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THE CONSCOLE



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Message from the Editor-in-Chief

Greetings Colleagues,

Thank you for embracing our first issue of 'The Console", SERGS's biannual robotic gynaecological surgery publication. SERGS is growing everyday, and 'The Console' aims to inform SERGS members about our activities, share ideas in the new era of robotic gynaecology and support collaboration, friendship and fellowship in robotic gynaecological surgery! I am delighted to announce the publication of the second issue of 'The Console'!

We would like to thank Thomas Ind, our Past President, for his dedication and hard work toward achieving SERGS's goals. The society moved forward with credentialed robotic surgeons, increased membership, a European Union–sponsored collaboration with GESEA and an inspiring group of young surgeons (YEARS). Thank you for being such a great leader!

In this issue, Vanna Zanagnolo, our newly elected SERGS President, presents her Presidential Address acknowledging where SERGS stands at the moment and what we have already achieved – and offering a glance into the future plans of our Society. Collaboration among our highly respected members worldwide can identify new goals for the Society. Moreover, our President highlights our collaboration with other scientific societies, as well as the fact that we have already signed MOUs with ESGE and ESGO. Dear Vanna, warm congratulations and our best wishes for success in your responsibilities and challenges! We know that you are going to accomplish your duties with true devotion, endless energy and clear vision – and the SERGS Council and members are here for you to work closely as a family to achieve our goals!

Our SERGS Leader and Mentor Angelo Maggioni 'time travels' back to 2006, when he had the privilege to perform the first robotic hysterectomies in Italy, and describes the first kick-off meeting for the European Society of Gynaecological Robotic Surgery in Bellagio and the initiation of meetings at the European level. Angelo also highlights the role of training and certification in a robotic surgeon's development, as well as the current reality and the vision for the future of our Society. Active engagement of SERGS leaders/mentors with the younger generation is the way forward to achieve SERGS's goal of bridging the old and the new with a legacy shaped by both eras.

I would also like to thank Tomasso Simoncini, our Academic Lead, as well as Andrea Giannini from University of Pisa, Italy, who provide an update on the role of Enhanced Recovery After Surgery (ERAS) programmes and Same Day Discharge (SDD) in endometrial cancer robotic surgery. ERAS protocols, in combination with the improvement of robotic platforms, may play a synergic role in achieving reduced length of stay, reduced cost and increased patient satisfaction without sacrificing safety or quality of care!

Moreover, we worked closely with Tomasso Simoncini, Andrea Giannini and YEARS President Sergi Fernandez to present a list and summary tables of recent noteworthy articles that are impacting our everyday practice and discuss future challenges in the field of robotic gynaecological surgery (robotic training, general gynaecology, urogynaecology and gynaecological oncology) for all the professionals who desire to be up to date at a glance with the recent literature of highest scientific value.

In the 'YEARS Corner', Sergi also discusses the current reality of robotic training in Spain, presenting the projects and training/fellowship opportunities in his home country. The 'YEARS Corner' is a dedicated space in 'The Console' for young and emerging surgeons and researchers in robotic surgery, and we encourage YEARS members to participate, present the current training reality in their home countries and work with and exchange ideas with the experts.

We recently had a memorable experience in Athens, Greece. Once again, congratulations to the organising committee for the excellent SERGS Athens 2023 Congress. SERGS 2023 Chair Vasiliki Chatzirafail presents in this issue a Conference Report and the best moments from the Congress.

Of course, we need to save the date for our next annual Congress. The 16th Annual SERGS Meeting will be held in Madrid from June 6 to 8, 2024. Great things are in the works for SERGS 2024, and SERGS 2024 Chair Pluvio Coronado presents what to expect at such a unique meeting in order to advance your knowledge and improve your daily practice. State-of-the-art sessions, key expert sessions and workshops are going to be part of the brilliant programme to share knowledge, experience and practice in robotic gynaecological surgery. Register as soon as possible to secure your place at this remarkable event!

Last but not least, we are pleased that the SERGS family is growing fast, and we welcome our new SERGS international members. For this reason, we created the 'Corner of the International Robotic Family', where our friends and colleagues from around the world can share news/updates regarding their local robotic societies. In this issue, Rooma Sinha, Founder and President of the Association of Gynaecological Robotic Surgeons of India (AGRS), and Faruk Kose, Head of the Society of Gynaecological Robotic Surgery in Turkey, present the current reality and vision in India and Turkey. Rooma and Faruk – India and Turkey – welcome aboard!

I would also like to thank Lucie Lamlova for her valuable help in dedicating her time to us from the secretariat point of view.

I hope you will enjoy reading the second issue of 'The Console'.

Christos lavazzo Editor-in-Chief, The Console

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SERGS PRESIDENTIAL ADDRESS

Current reality, future goals

Vanna Zanagnolo, Italy

Dear friends and colleagues,

It is a great privilege to be the President of SERGS at this time.

I have been involved with SERGS almost since the beginning, and I have enjoyed the long way we have come as a Society in terms of learning how to improve our scientific knowledge and how to take advantage of this new technology and its evolution for the good of our patients.

Sometimes it has been hard, since we were expecting much faster growth as a Society, but we never gave up and new robotic surgery fans came along and gave us new enthusiasm. In fact, the members of YEARS (Young European Advocates of Robotic Surgery) are working with us on enhancing robotic surgery education on the basis of scientific results and proper training.



I have been honored to work with and to discuss and share ideas with individuals who are among the best robotic surgeons in Europe. And thanks to collaboration with overseas and international friends we, as a Society, have been able to accomplish a lot, both in defining the role of robotic surgery for the treatment of patients with benign or malignant gynaecological disease and in implementing the important concept of robotic surgery training and curriculum.



I am happy to say that most of the past and present SERGS council members are not only respected colleagues but also friends with whom we have shared very nice moments.



I am humbled to become President after such giants in the field of robotic surgery, but I have learned a lot from their leadership and I hope to be able to fulfill their legacy to make SERGS bigger and stronger.

While organising the yearly SERGS meeting, we are also working on new courses in collaboration with other scientific societies, as well as structured webinars and educational videos (SERGS Video Portal) that are available to all members of our Society. We have signed MOUs with ESGE and ESGO, we are finalizing SERGS curriculum and we are a recipient part of GESEA4EU: EU CONTRIBUTION (grant). Last but not least, we just published "The Console", SERGS's new biannual publication for Society members.

Moreover, I want to thank Thomas Ind, our Past President, who led the Society for the past two years with energy, enthusiasm and wisdom – and left us an amazing legacy resulting from great inspiration and many hours of hard work: the "Training The Trainers in Gynaecological Robotic Surgery: e-Learning Course".



In order to define a plan for the Society's future actions, we must first acknowledge where we (as SERGS) are and then look into the future, being aware of the difficult challenges we may have to face.



Therefore, we need to work together to identify the new goals for the Society. This will be the most important task of my presidency, with the help of an incredible group: Thomas Ind (Past President), Henrik Falconer (President-Elect), Thomas Herbert (Secretary/Treasurer) and Martin Heubner (Vice-President), along with all of the amazing SERGS council members.

I hope I have given you more than one reason to join our Society so that we can learn together how to implement and enjoy this new technology that brings about further surgical progress for the best of our patients.

For the Society of European Robotic Gynaecological Surgery,

Vanna Zanagnolo

SERGS President

THE HISTORY OF SERGS:

A 15-year celebration/interview

with Angelo Maggioni, Italy

How do you remember the starting point/initial steps in your robotic gynaecology career?

It's a lengthy tale. My fascination with robotic surgery began approximately 17 years ago. The first encounter with robotic surgery left me incredibly enthusiastic. Why? For many years, I had exclusively practiced open surgery, and due to various reasons, I missed the opportunity to explore minimally invasive surgery. When I encountered robotic surgery, it felt like discovering a new frontier.

I realised that this technology could handle all the complex surgeries that were challenging to perform minimally invasively due to my technical limitations in laparoscopy.

It allowed me to accomplish everything I could do in open surgery. Robotics represented a genuine evolution in surgery for me. It was intuitive –remarkably easy to learn and perform. Particularly for surgeons experienced in open surgery, transitioning to a minimally invasive approach became a straightforward reality. That was my initial experience with robotic surgery.

How can you describe the beginning of SERGS?

On June 13, we had the first kick-off meeting for the European Society of Gynaecological Robotic Surgery. The agenda included the



evaluation of robotic surgery worldwide, particularly in Europe, the idea of creating a European society for robotic surgery and the initiation of meetings at the European level.

To support this agenda, we assembled a group of surgeons: some were pioneers in robotic surgery, others were renowned for their surgical skills. All these individuals represented nine European countries: Sweden, Norway, England, Belgium, Holland, Germany, France, Switzerland and Italy.

The chosen location was in Italy – Bellagio, a small village on Lake Como. Why Bellagio? Because it is beautiful, amazing and unforgettable. We aimed for an unforgettable start to the society.

Why was this meeting necessary? If we examine the adoption curve of new technologies, after an initial phase with pioneers of the method, in 2008, we witnessed a gradual and growing adoption of the method by early adopters. We also received increasing news about robotic surgery from overseas. In 2005, the US FDA recognised the use of robotic surgery. In 2006, the first publications on this surgery were presented to SGO.

The first significant meetings on this topic were organised by the pioneers of robotic surgery: in Michigan by **Arnold Advincula** in 2007 (the **World Robotic Gynecologic Symposium**); in Chapel Hill, North Carolina, by John Boggess (the first Annual International Gynecologic Oncology Robotics Symposium in 2007); and in 2008, Javier Magrina organised the Mayo Clinic Scottsdale World Robotics Symposium in Gynaecology.

Moreover, many experiences were being developed in Europe.

We had strong reasons to be interested in robotic surgery, such as the fast learning curve compared to traditional laparoscopy, the easy transition from open surgery to robotically assisted laparoscopic surgery and the possibility of increasing the number of cases treated with minimally invasive surgery. Personally, my experience began in 2006 with great enthusiasm. In November 2006, I performed the first radical hysterectomy, which opened the door to replicating most of our open surgical procedures and doubling our minimally invasive surgery cases.

These results prompted me to share my experience both abroad and in our Institute through meetings dedicated to robotics. Hence, the idea for the first kick-off meeting, which was followed by the second meeting in Milan on September 9. This time, the agenda included all the steps for creating the society, deciding the society's name and choosing the location for the first meeting of the Society in 2009.

These two meetings led to the founding of the **European Society of Robotic Surgery in Gynaecology – SERGS.**

What is your advice to our new President Vanna Zanagnolo, who is our first female President?

Vanna has been working with me for many years. Her notable qualities include her immense passion for surgery, her determination in reaching her goals and her unwavering commitment. These attributes undoubtedly contribute to the advancement of our Society, aligning seamlessly with its missions and embracing technological developments.

My recommendation for Vanna is to actively engage with the younger generation. They represent the bridge between the old and the new, entrusted with a legacy shaped by both eras. Growing up with a mindset inclined towards innovation and change, they offer a unique advantage. Hence, our focus should be directed towards them, recognizing their potential in propelling our Society forward.

Now we have 'The Console', the journal of our Society. What do you think 'The Console' should give to the members from the point of view of the founder?





Great idea! Every informational tool is significant, serving as a means of communication for the Society and enabling in-depth analysis of topics that resonate with an audience sharing common interests in the advancement of surgery and the interpretation of increasingly complex technological innovations, which are not always easy to comprehend.

How do you consider the role of training and certification in a robotic surgeon's development/career?

One of the missions of SERGS is to 'provide and develop standards and supervision for training and teaching in Robotic Surgery.'

Over the past 15 years, we have devoted considerable effort to defining teaching and certification programmes. We have worked on delineating appropriate indications and procedural steps for surgical interventions and the optimal use of robotics in comparison to other surgical methods.

There is still much work ahead, particularly in implementing teaching and certification programmes within specialty schools. Finding the right balance in teaching various surgical approaches – open, vaginal, laparoscopic and robotic – is crucial. Simulation tools are necessary to expedite learning and compensate for the decline in experience in certain pathologies.

This journey demands time/collaboration with specialised societies, universities and dedicated industries.

What do you think about the role of robotic educational films in training?

Robotic surgery provides the optimal platform for teaching surgical anatomy and procedural steps. The absence of tremors, enhanced magnification and the ability to focus on intricate details epitomize the advantages of robotics, reflected in the footage we can capture.

Our young learners are indeed fortunate to repetitively observe surgical procedures, translating these experiences into effective teaching methods.

Gone are the days when we had to perch on stools, attempting to catch a glimpse of the operating field above numerous heads, hoping to discern our teachers' movements. Thankfully, this is no longer the reality today!

What is your vision for the future of our Society?

Our future will depend on our ability to uphold and advance the missions set for our society 15 years ago:

- Establish an open European platform comprising dedicated individual professionals committed to the evolution of robotic surgery.
- Develop and implement standards and supervision for training and teaching in robotic surgery.
- Encourage evidence-based practice to define indications, surgical techniques and scientific research.

• Foster the exchange of results through local and international meetings.

• Collaborate with industrial organisations to promote new developments.

 Facilitate communication with other relevant scientific organisations.

Consequently, what should SERGS look like in the future?

• SERGS should function as a non-profit organisation dedicated to the study of robotic techniques in gynaecological surgery, operating in full cooperation with any industries.

• It should serve as a platform for discussions and comparisons on real surgical robotic practices with experts.

• It should be a hub for updating knowledge about new robotic systems and innovative integrations such as artificial intelligence and augmented reality.

• It should provide young surgeons with training methods and certification for enabling robotic surgery in gynaecology.

• It should be a haven for open-minded surgeons embracing innovation, brimming with enthusiasm and envisioning a future marked by superior surgery, excellent outcomes and enhanced quality of life for patients.

And one more question. What about the future?

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What do you think the next 15 years will hold for this kind of surgery?

The next 15 years? For our young generation, predicting the future might prove challenging. Certainly, there will be a shift, and traditional approaches like open, vaginal and laparoscopic surgery might become obsolete. However, these aspiring surgeons still need to learn all these methods.

Fortunately, they are privileged to have access to new technologies. Artificial intelligence and the metaverse have the potential to revolutionise our field. They can simplify the learning process by allowing us to record procedures and harness big data. With the assistance of machines, even those struggling surgeons could benefit. By leveraging computers and data, we can empower all surgeons to excel in patient care.

Our ultimate goal, after all, will remain unchanged: **to provide our patients with the best possible quality of life.**



The Role of Enhanced Recovery After Surgery (ERAS) Programmes and Same-Day Discharge (SDD)

in Endometrial Cancer Robotic Surgery

Abstract

Enhanced recovery after surgery (ERAS) protocols include a multimodal method to optimize patient outcomes and recovery.

Minimally invasive surgery (MIS) is associated with improved surgical outcomes and is recommended when possible, according to ERAS guidelines. Key ERAS components

in MIS include preoperative patient education and optimisation; multimodal and narcotic-sparing analgesia; prophylactic measures regarding nausea, infection and venous thrombosis; maintenance of euvolemia; and promoting early activity. ERAS protocols in MIS improve outcomes mainly in terms of reduced length of stay and subsequently reduced cost. ERAS protocols in MIS reduce postoperative pain and nausea, increase patient satisfaction and reduce the rate of postoperative complications.

Robotic surgery supports ERAS by facilitating MIS in complex procedures where laparotomy is an alternative approach. From a technical standpoint, it is plausible to hypothesize that the sentinel lymph node technique represents one of the keystones in a shift towards standard same-day discharge (SDD) in an endometrial cancer setting. Parallel, it is rational to speculate that ERAS protocols, together with the improvement of robotic platforms, may play a synergic role in achieving outpatient care for minimally invasive treatment in this gynaecological oncology population.



Tommaso Simoncini, Italy



Andrea Giannini, Italy

Introduction

Enhanced Recovery After Surgery (ERAS) in gynaecology is a programme structured to attain early recovery for patients undergoing major gynaecological surgery both in benign and malignant indications.

ERAS paths encompassed three crucial modules: preoperative, intraoperative and postoperative programmes. Pre-habilitation and re-habilitation are essential to increase patients' care. ERAS is based on evidence-based medicine; indeed, growing literature pointed out that the use of ERAS programmes resulted in lower complication rates, shorter hospital stays and a dramatic improvement in patients' outcomes limiting the overall costs of medical assistance.

The same-day discharge (SDD) after gynaecological surgery represents a component, an aim and a result of ERAS programmes.

Gynaecological oncologists in the most important tertiary referral centres began implementing SDD in patients

treated with robotic surgery for endometrial cancer in 2012, concomitantly to the systematic introduction of robust ERAS protocols in daily clinical practice and the collaboration with dedicated anesthesiologists and nurse teams. Among patients undergoing minimally invasive hysterectomy for benign indications, ERAS introduction and SDD have been confirmed to be safe, feasible, suitable by patients and cost-effective ¹⁻³; however, few studies regarding SDD in patients treated with minimally invasive surgery (MIS) for endometrial cancer have been published, and data are not conclusive ⁴. Moreover, ERAS paths and SDD can decrease iatrogenic morbidity and mortality related to hospital recovery.

However, data from this emerging literature preliminarily indicated that SDD after MIS for gynaecological oncology indications are feasible and safe despite the fact that oncological procedures differ from benign operations in the age and comorbidities of subjects and the possibility of concomitant and more complex procedures 4,5.

Patients' eligibility, preparation and perioperative assessment for the ERAS programme and same-day discharge

SDD could be concomitantly considered a good outcome or a component of ERAS programme application in surgery. In the last ten years, initial literature investigated the trend, feasibility and safety of SDD, and the factors involved in overnight admission in the population of patients undergoing robotic hysterectomy and staging for endometrial cancer indication after introducing ERAS protocols at different single tertiary referral centres for gynaecological oncology.

Most of the available studies involved patients who underwent robotic hysterectomy and concomitant staging procedures for any type and stage of endometrial cancer. When ERAS protocols are incorporated in clinical practice it is important to identify the right candidate, thus avoiding the failure of fast recovery paths. In this view, the anamnesis becomes a critical step for patients' enrollment and subsequent ERAS success.

The assessment of personal frailty and general health status is crucial for SDD or a standard hospital stay for each patient. Personal information such as age, familial status and primary residence distance from the surgical

centre must be preliminary investigated.

Pathological and preoperative data evaluation must include type, grade and stage of endometrial cancer treated; uterine weight; past clinical history of heart disease, diabetes, kidney disease, venous thromboembolism events (VTE), hypertension, chronic obstructive pulmonary disease (COPD) or asthma, sleep apnea and other cancers; creatinine and haemoglobin concentration; body mass index (BMI, kg/m2); American Society of Anesthesiology (ASA) grade; chronic and specific preoperative medications; and previous surgery.

Immediate pre- and post-operative use of insulin or anticoagulants must be noted. Patients enrolled for surgery should have comprehensive preoperative counselling about the protocol to set expectations for the possibility of experiencing SDD if all the postoperative criteria for dismissal are met.

At the time of the preoperative consultation, the medical staff administer informative documentation regarding the indications to be followed throughout the perioperative period. In detail, all patients must follow precise prescriptions regarding the type and amount of food, fluid and chronic and preoperative medication intake, as well as behavioral indications during both the day before and the day of surgery.

All patients eligible for the ERAS protocol undergo the same preparation two hours before arriving at the hospital on the day of surgery, according to their age. Information should be checked to identify pre- and intra-operative factors associated with the possible failure of SDD, including the primary and possible secondary or concomitant procedures and lymph node dissections that must always be described in the operating plan.

In the scenario of endometrial cancer patients, a total robotic hysterectomy, bilateral salpingo-oophorectomy, peritoneal washing and cystoscopy represent the primary procedure in all cases. Most frequent secondary or concomitant procedures could include extensive adhesiolysis, omentectomy, bowel surgery, appendectomy, hernia repair, prolapse repair, vaginal surgery, bladder surgery and positioning of the stent and other minor procedures such as



After the sentinel lymph node technique was incorporated in the routine surgical practice during the last decade, all patients with histological diagnosis of endometrial cancer underwent sentinel lymph node mapping during robotic surgery.

However, the type and extension of lymphadenectomy procedures must always be noted in the preoperative plan. It is important to point out that several intraoperative and immediate postoperative factors such as operating time (OR), estimated blood loss (EBL), start time after 2:00 p.m., time at discharge from the Post Anesthesiological Care Unit (PACU), conversions to laparotomy and intraoperative complications, as well as time of catheter removal and adverse events, could be clinically significant features in the success of fast recovery and discharge after surgery.

According to the current postoperative protocol of the most relevant tertiary referral centres for gynaecological oncology, patients should be observed in PACU for a minimum of 4 hours before dismissal or overnight admission decision.

Criteria for discharge included hemodynamic and vital signs stability, no active bleeding, adequate pain control with oral medications, controlled nausea and emesis, adequate O2 oxygenation, baseline mental status and no persistence of sedation, satisfactory mobility, ability to tolerate oral intake and ability to void postoperatively.

In selected cases, patients in good condition who experienced failure of voiding trial are eligible for discharge and repetition of voiding trial after 24-48 hours, during a scheduled control. Patients with known significant risk factors received preoperative subcutaneous low molecular weight heparin doses. All patients without contraindications received mechanical deep vein thrombosis prophylaxis during and immediately after surgery.

Remarkably, the postoperative barriers determining the failure of SDD are usually documented from the electronic notes of nurses, anesthesiologists and surgeons and include nausea and vomiting, inadequate pain control, urinary retention, low O2 saturation, ileus, anaemia, hypotension and persisting sedation.

All patients are prescribed the same pre-and intra-operative medications and prophylactic antibiotic and antiemetic therapy except patients with allergies or absolute contraindications. Intraoperative opioid use and oral opioid compounds will be administered as needed in the postoperative phase, paying attention to reducing the dose of opioid drugs and considering adverse events. Incision sites are always locally infiltrated with an anaesthetic solution at the end of the case. Urinary catheters will be removed following surgery in those patients without surgical contraindication, who immediately will meet the postoperative anesthesiologic criteria.

Patients who do not meet PACU discharge criteria or show a postvoid residual volume (PVR) >150 ml after voiding trial even after overnight admission must repeat the trial before dismissal or will usually be discharged with a catheter and scheduled for voiding trial after 24-48 hours.

According to the ERAS protocols, all patients have similar multimodal analgesia with orally administered pain and antiemetic medications during the postoperative period when not contraindicated. The need for adjunctive doses of antiemetics, non-steroidal anti-inflammatory drugs (NSAIDs), opioids and narcotics for sub-optimal pain control during PACU admission will be noted.

All oncological patients treated with minimally invasive surgery after SDD should be contacted by phone or video in the first few postoperative days for information about pathological results and oncological follow-up, while the first postoperative visit to their surgeon routinely takes place six weeks after surgery.

Care must be taken to factor for the most frequent complications, which include bleeding, vaginal cuff dehiscence, cellulitis, persistence of granulation tissue, port site herniation, febrile and urinary tract infections (UTI) events, urinary retention, uncontrolled pain, port site and wound infections, pelvic abscess, bowel and urinary system injuries, pneumonia, thromboembolic events, ileus and lymphedema. Risk factors for these complications should be prevented or promptly intercepted and noted when possible ^{6,7}.

New evidence

Reports and meta-analyses of large cohorts of patients who underwent minimally invasive hysterectomy for any indications found that SDD after hysterectomy was safe, effective and associated with reduced costs both in gynaecological benign ^{2,6-8} and malignant indications ^{1,4,6}.

While the SDD rate after hysterectomy for benign indications is reported to be from 31.8% in retrospective reports to 92% in prospective studies ^{1,2,8}, data about SDD after hysterectomy for oncological pathologies are more limited in literature and the rates of SDD range from 48.5% of the first described investigation (9) to between 78% and 82.5% in more recent reports 7, 10-12.

In several tertiary referral centres for gynaecological oncology, it was challenging to determine and measure the exact factors that resulted in the surgeon or anesthesiologist's decision to discharge or admit a patient during the beginning of the ERAS protocol incorporation in routine practice.

Therefore, the initial data can be confounded by the plausible association between the persistent tendency to admit patients after surgery during early ERAS years and older counselling and clinical behaviours. However, data are still controversial considering that most publications about gynaecological oncology case series often encompass the analysis of cervical and endometrial cancer patients and different minimally invasive surgical routes, thus limiting the homogeneity of the study sample and conclusive considerations.

Interestingly, previous reports on SDD in gynaecological oncology pathologies found a significant association between the achievement of SDD and lower age, BMI, number of comorbidities and intraoperative use of NSAIDs¹³. The observation that the number of comorbidities, the need for chronic medications and the general frailty of women increase with age, leading to a consequent increase in the rate of hospitalizations for monitoring and observation, has already been reported in previous studies in both benign and oncological settings of early discharge protocols 1,2,4,14.

In the last five years, some reports consistently demonstrated that SDD after robotic surgery for endometrial cancers is safe, feasible and cost-effective as a component and result of ERAS protocol application in several institutions. Interestingly, the need for extensive adhesiolysis during surgery and a long operating time (>180 min) are strongly recognised as risk factors for failure of SDD.

This finding was already suggested to be significant in previous reports on gynaecological oncology patients

who underwent minimally invasive hysterectomy for different malignancies ^{9,10} and in a recent report on a large cohort of patients with benign indications in an expert surgical setting ¹⁵. In this view, it is mandatory to point out that the provision of operating times serves as a primary putative variable for screening patients and planning operating room activity for outpatient procedures, as patients with comorbidities, advanced stages of the disease and complex or multiple planned procedures are more likely to require extended operations.

Patients who successfully experienced SDD after robotic staging for endometrial cancer were young and had a significantly lower rate of high-grade and high-stage endometrial cancer, fewer comorbidities and lower complex surgeries than those admitted.

Therefore, it appears that SDD is safe and may be incorporated into the routine clinical practice in patients undergoing robotic hysterectomy and staging for endometrial cancer indications.

A recent retrospective report from a tertiary referral centre for gynaecological oncology described the ten-year (2012-2022) experience of standardized management of preoperative, surgical and postoperative conduct following the integration of ERAS protocols in daily clinical practice.

The authors outlined that undergoing surgery during the second five-year period (2017-2020) was significantly associated with SDD compared to being operated on during the first five-year period (2012-2016) in our studied population. The overall SDD rate in the study population was 40.0%. However, it was remarkable to note the significant trend in improving the number of SDDs across the ten years, reaching the current rate of 88.2%.

This success rate is on par with published literature both in benign and oncological settings, further demonstrating outpatient oncological procedures' feasibility and safety 6,7,14. The above-mentioned study showed that the comparison of demographic, social and clinical baseline characteristics of the two groups of patients indicates that patients who were discharged on the same day of surgery were young and had a significantly lower rate of high-grade and high-stage endometrial cancer; ASA score; frequency of preoperative anaemia,



heart disease and hypertension; and previous laparotomic procedures. Moreover, SDD patients showed a significantly lower frequency of preoperative intake of anticoagulants and insulin therapies compared to non-SDD populations.

However, only age, preoperative anaemia and the condition of hypertension were found to be significantly associated with admission after multivariate analysis. Notably, from 40 years of age, the risk of hospitalization increases 1.5 times for every 10-year increase in age. Finally, the authors sought to shed light on lymph node staging procedures and secondary concomitant surgeries and their putative role in achieving SDD. This hypothesis seemed to be partially confirmed by the evidence that in the study population, the group of admitted patients showed a significantly higher number of pelvic and para-aortic lymphadenectomies compared with the SDD group. After multivariate analysis, these procedures were found to be significantly associated with overnight admission.

Remarkably, the number of patients who underwent sentinel lymph node biopsies after mapping was significantly higher in the SDD group than among admitted patients. Additionally, this new staging procedure significantly increased the likelihood of achieving SDD for endometrial cancer patients as a protective factor in overnight admission. Hence, the authors first identified this technique as an independent positive predictive factor for SDD in the population of endometrial cancer patients treated with a robotic approach.

Conclusions

It is plausible that gynaecological patients experiencing MIS surgery for malignant indications could be discharged the same day of their procedure if selected postoperative criteria are met. Most gynaecological oncologists admit patients after minimally invasive hysterectomy and staging for observation to detect early possible perioperative bleeding, organ injuries and other complications. However, data from recent reports on a large cohort of patients who underwent SDD after MIS for endometrial cancer demonstrated that SDD and overnight hospitalization do not show any significant difference in immediate and 30-day postoperative complications. The authors pointed out that acute complications could be detected in the immediate postoperative hours, while the onset of symptoms related to other complications such as injuries, fistula,

infections and a pelvic abscess is absent within 24 hours of their discharge; thus, readmission could not have been prevented with an overnight hospitalization ^{13,16}. Finally, some authors argue that old patients with comorbidities or previous surgeries should be scheduled early in the morning or not be considered for SDD in selected cases; in addition, young patients without comorbidities and previous surgery can be scheduled as subsequent interventions.

In general, in the absence of substantial postoperative complications determining unscheduled visits and readmissions, it is plausible to speculate that the transition from the lowest rate of SDD and the recent highest percentage of outpatient procedures for endometrial cancer staging in different reports may coincide with the gradual and consistent adoption of new perioperative clinical, anesthesiologic and PACU protocols across the years encompassed in ERAS programme implementation. Interestingly, a group of researchers recently introduced a video implementation for preoperative education and postoperative management of gynaecologic oncology patients after minimally invasive surgery and described an increased SDD rate of up to 86% in patients eligible for SDD ⁹.

We believe that the immediate availability of verbal and clinical consultations with providers and a comprehensive dialogue with specialists should be identified as an integrative part of SDD protocols in the modern surgical era. This could be explained by considering that high SDD rates are achieved both by implementing robust ERAS perioperative protocols and proper pre- and post-surgical patient management.

Indeed, any tertiary referral centre that offers early discharge protocols after minimally invasive gynaecological oncology treatment should educate and inform patients coming to the centre from distant areas with comprehensive counselling and ensure accommodations at facilities in the immediate postoperative period. From a technical standpoint, it is plausible to hypothesize that the sentinel lymph node technique represents one of the keystones in a shift towards standard SDD in an endometrial cancer setting.

Parallel, it is rational to speculate that ERAS protocols, together with the improvement of robotic platforms, may play a synergic role in achieving outpatient care for minimally invasive treatment in this gynaecological oncology population. Further studies are needed to clarify and demonstrate the actual value of new clinical, technical or decision-making factors in the achievement of SDD in the endometrial cancer population. Improving research focusing on the putative role of sentinel lymph node technique in contributing to attaining SDD and assessing the real impact of ERAS protocols in gynaecological oncology patients' management will be valuable in the future.

Point 1:

Preoperative preparation

• Patients aged 18-59 years take Tylenol 1,000 mg, Celebrex 400 mg and Gabapentin 600 mg (in selected cases).

- Patients aged 60-69 years take Tylenol 1,000 mg and Celebrex 400 mg (if under 64 years of age).
- Patients aged 70 years or older take Tylenol 1,000 mg and Gabapentin 300 mg (in selected cases).

Point 2:

Most common postoperative pain medication schedule:

- acetaminophen 1,000 mg oral every 6 hours (not exceeding 4,000 mg in 24 hours)
- ibuprofen 600 mg oral every 6 hours
- ondansetron 4 mg oral every 6 hours as needed for nausea for up to seven days
- oxycodone 5 mg oral every 4 hours as needed for up to five days for acute pain management

Conflict of interest statement: The authors declare no conflict of interest.

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TOP ARTICLES AT A GLANCE

in the Robotic Gynaecology Field

Tomasso Simoncini, Andrea Giannini, Sergi Fernandez and Christos Iavazzo

CHARACTERISTICS OF INCLUDED STUDIES TO EVALUATE TRAINING IN ROBOT-ASSISTED SURGERY

Author/Journal: Chen CCG, 2023, Int Urogynecol J¹

Ref: 37449987 Location: US Period of study: not stated Sample size: 5 cases (30 warm-up, 28 no warm-up)

Study aim: to study the effect of immediate pre-operative warm-up using virtual reality simulation on intraoperative robot-assisted laparoscopic hysterectomy (RALH) performance by gynaecology trainees (residents and fellows)

Study design: Randomized controlled trial **Results:** Attending surgeons rated trainees similarly irrespective of warm-up randomization with mean (SD) OSATS composite scores of 22.6 (4.3, warm-up) vs 21.8 (3.4, no warm-up) and mean GEARS composite scores of 19.2 (3.8, warm-up) vs 18.8 (3.1, no warm-up). The difference in composite scores between warm-up and no warm-up was 0.34 (95% CI -1.44 to 2.13), and 0.34 (95% CI -1.22 to 1.90) for OSATS and GEARS respectively. Also, we did not observe any significant differences in each of the component/subscale scores within OSATS and GEARS between cases assigned to warm-up and no warm-up.

Author/Journal: Iavazzo C, 2022, Int J Med Robot²

Ref: 35398969 Location: Greece Period of study: not stated Sample size: 57 patients Study aim: to create a predictive score that evaluates duration of robotic-assisted gynaecological surgeries Study design: Retrospective analysis Results: Mean 'lavazzo' score was 7.96, while mean surgery and overall time were 140 and 208.8 min,

respectively. Correlation between lavazzo score and operation time was statistically significant (p < 0.001). Using median operation time, we found an area under curve of 0.86 and a cut-off value of 7.5 for lavazzo score.



Author/Journal: lida Y, 2023, j Obstet Gynaecol Res ³ Ref: 37493096

Location: Japan

Period of study: January 2018 to May 2022 **Sample size:** 40 eligible cases (first-half RAH: 20 cases; second-half RAH: 20 cases) in the RAH group and 44 cases in the TLH group

Study aim: to compare introduced robotic-assisted hysterectomy (RAH) and skilled total laparoscopic hysterectomy (TLH) for the treatment of benign gynaecological diseases

Study design: Retrospective cohort study **Results:** The total operative time (TOT) of the second half of RAH was significantly shorter than that of the first half of RAH (p = 0.021) and was comparable to that of the TLH group. The operative time (OT) of the second half of RAH was shorter than that of TLH (p = 0.023). The preparation time of TLH was shorter than that of the RAH group (p < 0.01). The learning curve of the TOT in RAH crossed that of TLH on the 31st case of RAH. In contrast, both curves of the OT crossed on the 11th case of RAH.

Author/Journal: Kim JS, 2023, J Robot Surg ⁴

Ref: 37526810

Location: US Period of study: August 2021 to February 2023 Sample size: 25 trainees

Study aim: to identify whether trainees demonstrate improvement in a standardized knot-tying task as assessed by Global Evaluative Assessment of Robotic Skills (GEARS) score after completion of a virtual reality (VR) robotic curriculum

Study design: Prospective study

Results: Trainees demonstrated significant improvement in their post-test GEARS score by 2.43 points (p < 0.05) and were able to tie three additional knots within 10 min after completion of the curriculum (p < 0.05). Trainees also demonstrated a faster time to complete first knot (114 s improvement, p < 0.05) after completion of the curriculum. All participants agreed or strongly agreed that completion of the robotic curriculum helped them feel more comfortable using the robotic console and improved their robotic surgical skills.

Author/Journal: Wile RK, 2023, J Robot Surg ⁵

Ref: 37531043 Location: US Period of study: Not stated Sample size: 29 students Study aim: to evaluate whether practice with low-cost home simulation models can improve trainee performance on robotic surgery simulators Study design: Randomized controlled trial **Results:** The difference in score improvement between the experimental and control groups was not significant. In interviews, students provided suggestions to increase fidelity and usefulness of low-cost robotic home simulation. Low-cost home simulation models did not improve student performance on dVSS after two weeks of at-home practice. Interview data highlighted areas to focus future simulation efforts.

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CHARACTERISTICS OF INCLUDED STUDIES TO EVALUATE ROBOT-ASSISTED SURGERY IN GENERAL GYNAECOLOGY

Author/Journal: De Nagy J, 2023, Best Pract Res Clin **Obstet Gynaecol**¹

Ref: 37481892

Location: US

Study design: Narrative review

Results: Robotic surgery, in the hands of an experienced team, has not borne out to be more expensive than traditional laparoscopic or open surgery and may have a

cost reduction in comparison to open abdominal surgery. While the direct costs of robotic surgery can be easily measured, current administrative practices in most centres in the United States do not allow for simple tracking of indirect costs. Surgeon experience, minimizing instrument cost and workflow of ancillary staff are major cost drivers in robotic surgery.

Author/Journal: Lee YL, 2023, Diagnostics (Basel)² Ref: 37238293

Location: Taiwan

Period of study: May 2014 to December 2015 Sample size: 49 patients

Study aim: to evaluate the feasibility and safety of using early ureteral identification and preventive uterine artery ligation in robotic hysterectomy in patients with benign gynaecological conditions

Study design: Retrospective review of data from 49 patients

Results: Robotic hysterectomy achieved satisfactory results, including a short postoperative hospital stay (2.7 \pm 0.8 days), low conversion rate (n = 0) and low complication rate (n = 1; 2%). The average estimated blood loss was 109 ± 107.2 mL.

Author/Journal: Lönnerfors C, 2023, Best Pract Res Clin Obstet Gynaecol ³

Ref: 37356336 Location: Sweden Period of study: not stated Study design: Narrative review **Results:** Robotic surgery supports ERAS through facilitating MIS in complex procedures where laparotomy is an alternative approach.

Author/Journal: Mansour T, 2023, J Minim Invasive **Gynecol**⁴

Ref: 37541324 Location: US Period of study: not stated Sample size: 1 patient

Study aim: to demonstrate a surgical technique for robot-assisted laparoscopic excision of abdominal wall endometriosis with intraoperative ultrasound-guided needle placement

Study design: Case study (description and demonstration of surgical technique)

Results: Minimally invasive resection of abdominal wall endometriosis using intraoperative ultrasound guided needle placement is an effective technique to guide surgical dissection and allow for clear surgical margins and successful treatment of this rare condition.

Author/Journal: Moore MS, 2023, J Geriatr Oncol ⁵ Ref: 37295288



Location: US

Period of study: January 2012 to October 2015 **Sample size:** 765 patients analyzed, with 185 $(24\%) \ge 65$

Study aim: to evaluate the peri- and post-operative complication rates in patients age 65 years or above in minimally invasive robotic gynaecological surgery Study design: Retrospective review of data from 765 consecutive minimally invasive robotic-assisted surgeries **Results:** The intraoperative complication rate in patients < 65 was 1.9% (11/580) vs 1.62% (3/185) in females ≥ 65 (p = 0.808). The postoperative complication rate in patients < 65 was 15.5% (90/580) vs 22.7% (42/185) in females \geq 65 (p = 0.328). We observed more post-operative complications with patients who had intraoperative complications compared to patients who developed post-operative complications without intraoperative complcations in our sample, but it was not statistically significant (OR = 2.78, p = 0.097). The average estimated blood loss was 137.5 ml (0-1000) for patients younger than 65 years and 134.81 ml (0-2200) in patients 65 years or older (p = 0.097).

Author/Journal: Noh JJ, 2023, J Pers Med ⁶

Ref: 37511791

Location: Republic of Korea

Period of study: December 2018 to August 2021 **Sample size:** hybrid RSSH group (n = 29) and SPA-TLH group (n = 35)

Study aim: to compare surgical outcomes between single-port access total laparoscopic hysterectomy (SPA-TLH) and hybrid robotic single-site hysterectomy (RSSH)

Study design: Retrospective cohorts study **Results:** The surgical outcomes including total operative time, uterine weight, estimated blood loss, hemoglobin changes, length of hospital stay and postoperative pain scores were not significantly different between the two groups. The colpotomy time, including the detachment of the uterosacral and cardinal ligaments, was shorter in the hybrid RSSH group than in the SPA-TLH group (8.0 min vs 14.0 min; p = 0.029). However, the vaginal cuff closure time was longer in the hybrid RSSH group than in the SPA-TLH group (15.0 min vs 10.0 min; p = 0.001). No difference was observed with regards to intraoperative and postoperative complications.

Author/Journal: Nozaki T, 2023, J Robot Surg 7

Ref: 37434073 Location: Japan Period of study: not stated Sample size: The patients (n = 843) were grouped as follows: TLH (n = 340) and RAH (n = 503). Study aim: to compare the effectiveness of conventional total laparoscopic hysterectomy (TLH) against robot-assisted total hysterectomy (RAH) in patients with a large uterus

Study design: Retrospective study

Results: The median operative time (OT) for TLH was 98 min (47-406 min), and the estimated blood loss (EBL) was 50 mL (5-1800 mL). The median OT for RAH was 90 min (43-251 min), and the EBL was 5 mL (5-850 mL), with a significantly shorter OT and a lower EBL in RAH than in TLH. Uterine weight was categorized into four groups in increments of 250 g. The number of cases in each group was 163 (< 250 g), 116 (250-500 g), 41 (500-750 g) and 20 (≥ 750 g) for TLH, and 308 (< 250 g), 137 (250-500 g), 33 (500-750 g) and 25 (\geq 750 g) for RAH. In patients with a uterus < 250 g, there was no significant difference in OT between TLH and RAH, but in patients with a uterus \geq 250 g, OT tended to be shorter with RAH, which was also true for a uterus \geq 750 g. The EBL was significantly lower with RAH compared to TLH, regardless of uterine weight.

Author/Journal: Sheng Y, 2023, World J Surg Oncol ⁸ Ref: 37507735

Location: not stated

Period of study: to January 2023

Sample size: A total of 15 retrospective clinical controlled studies were included. There exists a total of 45,702 patients, among 11,618 patients in the RALM group and the remaining 34,084 patients in the LM group.

Study aim: to systematically evaluate the efficacy and safety of robotic-assisted laparoscopic myomectomy (RALM) versus laparoscopic myomectomy (LM) **Study design:** Meta-analysis (15 retrospective clinical controlled studies were included)

Results: RALM was associated with lesser intraoperative bleeding (MD = -32.03, 95% CI - 57.24 to - 6.83, p = 0.01), lower incidence of blood transfusions (OR = 0.86, 95% CI 0.77 to 0.97, p = 0.01), shorter postoperative hospital stay (MD = - 0.11, 95% CI - 0.21 to - 0.01, p = 0.03), fewer transitions to open stomach (OR = 0.82, 95% CI 0.73 to 0.92, p = 0.0006) and lower incidence of postoperative complications (OR = 0.58, 95% CI 0.40 to 0.86, p = 0.006) than LM, whereas LM is more advantageous in terms of operative time (MD = 38.61, 95% CI 19.36 to 57.86, p < 0.0001).

Author/Journal: Silverstein RG, 2023, JSLS ⁹

Ref: 37522106 Location: US Period of study: 2013 to 2021 Sample size: 367 respondents; 265 in 2013 and 102 in 2021 Study aim: to assess how credentialing standards and perceptions of safe use of robotic surgery in gynaecology have changed over time (specifically sought to assess if management of and standards for robotic training and credentialing are perceived to correlate with safe incorporation of robotic surgery into practice) Study design: Cohort survey study **Results:** Percentage of respondents ever having performed a robotic case increased from 48% to 79% and those who performed > 50 cases increased from 25% to 59%. In 2021, a greater percentage of attending physicians reported having formalized protocol for obtaining robotic credentials (93% vs 70%, p = 0.03) and maintaining credentialing (90% vs 27%, p < 0.01). At both time points, most attendings reported requiring proctoring for 1–5 cases before independent use. Opinions on the number of cases needed for surgical independence changed from 2013 to 2021. There was an increase in respondents who believed > 20 cases were required (from 58% to 93% of trainees and 29% to 70% of attendings). In 2021, trainees were less likely to report their attendings lacked the skills to safely

Author/Journal: Thigpen B, 2023, J Robot Surg ¹⁰

Ref: 37523047 Location: US Period of study: January 2015 to August 2022

perform robotic surgery (25% to 6%, p < 0.01).

Sample size: 159 patients underwent R-VNOTES hysterectomy, and 269 patients underwent RSSP hysterectomy.

Study aim: to evaluate the surgical outcomes for robotic-assisted vaginal natural orifice transluminal endoscopic surgery (R-VNOTES) hysterectomy versus robotic-assisted single-site port (RSSP) hysterectomy when performed for benign indications Study design: Retrospective chart review **Results:** Median length of surgery (minutes) demonstrated a statistically significant shorter operative time in the R-VNOTES hysterectomy group when compared to the RSSP hysterectomy group, (132 min vs 146 min, respectively, p = 0.0001). Additionally, patients in the R-VNOTES hysterectomy group experienced decreased postoperative pain levels at week 1 (6 vs 7, respectively, p = 0.01) and week 3 (1.5 vs 2.5, respectively, p = 0.01) after surgery. There were no statistically significant differences between the two groups when comparing length of hospital stay, estimated blood loss and weight of the uterus. There was no difference in rates of urinary tract infection, blood transfusion, bowel injury, readmission, reoperation, conversion, deep surgical site infection and venous thromboembolism between both groups. However, there was a higher rate of superficial SSI in the RSSP hysterectomy group (0.6% vs 4.5%, respectively, p = 0.03).

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CHARACTERISTICS OF INCLUDED STUDIES TO EVALUATE ROBOT-ASSISTED SURGERY IN UROGYNAECOLOGY

Author/Journal: Falus N, 2023, Int Urogynecol J¹

Ref: 37490062

Location: USA

Period of study: not stated

Sample size: 67 sequential patients underwent RALSH with concomitant robotics-assisted sacrocolpopexy or uterosacral vaginal suspension

Study aim: to determine the factors affecting contained manual morcellation (CMM) of specimens during RALSH for POP surgery. The secondary aim of the study is to report complications associated with CMM and on specimen pathology.

Study design: Case series

Results: Median CMM time was 11 min (1 to 46) and specimen weight 62 g (19 to 711). Median patient age was 56 years (36 to 83), and patient BMI was 28 (18 to 44). Median EBL was 50 ml (10 to 150). Median skin and fascial incision lengths were 3 cm (1.5 to 7) and 3.5 cm (1.5 to 8). CMM time was significantly dependent on specimen weight (p < 0.0001) and length of rectus fascia incision (p < 0.0126). There was no gross tissue spillage or bag ruptures.

Author/Journal: Oh S, 2023, Obstet Gynecol Sci²

Ref: 37461208 Location: Korea Period of study: not stated Sample size: 19 original articles on 1,440 robotic sacrocolpopexies Study aim: to summarize the complications and surgical outcomes of robot-assisted sacrocolpopexy

Study design: Narrative review

Results: Robotic sacrocolpopexy has demonstrated low overall complication rates and favorable surgical outcomes. Nevertheless, long-term follow-up outcomes regarding objective and/or subjective prolapse recurrence, reoperation rates and mesh-related complications remain unclear.

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CHARACTERISTICS OF INCLUDED STUDIES TO EVALUATE ROBOT-ASSISTED SURGERY IN GYNAECOLOGICAL ONCOLOGY

Author/Journal: Drymiotou S, 2023, Int J Med Robot

Ref: 37522379 Location: UK Period of study: 2016 to 2019 Sample size: 281 patients

Study aim: to assess the surgical outcomes in obese women with endometrial cancer following robotic surgery introduction in a London tertiary gynaecological cancer unit

Study design: A prospective single-centre study **Results:** The proportion of obese and morbidly obese patients undergoing minimally invasive surgery (MIS) significantly increased following robotic surgery introduction from 43.8% to 69.6% (p < 0.001). Overall robotic surgery operating time was not affected by higher body mass index (r = 0.177, 95% CI -0.068-0.402). There was no difference in the length of stay or in the frequency and severity of complication rates between obese, morbidly obese and non-obese populations undergoing MIS.

Author/Journal: Fennimore NJ, 2023, J Minim Invasive Gynecol

Ref: 37142090 **Location:** US

Period of study: January 2015 and December 2021 Sample size: : 933 subjects were included: 795 (85.2%) with BMI < 45 and 138 (14.8%) with BMI \ge 45. Study aim: to evaluate the rate of sentinel lymph node (SLN) mapping in patients with body mass index (BMI [kg/m2] BMI \geq 45 compared with BMI < 45. Study design: A retrospective chart review **Results:** Comparing the BMI < 45 with BMI ≥ 45 group, bilateral mapping was successful in 541 (68.1%) vs 63 (45.7%), respectively. Unilateral mapping was successful in 162 (20.4%) vs 33 (23.9%), respectively. Failure to map occurred in 92 (11.6%) vs 42 (30.4%) (p <.001), respectively. Exploratory analysis also suggested an inverse relationship between success rate of bilateral SLN mapping and BMI, with patients with BMI < 20having bilateral SLN mapping rates of 86.5% and patients with $BMI \ge 61$ having rates of 20.0%. The steepest decline in bilateral SLN mapping rates was from BMI group 46–50 compared to 51–55, at 55.4% to 37.5%, respectively. Adjusted odds ratio (compared with those with BMI < 30) for those in the BMI 30–44 group was 0.36 (95% CI 0.21-0.60) and for those in the $BMI \ge 45$ group was 0.10 (95% CI 0.06-0.19).

Author/Journal: Fu H, 2023, Gynecol Oncol

Ref: 37149906 Location: not stated Period of study: up to may 2022 Study aim: to compare the long-t

Study aim: to compare the long-term survival outcomes of RALS with CLS and LT for endometrial cancer **Study design:** Systematic review and meta-analysis **Results:** RALS and CLS had no difference in OS (HR = 0.962, 95% CI 0.922-1.004), RFS (HR = 1.096, 95% CI 0.947-1.296) and DSS (HR = 1.489, 95% CI 0.713-3.107) for endometrial cancer; however, RALS was significantly associated with favorable OS (HR = 0.682, 95% CI 0.576-0.807), RFS (HR = 0.793, 95% CI 0.653-0.964) and DSS (HR = 0.441, 95% CI 0.298-0.652) when compared with LT. In the subgroup analysis of effect measures and follow-up length, RALS showed comparable or superior RFS/OS to CLS and LT. In early stage endometrial cancer patients, RALS had similar OS but worse RFS than CLS.

Author/Journal: Gwacham NI, 2023, Gynecol Oncol Ref: 37329874

Location: US Period of study: not stated Sample size: 244 patients

Study aim: to determine the prevalence of peritoneal cytologic contamination following robotic hysterectomy for EC

Study design: Cross-sectional

Results: Pelvic contamination was identified in 32 (13.1%) cases. In multivariate analysis, pelvic contamination was associated with > 50% myometrial invasion, tumor size > 2 cm, lymphovascular space invasion (LVSI) and lymph node metastasis. There was no association with FIGO stage or histology subtypes.

Author/Journal: Holtzman S, 2023, Gynecol Oncol Ref: 37270906

Location: US

Period of study: January 1, 2014 to September 1, 2020 **Sample size:** 674 patients diagnosed with EC during the study period, 189 diagnosed with high-risk EC azard n our azard n. Forty-six (23.7%) patients underwent SLN assessment and 143 (73.7%) underwent LND.

Study aim: to determine the progression free survival (PFS) and overall survival (OS) among patients with high-risk endometrial cancer (EC) who underwent sentinel lymph node (SLN) mapping and dissection compared to patients who underwent pelvic +/- para-aortic lymphadenectomy (LND).

Study design:

Results: No difference was observed between the two groups in regards to age, histology, stage, body mass

index, tumors myometrial azard n, lymphovascular space azard n or peritoneal washing positivity. Patients in the SLN group underwent robotic-assisted procedures more frequently than those in the LND group (p <0.0001). The three-year PFS rate was 71.1% (95% CI 51.3-84.0%) in the SLN group and 71.3% (95% CI 62.0-78.6%) in the LND group (p = 0.91). The unadjusted hazard ratio (HR) for recurrence in the SLN versus LND group was 1.11 (95% CI 0.56-2.18; p = 0.77), and after adjusting for age, adjuvant therapy and surgical approach, the HR for recurrence was 1.04 (95%) CI 0.47-2.30, p = 0.91). The three-year OS rate was 81.1% (95% CI 51.1-93.7%) in the SLN group and 95.1% (95% CI 89.4-97.8%) in the LND group (p = 0.009). Although the unadjusted HR for death was 3.74 in the SLN vs LND group (95% CI 1.39-10.09; p =0.009), when adjusted for age, adjuvant therapy and surgical approach, it was no longer significant with a HR of 2.90 (95% CI 0.94-8.95, p = 0.06).

Author/Journal: Hwang JH, 2023, Int J Surg

Ref: 37195800 Location: not stated Period of study: up to July 2022 Sample size: 3,079 patients were included in this analysis.

Study aim: to compare the risks of perioperative lymphatic complications after robotic radical hysterectomy and lymph node dissection (RRHND) with laparoscopic radical hysterectomy and lymph node dissection (LRHND) for early uterine cervical cancer **Study design:** Meta-analysis

19 eligible clinical trials (15 retrospective studies and 4 prospective studies) comprising 3,079 patients were included.

Results: Only 107 patients (3.48%) had perioperative lymphatic complications, of which the most common was lymphedema (n =57, 1.85%), followed by symptomatic lymphocele (n =30, 0.97%), and lymphorrhea (n =15, 0.49%). When all studies were pooled, the odds ratio for the risk of any lymphatic complication after RRHND compared with LRHND was 1.27 (95% CI 0.86-1.89, p = 0.230). In the subgroup analysis, study quality, country of research and publication year were not associated with perioperative lymphatic complications.

Author/Journal: Liang X, 2023, Front Oncol

Ref: 37483489 Location: China Period of study: January 2018 to May 2021 Sample size: : 50 patients received RRH by adopting the pulling robotic arm (RA) instead of a uterine



manipulator to pull the uterus (3-RA RRH group), and another 56 patients were performed RRH with a uterine manipulator (2-RA RRH group).

Study aim: to compare the pulling RA to replace a uterine manipulator vs. using a uterine manipulator to manipulate the uterus in robotic radical hysterectomy (RRH)

Study design: A single-centre retrospective experience **Results:** The early post-operative complications (≤ 7 days) (p = 0.022) and post-operative anemia (p < 0.001) in the 3-RA RRH group were significantly lower than that in the 2-RA RRH group.

Author/Journal: Sallée C, 2023, J Gynecol Obstet Hum Reprod

Ref: 37301478 Location: France

Period of study: November 2018 to February 2022 Sample size: 82 patient

Study aim: to assess the rate of UP while using UM when performing surgery for EC and the impact of UP on the choice of adjuvant treatment

Study design: A prospective single-centre cohort study **Results:** 9 UPs (11%) occurred during surgery. There was no significant difference in demographics and disease characteristics at diagnosis that may have induced UP. The type of UM used or the approach (laparoscopic vs. robotic) did not influence the occurrence of UP (p = 0.44). No positive peritoneal cytology was found post hysterectomy. There was a statistically significantly higher rate of lymph-vascular space invasion within the perforation group (67% vs 25% in the no perforation group, p = 0.02). Two out of nine (22%) adjuvant therapies were changed because of UP. The median follow-up time for patients was 7.6 months (range 0.5-33.1 months). No recurrence was found in the UP group.

Author/Journal: Seon KE, 2023, Sci Rep

Ref: 37474581

Location: Korea **Period of study:** November 2018 to March 2022 **Sample size:** 42 consecutive endometrial cancer patients, who underwent robotic staging using the da Vinci SP (SP) system, and 126 propensity score-matched patients who underwent staging using the da Vinci Xi (Xi) system

Study aim: to evaluate the safety and feasibility of SP in terms of intra- and post-operative complications and compare the perioperative surgical outcomes between SP and Xi in the surgical staging of endometrial cancer **Study design:** Retrospective study

Results: Median console and total operation times were longer in the SP group than in the Xi group (125 vs

77 min, p < 0.001; 225 vs 154.5 min, p < 0.001, respectively). Notably, the median console time of the first 10 cases using SP was 184 min; it subsequently decreased to 99.5 min in the fourth 10 cases. SP had lesser postoperative hemoglobin (Hb) change (0.6 \pm 0.7 g/dL vs 1.8 \pm 0.9 g/dL in Xi, p < 0.001) and lower median pain score at 6 h after surgery (2 vs 3 in Xi, p = 0.046). Moreover, median postoperative hospital stay was shorter in the SP group (2 days) than in the Xi group (6 days) (p < 0.001).

Author/Journal: Zhang N, 2023, World J Surg Oncol Ref: 37403056

Location: China

Period of study: January 2013 to December 2017 **Sample size:** abdominal radical hysterectomy (ARH) (n = 32), laparoscopic radical hysterectomy (LRH) (n = 61), robot-assisted radical hysterectomy (RRH) (n = 100) and vaginal radical hysterectomy (VRH) (n = 45) approaches **Study aim:** to compare the survival outcomes of ARH, LRH, RRH and VRH approaches for early stage cervical cancer to identify the surgical approach that provides the best survival

Study design: Retrospective study

Results: The volume of intraoperative blood loss was greater in the ARH group than in the LRH group, the RRH group or the VRH group [(712.50 \pm 407.59) vs (224.43 \pm 191.89), (109.80 \pm 92.98) and (216.67 \pm 176.78) ml, respectively; p < 0.001]. Total 5-year OS was significantly different among the four groups (ARH, 96.88%; LRH, 82.45%; RRH, 94.18%; VRH, 91.49%; p = 0.015). However, no significant difference in 5-year DFS was observed among the four groups (ARH, 96.88%; LRH, 81.99%; RRH, 91.38%; VRH, 87.27%; p = 0.061).



YEARS CORNER

Activities and training opportunities in Spain, Sergi Fernandez

In Spain, robotic surgery in gynaecology has been practised for over 15 years in some centres of excellence. In recent years, there has been an exponential increase in the number of devices installed in our country.

Currently, there are more than 100 robotic platforms, with the majority being Da Vinci systems.

Despite these numbers, the training offerings in robotic gynaecology are limited. There is a theoretical masters programme exclusive to robotic gynaecological surgery titled **'Máster de Formación Permanente en Cirugía Robótica y Endoscópica Avanzada'**, organised in Hospital General Universitario de Valencia by the University of Valencia.

Another option is **'Master en Endoscopia Ginecológica'**, which combines theory and practice for laparoscopy and robotic approaches in general gynaecology. It is organised in Hospital Vall d'Hebron by Universitat Autonoma de Barcelona.

At the Hospital de Valldecillas, there is a two-day robotic surgery cadaveric course organised by Abex and its gynaecology department.





Our department also offers a masters in **'Ginecología Oncológica y Patología Mamaria Multidisciplinar'**, which combines theory and practice in all surgical approaches regarding gyneacological oncology. It is held in Bellvitge University Hospital, endorsed by Universitat de Barcelona.

Another option for training in robotic gynaecological oncology is to apply for the two-year fellowship organised by the **European Society of Gynaecological Oncology (ESGO).** In Spain, there are **10 centres** listed on the **ESGO website**, some of which have a strong tradition of robotic surgery.

A listing of these centres can be accessed at **www.esgo.org/explore/esgo-accreditation.**

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SERGS 2023 CONFERENCE REPORT

Interview with Vicky Chatzirafail, Greece



Dr Chatzirafail, you were the head of the Greek Organising Committee for SERGS 2023. What were your goals when organising the meeting in Athens?

Our primary goal was to organise a scientific conference that would be appealing to all surgeons – novices as well as experts.

We decided to highlight educational videos, which described robotic surgeries step by step, starting with a simple robotic hysterectomy and moving on to more complex surgeries.

We also encouraged interactive presentations, and we were delighted to witness the excited participation of the audience from day one through the final day of the congress.

What feedback did you receive from the participants of the meeting?

Participants were initially impressed by the three-hour YEARS session, which took place at the beginning of the meeting.

YEARS council members not only presented a detailed introduction to the world of robotic surgery but also included topics concerning the difficulties that young surgeons encounter and how to overcome them. We also held debates between fellows and their mentors and created rather interesting dialogues to follow, in the style of a theatrical play. That was a first for a SERGS meeting.

Another highlight of the event was the session focusing on innovations and augmented reality, which is considered the technology of next-generation surgeons. We invited world experts in the field who initiated dialogue among surgeons about the potential of intelligence-guided surgery. Apart from the scientific programme that covered all topics related to benign and malignant robotic surgeries, I have to admit that the social events in Athens monopolized the interest of participants this year.

What were the sessions that you focused on in your scientific programme?

After the YEARS session, which introduced junior surgeons to the exciting field of robotic surgery, experts took the stand and covered a variety of topics such as tips and tricks regarding endometriosis, myomectomies and complex hysterectomies. We continued with our oncological session, which included the latest updates on gynaecological malignancies and a session about the complications of robotics and vaginal natural orifice transluminal endoscopic surgery (vNOTES).

Due to the large submission of abstracts, we were also able to include numerous oral and video presentations from participants who shared their own experiences. And we were happy to have keynote lectures from Prof Michel Canis, a world expert in endometriosis surgery, and Prof. Benoit Rabischong, the current President of ESGE.

Could you tell us more about the event's social programme?

Athens is the capital of Greece and is widely considered the birthplace of democracy, arts and philosophy. So apart from the lectures, we decided to expose participants to different aspects of the city.

The events started with a YEARS party by the beach, held the evening before the meeting started, during which everyone was invited to network, connect and feel



comfortable among their colleagues.

Apart from the welcome session held on the first day, a networking dinner on the second day allowed everyone the opportunity to dance sirtaki and taste local fine dining under the light of the Parthenon.

Additional tours were offered at the monuments of Delphi, the Acropolis Museum and the Temple of Poseidon at Cape Sounion.

A significant number of surgeons participated in this year's SERGS Level 1 Certification. Did you anticipate that?

I am personally thrilled that more than 50 surgeons decided to get trained and certified in Athens. With the valuable help of Thomas Hebert, we created an intense hands-on course accompanied by keynote lectures to prepare each participant to pass the Level 1 exams. We focused on one-on-one training and we had a great time in the process.

Any advice for the Organising Committee for next year in Madrid?

We are all very excited to see what surprises Madrid has for us. I am sure that all members of the committee will deliver their best to create an even more interesting and interactive programme. You just have to love what you do!





SERGS 2024 Interview with SERGS 2024 Chair Pluvio Coronado

JOIN US IN MADRID AT THE 16TH ANNUAL SERGS CONGRESS!





Dr Coronado, could you refer to your role at the upcoming 16th annual SERGS meeting?

I am a Professor of OBS&GYN in the School of Medicine at the Complutense University of Madrid and the Head of the Gynaecological Oncology Unit and Robotic Surgery at the Hospital Clinico San Carlos of Madrid. I have the honor of being the chair of the upcoming 16th Annual SERGS Congress, which will be held in Madrid from June 6 to 8, 2024.

Can you give us some details about the event?

The event will be organised by the Women's Health Institute of Hospital Clínico San Carlos, a public institution under the jurisdiction of the Madrid Health Service. Established in 1787 through a Royal Charter as the 'College of Surgery of San Carlos', the institute boasts more than 230 years of rich history. Notably, our hospital achieved a significant milestone by becoming the first Spanish public institution to implement a robotic system in 2006.

In collaboration with the SERGS council, the Spanish local committee is drafting an engaging programme that will draw upon the expertise of leading global experts in robotic surgery. The congress is poised to offer a stimulating and immersive experience, with live surgical demonstrations, insightful workshops and comprehensive teaching sessions.

The agenda will focus on the latest advancements in robotic surgery, artificial intelligence and medical technology, without forgetting the latest scientific evidence available. Furthermore, the event will stimulate discussions surrounding ethical considerations inherent in robotic surgery, the integration of Al within surgical practices and the implications of the most recent advances in medical technology.

Is this robotic meeting addressed solely to gynaecologists?

The event will primarily (but not exclusively) be focused on gynaecological robotic surgery, but it welcomes all surgeons (urologists and general surgeons particularly), medical professionals, nurses and researchers who are excited by the remarkable world of robotic surgery.

Can you enlighten us about possible training and certification processes during the meeting?

Attendees will be given the chance to engage in training sessions, practice in the different robotic platforms and potentially obtain certifications by successfully completing the Level 1 SERGS curriculum for gynaecological robotic surgery.

Similar to the previous meeting, preliminary training modules will be conducted before the certification examination day. Surgeons interested in this certification can opt to undertake the training on three distinct dates or even partake in it multiple times. The certification assessment is scheduled for the inaugural day of the congress. Additional details can be accessed on the official SERGS website: www.sergs.org.

What about the 'YEARS Corner'?

We have an exciting young robotic surgeons' group who will help all enthusiastic about robotic surgery. They wait for you in the 'YEARS Corner', a dedicated space for young and emerging surgeons and researchers in robotic surgery. This young group offers a platform to showcase work and exchange ideas with experts. A YEARS session will be held on the first day of the meeting.

Any call for the industry to participate and support?

We extend an open invitation to industry leaders in robotics and laparoscopic systems all over the world to participate and support this event, helping promote collaboration between the medical and technological realms.

Are there any social events included?

We will have several social events, including a welcome cocktail gathering and a tourist visit of the city. Also highly recommended are the YEARS party, the dinner on the final evening with local food and wine, and the Spanish Party.

Any other matters that you might want to discuss/present?

We look forward to welcoming you to Madrid, a city renowned for its rich history, culture and culinary delights. Prepare to be inspired, learn, enjoy and be part of the robotic family at the 16th Annual SERGS Conference.

We are thrilled to invite you to join us from June 6 to 8, 2024, to explore the forefront of gynaecological robotic surgery and contribute to enhancing the robotic world.

Register as soon as possible to secure your place at this remarkable event!

For further details, please visit https://conference.sergs.org



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CORNER OF THE INTERNATIONAL ROBOTIC FAMILY

India by Rooma Sinha and Turkey by Faruk Kose

GYNAECOLOGICAL ROBOTICS IN INDIA

Rooma Sinha Founder and President

Association of Gynaecological Robotic Surgeons (AGRS) of India

Robotic surgery was formally introduced in India in 2011. At that time, there were few installations of the da Vinci robotic technology across the country, with most centres having the Si system. Gyneacological robotic surgery has come a long way in subsequent years, with Si systems now replaced by Xi and X models. During the previous decade, It was not easy to adopt new technology in India. The Vattikuti Foundation was instrumental in training and proctoring Indian surgeons during those years.

Over time, robotic installations in India have increased by about 200. In addition to da Vinci, we have three other systems that are being clinically used. Gynaecology is one of the leading adopters of robotic surgery.^{1,2}

The idea of forming an Indian association exclusively for gynaecologists interested in robotic surgery has long been on my mind. During the COVID pandemic, I had the opportunity to give it serious thought. Six gynaecologists, along with me as the Founder/President, formally registered the Association of Gynaecological Robotic Surgeons (AGRS) of India on May 25, 2022. This was followed by our first annual meeting, RoboGynIndia2022, in August in Hyderabad. We currently offer lifetime memberships, long-term memberships and annual memberships, as well as international memberships. Our website, www.agrs-india.com, provides information about the association, membership and future conferences. The website also serves as an educational resource, with surgical videos, recorded lectures from previous conferences and webinars.



In just one year, we have become affiliated with two international associations – the Society of European Robotic Gynaecological Surgery (SERGS) and the Asian Society for Gynaecological Robotic Surgeons (ASGRS). Collaborating and networking with other societies like SERGS and ASGRS provides a strong platform for upcoming gynaecological surgeons. The Vattikuti Foundation is our academic partner, and our annual conference offers an AGRS-Vattikuti Award for the best videos (\$500 for each of the top five) and an AGRS Champions Award for the best abstracts (\$250 for each of the top six).

AGRS is a non-profit organisation that aims to create an Indian group of gynaecologists who will help advance robotic technology in the field of gynaecology. Our focus is on education and training by organising workshops, seminars and conferences to disseminate knowledge related to robot-assisted procedures. Research and innovation are key aims of AGRS, with the goal of fostering an intersection of robotics and gynaecology. The association is focused on encouraging research into new robotic tools, techniques and applications that can improve patient outcomes and safety. We hope to improve women's gynaecological surgical health care in India through openly sharing and tracking clinical outcomes for research, process improvement and procedural development.

AGRS also aims to create public awareness, provide accurate information and address the concerns surrounding the integration of robotics in surgery. Our ability to have an international perspective by working with other organisations will help serve regions and countries where access to advanced medical technology might be limited. AGRS is also focused on addressing the ethical and safety considerations associated with robot-assisted gynaecological procedures. This could involve developing guidelines and standards to ensure safety, informed consent and the responsible deployment of robotic technology for surgical use.

Together with SERGS, we have started a three-level Indo-European Diploma in robotic gynaecology training modules for gynaecologists in India. Our annual conference, RoboGynIndia, is held every year during the second weekend of August. Live workshops are also held twice a year, along with online webinars. All information about these educational activities are available on our website. Personally, I have a long association with SERGS, attending and presenting my work at the annual SERGS conference every year and enjoying my visits to various cities throughout Europe.

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THE EVOLUTION OF ROBOTIC SURGERY IN TURKEY

M. Faruk Kose

President of the Society of Gynaecological **Robotic Surgery**

The field further advanced with the introduction of robotic gynaecological surgery in 2007, showcasing the expanding applications of robot-assisted procedures. When we look at the history of robotic surgery in Turkey, it extends back to the successful execution of the first robot-assisted cardiac surgery in 2004.



Presently, Turkey is home to 40 reputable medical centres hosting 42 cutting-edge da Vinci robotic systems. These state-of-the-art systems have been utilised by more than 250 extensively trained surgeons. Particularly in the realm of gynaecological surgeries, the number of experienced practitioners surpasses 30.

Notable training centres like Acibadem University -CASE (Center of Advanced Simulation and Education) and Koc University's RMK Academy of Interventional Medicine, Education and Simulation (AIMES) stand out as global examples for comprehensive education in the field of robotic surgery. The exceptional distinction of having these two centres in Istanbul marks the city as the sole location worldwide to house two da Vinci Training Centres. This concentration of expertise underscores the city's commitment to advancing the capabilities of robotic surgical techniques.

Collaborative efforts continue to be an integral aspect of this dynamic amalgamation. Particularly, a strong partnership has been established with the Society of European Robotic Gynaecological Surgery (SERGS). This collaboration supports knowledge exchange, joint research initiatives and the progress of best practices in the realm of robotic surgery. As the Turkish Robotic Gynaecological Surgery Society, we aspire to take an active role in all SERGS congresses and host one of their future congresses.

The trajectory of robotic surgery shows no signs of slowing down. The most significant indicator that will contribute to continuous growth in this field is the enhancement of cost-effectiveness and support through local congresses. These endeavors will not only showcase the latest technological advancements but will also shape the future of medical practices by facilitating the exchange of insights among experts.





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