligence, such as recognizing patterns, making decisions, or understanding language. In medicine, AI can analyse vast amounts of data to assist with diagnosis, prognosis, and treatment planning.**

- **Machine Learning (ML) is a subset of AI. Instead of being programmed with explicit instructions, ML systems learn from data. The system then learns to identify patterns and make predictions on new, unseen data. As an example, feeding a computer large amount of labled scans the computer "learns" to identify tumour in a future scan. The more high-quality data it receives, the better it gets at its task.**

- **Large Language Models (LLMs) are a specific type of AI built using machine learning, trained on large collections of text. They can understand and generate human-like language, answer questions, summarize information, and even draft clinical notes. LLMs use complex neural networks—mathematical models inspired by the human brain—to process and generate text, making them powerful tools for clinical documentation, education, and research.**

INTELLIGENT USE OF ARTIFICIAL INTELLIGENCE

Table 2: Levels of AI- Autonomy

Level	Name	Description	Example in Surgery
0	No Autonomy	Surgeon performs all actions manually. No robotic assistance or automation is present.	Conventional surgery, standard instruments
1	Robot Assistance	Robot provides basic assistance (e.g., holding instruments, camera control). All decisions and actions are made by the surgeon.	Standard da Vinci system, laparoscopic camera holders
2	Task Autonomy	Robot can autonomously perform specific, well-defined tasks (e.g., suturing, cutting), but the surgeon supervises and can intervene at any time.	Automated suturing, vessel sealing Eg- Senhance Surgical System (Asensus Surgical, USA): automated endoscope/camera control, eye tracking CorPath GRX (Siemens Healthineers, Germany): limited autonomous navigation and motion scaling for endovascular procedures Artas iX System (Venus Concept, Canada): automated hair follicle harvesting CORI Surgical System (Smith & Nephew, USA): automated bone cutting in orthopedics
3	Conditional Autonomy	Robot can plan and execute a sequence of tasks based on patient-specific data (e.g., imaging), proposing strategies for surgeon approval, and automatically adjusting during the procedure. Surgeon supervises and can take over if needed.	Systems generating and executing resection plans from imaging data, with surgeon oversight Artemis (Exactech, USA): knee arthroplasty planning and execution CORI Surgical System (Smith & Nephew, USA): advanced planning and execution in orthopedics Artas iX System (Venus Concept, Canada): advanced planning for hair restoration Senhance Surgical System (Asensus Surgical, USA): advanced digital 3D measurement and registration
4	High Autonomy	Robot generates, selects, and executes the entire surgical plan autonomously, only requiring surgeon approval before starting. The robot can adapt to changes and only requests help in unexpected situations.	No Level 4 systems are currently in clinical use. Research prototypes (e.g., Johns Hopkins STAR robot for animal models) have demonstrated this capability in the lab, but not in human clinical settings
5	Full Autonomy	Robot independently manages the entire surgical procedure, including planning, execution, and adaptation to all intraoperative events, without requiring surgeon approval or intervention. Surgeon may observe or intervene only if desired.	Conceptual; not yet clinically available

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SLAMADS iSCOPE VIDEO COMPETITION

DEADLINE EXTENDED TO 15TH AUGUST

VISIT
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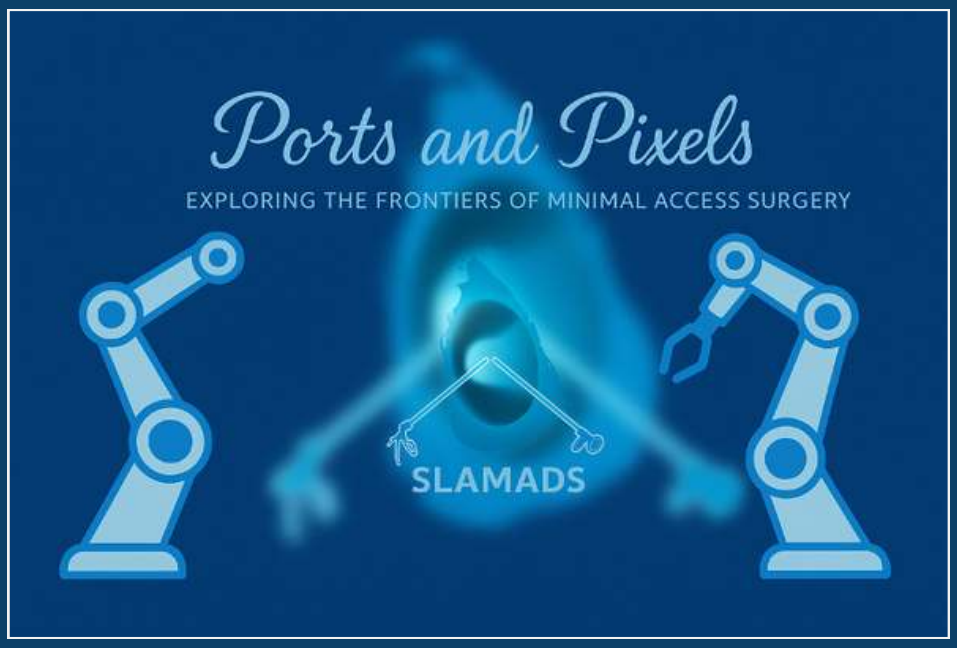
FOR DETAILS

INTRODUCING



INTRODUCING OUR FEATURE COLUMN

PORTS & PIXELS

From the first laparoscopic cholecystectomy to today's robotic-assisted resections, surgery has come a long way. What was once deemed impossible—performing complex operations through a few small incisions—is now a gold standard in many specialties.

Yet, for many young surgeons and trainees, Minimal Access Surgery (MAS) can feel distant: high-tech, high-cost, and sometimes limited to select institutions or countries.

This newsletter will have a dedicated column to change that.

In subsequent newsletters, this column will bring:

- Practical pearls and pitfalls from real-world cases
- Insights from global centres
- Simplified overviews of MAS tools and techniques
- Myths busted and best practices explained
- Voices from mentors and colleagues shaping the field

Your Column, Your Voice

We welcome you—trainees, seniors, nurses, or techs—to share your challenges, questions, and experiences. Let's keep it real, relevant, and regional.

To begin, our first article offers a *historical overview of minimal access surgery.*

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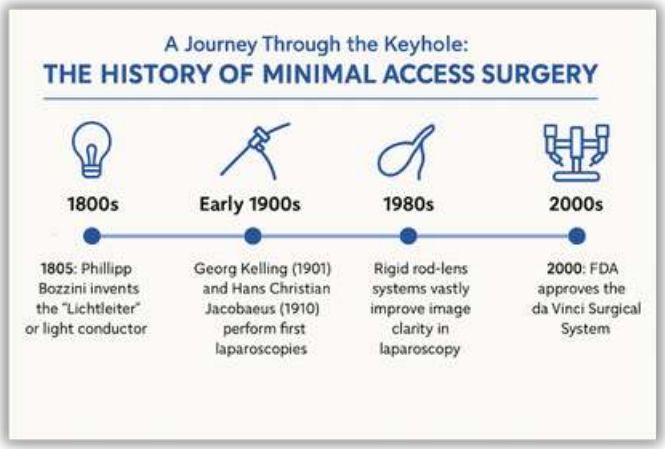
PORTS & PIXELS SERIES

A JOURNEY THROUGH THE KEYHOLE: THE HISTORY OF MINIMAL ACCESS SURGERY

RIFAT JAMALDEEN



The endoscope invented by Phillip Bozzini

FROM CURIOSITY TO CORNERSTONE

Minimal Access Surgery (MAS) didn't start with a robot—or even with a camera. It began, quite literally, with a simple light source and human curiosity. The journey of MAS is a story of persistence, skepticism, reinvention, and remarkable vision.

Today, laparoscopy and robotic surgery are redefining surgical standards across the world. But to truly appreciate where we are, we must first understand how we got here.

1800s: A Glimpse Within

- 1805: Philipp Bozzini, a German physician, invents the "Lichtleiter" or light conductor — an early attempt to look inside body cavities using candlelight and mirrors. He's considered one of the fathers of endoscopy.
- The medical community mocked the device. Innovation was not yet welcome.

Early 1900s: First True Laparoscopies

- 1901: Georg Kelling of Germany performs the first laparoscopy on a dog using filtered air to insufflate the abdomen with the help of trocar. He called the procedure celioscopy.

- 1910: Hans Christian Jacobaeus performs laparoscopy on humans for the first time.
- It was used mainly for diagnostic purposes (e.g., ascites, tuberculosis).

PORTS & PIXELS SERIES

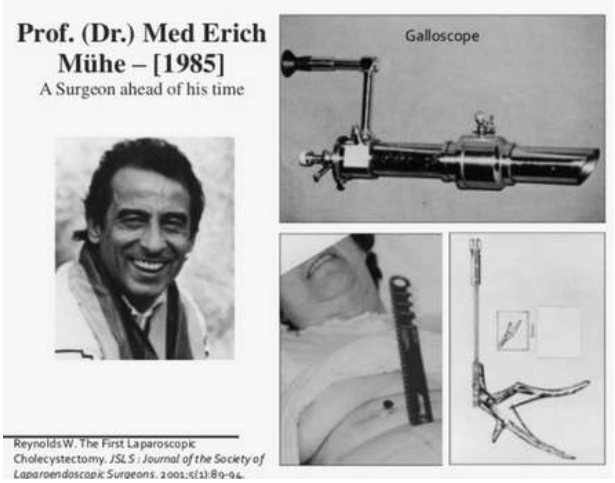
RIFAT JAMALDEEN

Mid-1900s: From Diagnostics to Therapy

- 1929–1950s: Gynecologists led the early adoption of laparoscopy for fertility and pelvic procedures.
- Pneumoperitoneum techniques improve. Light sources evolve from candles to bulbs.
- 1950s: Rigid rod-lens systems (by Harold Hopkins) vastly improve image clarity.

1980s: The Breakthrough

- 1985: Dr. Erich Mühe, a German surgeon, performs the first laparoscopic cholecystectomy using a self-built device. He was criticized, and his innovation was dismissed at first.



- 1987: French surgeons Phillipe Mouret and Francois Dubois bring lap chole to the global stage—acceptance snowballs. By the 1990s, laparoscopic cholecystectomy had become the gold standard.

2000s: The Rise of Robotics

- 2000: FDA approves the da Vinci Surgical System, marking a new era in telemanipulated robotic surgery.
- Initially applied in urology and gynecology, robotics has since expanded to colorectal, thoracic, and hepatobiliary fields.

The Sri Lankan Perspective

- Sri Lanka embraced laparoscopy in the late 1990s, led by pioneers in gynaecology and general surgery.
- Dr K.L. Fernando performed the first laparoscopic Cholecystectomy.
- The Sri Lanka Association of Minimal Access and Digital Surgeons (SLAMADS) now plays a central role in training and advocacy.
- Robotic surgery is emerging, with a few centres exploring early adoption and training partnerships.

LEARNING LESSON

- Every great leap in MAS started with resistance and doubt.
- Today's young surgeons will shape the next evolution—whether it's AI, remote surgery, or improved access in developing countries..
- Further interesting facts can be obtained from the following article reference.

Alkatout, Ibrahim et al. "The Development of Laparoscopy-A Historical Overview." Frontiers in surgery vol. 8 799442. 15 Dec. 2021, doi:10.3389/fsurg.2021.799442

Coming up next....

"Safe Access in MAS: Veress vs Hasson and More" Tips, tricks, and what no textbook tells you.

- Until then, keep your ports clean and your minds open.
- Feedback or historical anecdotes to add? - Email slamads2020@gmail.com

CME ACTIVITIES

THIS QUADRIMESTER

LAPAROSCOPY SKILLS WORKSHOP FOR MEDICAL OFFICERS

SLAMADS has taken a significant step forward in bridging the gap between formal minimal access training and medical officers, through the launch of its Laparoscopy Skills Workshop for medical officers. Recognizing the growing importance of minimally invasive surgical training among grade medical officers, SLAMADS initiated this program to provide structured and practical laparoscopic training to medical officers across the country.

The initiative was officially launched in May this year in Matara and a second workshop was conducted in June in Nuwaraeliya, with both sessions receiving overwhelmingly positive feedback from participants, mentors, and senior faculty alike. This marks a major milestone in surgical education in Sri Lanka, where structured laparoscopic training opportunities for medical officers have traditionally been limited or nil.

The primary goal of the workshop is to enhance the technical competency, confidence, and clinical readiness of junior doctors in performing laparoscopic procedures. The curriculum was carefully curated by an expert panel of senior surgeons and educators within SLAMADS, focusing on core principles, instrumentation, ergonomics, suturing techniques, and simulation based practice.

A MEDICAL OFFICER DISSECTING A SIMULATION BALLOON

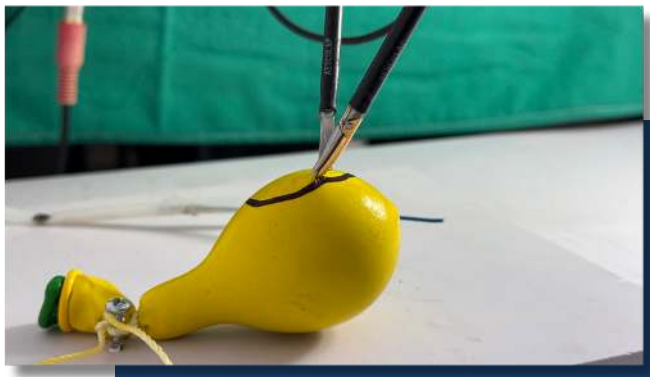
This marks a major milestone in surgical education in Sri Lanka, where structured laparoscopic training opportunities for medical officers have traditionally been limited or nil

WORKSHOP IN NUWARAELIYA

The curriculum was carefully curated by an expert panel of senior surgeons and educators within SLAMADS

LAPAROSCOPY SKILLS WORKSHOP FOR MEDICAL OFFICERS

DR KL FERNANDO DEMONSTRATING ROEDER'S KNOT



SIMULATION BALLOONS

This workshop was designed with an emphasis on interactive, skill-oriented learning.

Each session incorporated a balance of:

- **Didactic lectures on fundamentals of laparoscopy**
- **Hands-on training stations using box trainers and simulation modules**
- **One-on-one mentoring by experienced laparoscopic surgeons.**

Laparoscopy training boxes which were developed by Dr. KL Fernando were used, giving participants an authentic feel of laparoscopic work. The first two workshops were hosted in Matara and Nuwaraeliya, respectively, and brought together over 60 medical officers from government hospitals island-wide. Most of the participants were medical officers attached to surgical departments which perform laparoscopy regularly.

> within a short period, the participants were proficient in executing fundamental laparoscopic techniques, including dissection and intra-corporeal knotting

The outcomes of the workshop were deeply encouraging. The enthusiasm shown by the participants were remarkable.The faculty was particularly impressed with the observation that within a short period, the participants were proficient in executing fundamental laparoscopic techniques, including dissection and intra-corporeal knotting. Feedback from participants also reflected the noticeable improvement in technical dexterity and procedural awareness.

PROF. BAWANTHA GAMAGE AND TEAM - NUWARAELIYA

LAPAROSCOPY SKILLS WORKSHOP FOR MEDICAL OFFICERS

The success of this workshop underscores the critical importance of training medical officers in minimally invasive surgery and the role of structured training in shaping competent medical officers. SLAMADS' vision is to expand this program into a recurring national platform, with multiple workshops held annually across different regions with the next workshop planned in Vavuniya. This workshop for medical officers has proven to be a timely, impactful, and forward-thinking initiative that aligns with the evolving landscape of surgical education in Sri Lanka. By investing in the skills of medical officers today, SLAMADS is not only elevating clinical standards but also laying the foundation for a more capable and confident generation of doctors.

FACULTY - MATARA WORKSHOP

SNAPS FROM NUWRAELIYA WORKSHOP

SLAMADS' vision is to expand this program into a recurring national platform, with multiple workshops held annually across different regions

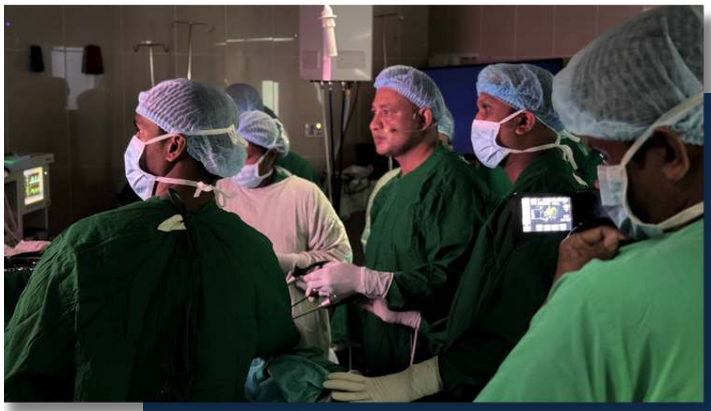
DR. SUTHARSHAN CONDUCTING AN INTERACTIVE SESSION

MASTERCLASS ON MINIMAL ACCESS OESOPHAGECTOMY & LIVE SURGICAL DEMONSTRATION

Masterclass on minimal access esophagectomy with live surgical demonstration was held in the surgical oncology unit, National Hospital, Galle on the 25th of April 2025. This was jointly organized by the Sri Lanka Association of Minimal Access and Digital Surgeons (SLAMADS), Sri Lanka Association of Surgical Oncologists (SLASO), Sri Lanka Society of Gastroenterology (SLSG), with the Southern Chapter of the College of Surgeons of Sri Lanka. Prof. Bawantha Gamage, Dr. V Sutharshan, Dr. Rasitha Manatunga, Dr. Chaturanga Keppetiyagama, Dr. Dileepa Mahaliyana, Dr. Minoli Joseph, Dr. Dhammika Rasnayake, Dr. Rasika Bulathsinghala and Dr. Sanjeew Samaranayaka participated as faculty.

There were more than 30 participants, including consultant surgeons, senior registrars, and registrars coming from different parts of the country. Lectures on thoracoscopic mobilization of the esophagus and laparoscopic gastric mobilization were given at the beginning. Live demonstration of the above procedures carried out and transmitted to the audience outside the operating theatre. The session was highly interactive as many with experience in minimal access esophagectomy were present as the faculty as well as in the audience.

The course was highly appreciated by the participants, and the patient had an uneventful recovery and was discharged on the 6th postoperative day.



DR. R. MANATUNGA PERFORMING THORACOSCOPIC MOBILIZATION

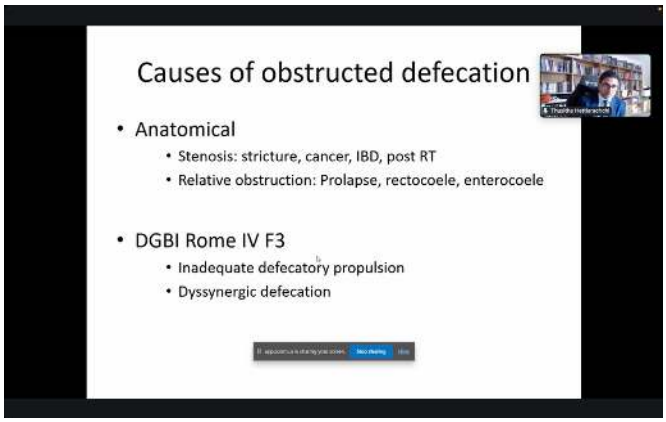
Live demonstration of an oesophagectomy was carried out and transmitted to the audience outside the operating theatre

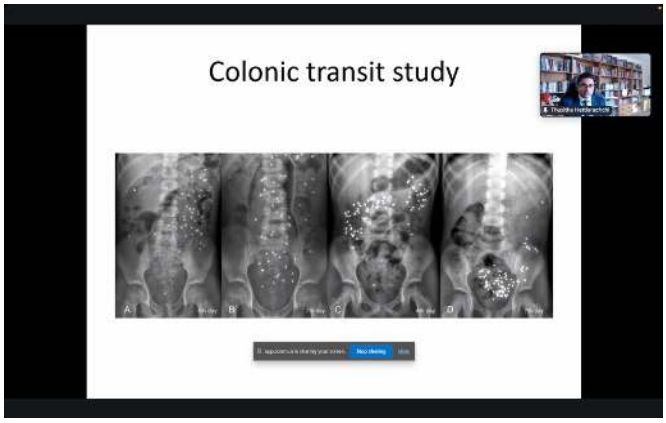
LIVE OPERATING TEAM

WEBINAR

COMMON COLORECTAL PELVIC FLOOR DISORDERS

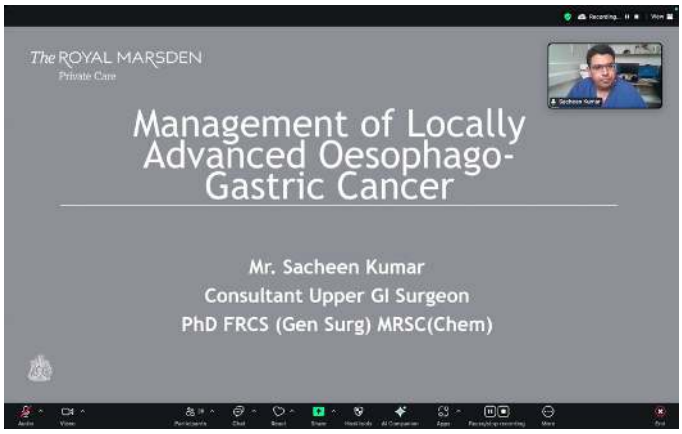
DR THUSITHA HETTIARACHCHI

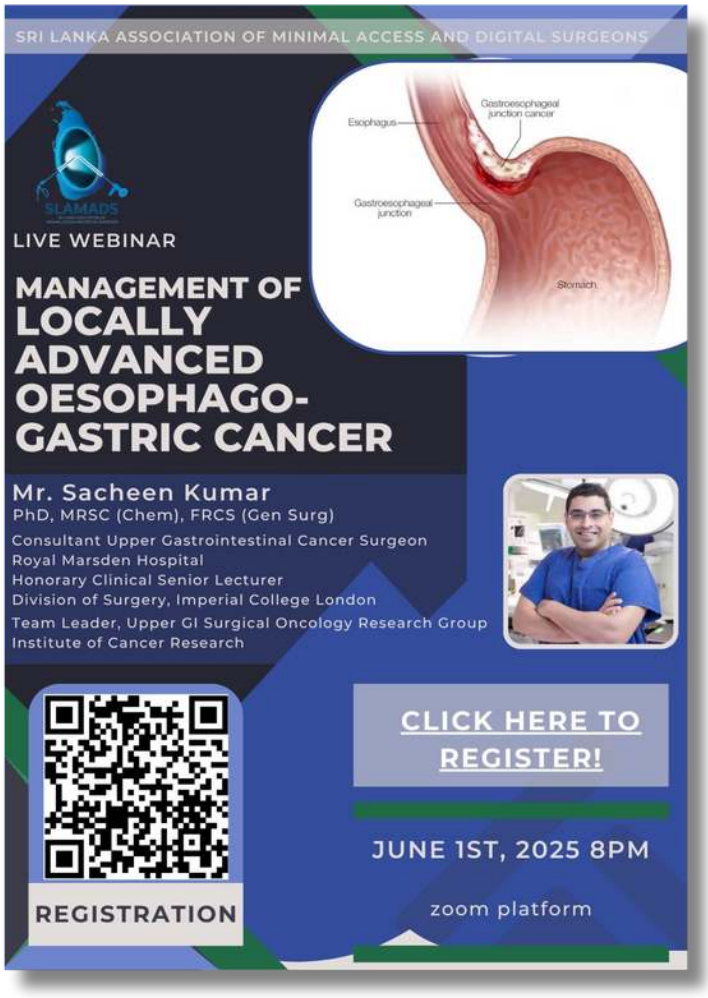


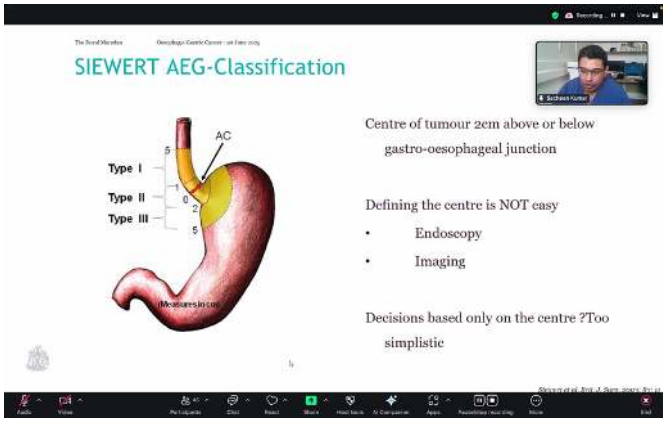


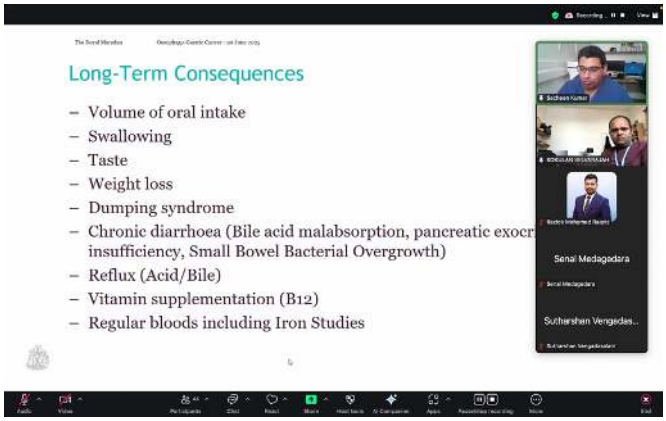
WEBINAR
MANAGEMENT OF LOCALLY ADVANCED OESOPHAGOGASTRIC CANCER

MR. SACHEEN KUMAR



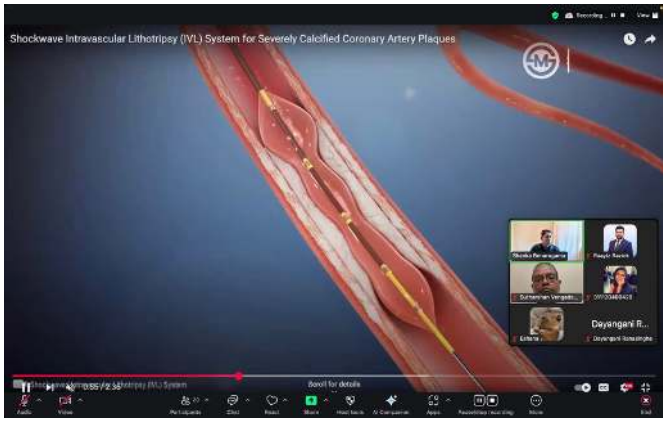


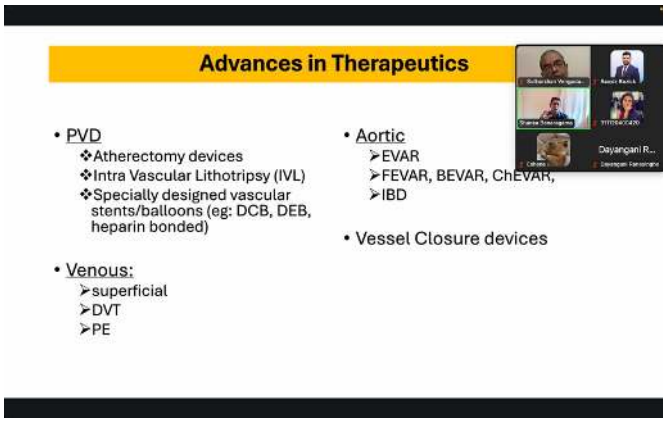


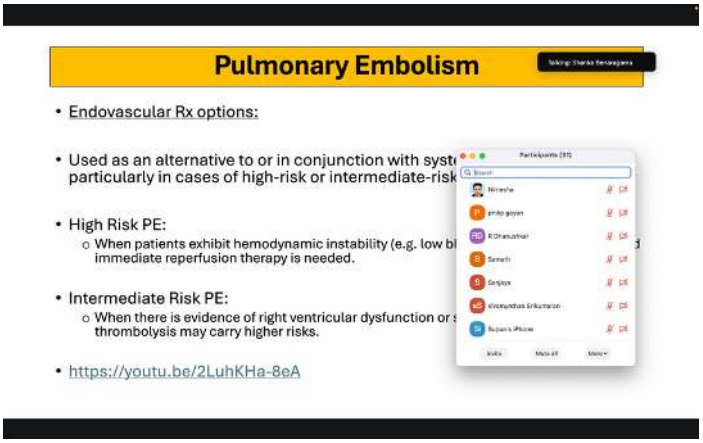


WEBINAR
ADVANCES IN MINIMALLY INVASIVE TECHNOLOGY IN VASCULAR SURGERY

MR. SHANKA BENARAGAMA







WRITE TO US

We urge our readers to send us brief reports to us on

Surgeries performed by MAS with learning points

Range of procedures done at your institute as well as facilities available

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