

Delhi Gynaecological Endoscopists Society

# Indian Journal of Gynaecological Endoscopy

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Theme: **Changing Facets of Gynae Endoscopy**

*Conference Secretariat:*

**Delhi Gynaecological Endoscopists Society**  
**BLK-Max Super Speciality Hospital**

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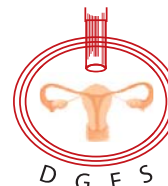
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Delhi Gynaecological Endoscopists Society

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## From the President Message



Dear members of 'Delhi Gynecological Endoscopists Society', I have had the privilege of being your President. I thank each and every one of you for giving me the honor and privilege. Last year we came across many challenges. It was completely a different world we lived in.

Covid times have been challenging and tough in all surgical dimensions. It also faced travails yet sustained Endoscopy. Though the medical fraternity has been at highest risk, we all have adapted to the changing scenario rather swiftly and continued with our responsibilities. The main aim of establishing the society was to promote knowledge, training and research in the field of gynae endoscopy. This was continued through the web during these testing times. We are introducing the second edition of our journal now. The theme for present year is "Changing Facets of Gynae Endoscopy". I thank all the authors for contributing whole-heartedly for this exquisite edition.

The last 18 months did not allow us to connect physically with our friends and DGES executive members but hopefully we shall be getting back to normalcy soon.

We welcome all our members and hope to expand our reach to include new members as well. We shall continue to look at your support and contribution in furthering the cause of gynae endoscopy.

With Warm Regards

**Dr Dinesh Kansal**

President, DGES

HOD and Director Gynecology at BLK-Max Super Speciality Hospital

Robotic and Laparoscopic Surgeon

## From the Honorary Secretary



Dear Members, it gives me immense honor and pleasure to be a part of DGES and to write Secretary message once again. The previous year has been a year of great turmoil and hardship for everyone, we were living under constant fear but it gave us the opportunity to be more with our family and find new ways to interact with everyone online.

*Covid time has been a setback to surgeries especially laparoscopic surgeries but it also gave us an opportunity to evolve and innovate in terms of ways to make it safer for the patient, surgeon and supporting staff. Now with the availability of Vaccine, I am hopeful that we will be able to fight it and resume our surgeries as before.*

*I hope that in the coming year we will be able to meet and greet as before and be able to learn and share the knowledge as before*

### **Dr Pooja Gupta**

Hon. Secretary, DGES  
Consultant, Department of Obs & Gynae  
BLK-Max Super Speciality Hospital

## From the Editor's Desk

Dear everyone,  
Greetings on behalf of DGES editorial team.

We are living through an unprecedented times. Everything that we once took granted for, went for a toss. Humanity has never been exposed to such a threat to its existence, at least in our lifetimes. With elective surgeries down in the earlier phase of covid, endoscopic surgeries have been a downtrend. But then withstanding the adversities, just like the human tenacity, it also rebounded.

However, things have changed for good. The covid times have taught us new approaches and behaviour for safe surgeries. Safety of the patient as well as the surgeon has been paramount. We have learned to breathe through our PPEs and yet perform complex surgeries.

The theme for this year is apt for the changing times, 'Changing Facets of Gynae Endoscopy.' The contribution shared have not been merely about covid but every other aspect of laparoscopy that has evolved over the years.

The past year, months have been literally virtual and we have not had much of interaction. Yet these articles and our stories of dealing with different aspect of endoscopy bind us together and serve as ready reference in our times of crisis.

We bring you the second edition of the DGES journal under our department and leadership of our president, Dr Dinesh Kansal before it moves on from BLK Superspeciality Hospital.

Hoping you all benefit from the rich articles.

The editorial team wishes you all best of learning in these testing times that test our resilience.

Together we shall overcome.

Stay safe, stay healthy.



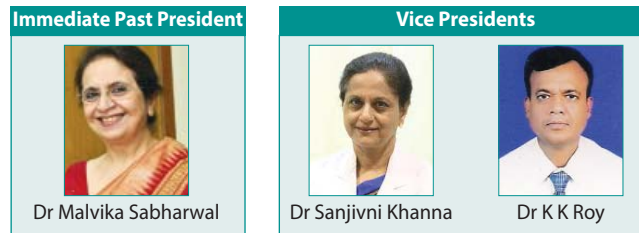
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# Vaginoplasty in Women with MRKH Syndrome

Dr Dinesh Kansal<sup>1</sup>, Dr Garima Chaudhry<sup>2</sup>, Dr Pooja Gupta<sup>3</sup>

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## Introduction

Mayer– Rokitansky– Kuster–Hauser (MRKH) syndrome is a malformation complex characterised by congenital abnormalities of the vagina and uterus in women having normal secondary sexual characteristics and a 46,XX karyotype. Embryological maldevelopment of the Mullerian or paramesonephric ducts results in a spectrum of congenital malformations of the female genital tract. The prevalence of this condition is 4–7%. The incidence of this syndrome is approximately 1:5000 female births or 1:10,000 of the population.

## Embryology

The urogenital system develops from the intermediate mesothelium of peritoneal cavity and the endoderm of the urogenital sinus. Both Wolffian (mesonephric) duct medially and Mullerian (paramesonephric) duct laterally are present in both male and female fetuses initially. In absence of Y chromosome, the Wolffian ducts regress and the Mullerian ducts persist due to the absence of Mullerian inhibitory factor. The paramesonephric duct develops into the uterus and fallopian tubes and the vaginal plate develops into vagina. The body of the developing uterus is formed by the fusion of the two Mullerian ducts at the caudal end and the unfused lateral arms develop into the fallopian tubes. The solid vaginal plate extends caudally and by 20 weeks of gestation, cavitation occurs. A number of congenital uterine and vaginal anatomical abnormalities can arise due to malformation, malfusion or failure of resorption of the paramesonephric duct and vaginal plate. Since the ovaries have a separate embryological source – primordial cell of the yolk sac, the ovarian function is intact in these women.

## Classification

Type I or Typical MRKH refers to isolated symmetrical uterovaginal aplasia or hypoplasia. Type II or Atypical MRKH comprises of asymmetrical uterovaginal aplasia or hypoplasia, absence or hypoplasia of one or both fallopian tubes and malformation in the

ovaries and/or the renal system. MURCS (mullerian duct aplasia, renal dysplasia and cervical somite anomalies) syndrome comprises of uterovaginal aplasia or hypoplasia with malformation in the skeletal system and/or the heart, muscular weakness and renal malformation.<sup>2</sup>

Three systems have been proposed for the classification of female genital tract anomalies -American Society of Reproductive Medicine (ASRM) – a 7 point classification system based on embryology & stage of arrest of development, the embryological-clinical classification system of genitourinary malformations and the Vagina, Cervix, Uterus, Adnexae and associated Malformations system. The CONUTA ESHRE/ESGE Working Group for the study of congenital malformations of the female genital tract has introduced the new classification system based on anatomical degree of abnormality.<sup>1</sup> The AFS system has been widely followed and gained higher acceptance over time.

## Clinical Manifestation & Diagnosis

The diagnosis is based on clinical as well as radiological investigations. 3-D ultrasound provides accurate visualization as compared to two dimensional scan, but its limited availability and relatively higher cost limits its regular use.<sup>3</sup> MRI Pelvis & Abdomen is considered to be the investigation of choice.<sup>3</sup> The multiplanar images and high soft-tissue resolution aids in precise evaluation of the malformations. The hormonal profile and karyotyping is normal in these women.

Primary amenorrhea with presence of secondary sexual characteristics in adolescent age group is the usual presentation in 70-80% women with MRKH syndrome.<sup>4</sup> The vagina can be either a shallow dimple or a few centimeters long blind cavity. Type II MRKH involves malformations in other systems like renal, skeletal, auditory and cardiac. Functional endometrial cavity may be present in rudimentary horns in certain cases leading to cyclical pain and atypical



endometriosis due to retrograde menstruation. Renal abnormalities like renal agenesis, ectopic kidney, horseshoe kidney and ectopic ureter have been reported in up to 40% of women in certain case series. In 10–15% of Type II cases the ovaries are absent, hypoplastic or extrapelvic (pelvic brim).<sup>5</sup>

## Treatment

The treatment aims at counselling of the patient as well as providing adequate length of vagina for sexual intercourse. The treatment is individualized and is usually begun when the patient is psychologically mature to accept the diagnosis and intrinsically motivated to continue the treatment. Neovagina creation is done to create a functional vagina to enable sexual activity. The vaginoplasty /creation of neovagina can be done using surgical or non-surgical approaches. The treatment has to be individualized and started when the woman is emotionally mature and expresses desire to proceed with therapy. Scar from prior procedures, multiple congenital anomalies also affect the choice of procedure. A functional vagina should allow a woman to enjoy comfortable sexual intercourse, this usually corresponds to comfortably accept the largest conventional dilator or to a vaginal length of approximately 7 cm.<sup>6</sup>

As in any other surgery, the first surgery is considered to be the best option for reconstruction. The failure of primary surgery usually leads to fibrotic band formation thus increasing the chances of complications and fistula formation in repeat surgery.

## Non-Surgical Methods

### Frank Technique or Perineal Dilatation

This is used as a first line approach as it's considered to be safer, patient controlled and more cost effective than surgery. Dilators are used on vaginal dimple at fourchette with firm pressure in a sequentially graduated manner starting with 15-20 minutes for 2-3 times a day till adequate length of vagina is achieved. This self-administered method takes time to show desired results thus requires strong patient compliance and motivation as it can cause pain and discomfort to some patients forcing them to abandon the technique. In the modified Ingram method the bicycle seat is used to create the firm pressure. Success rate of 81-88% and 91% has been reported by Frank method and Ingram method respectively.<sup>7</sup>

## Surgical Methods

### McIndoe Reed Vaginoplasty

This procedure was first performed by Abbe and modified by Mc Indoe. In this technique neovagina is created by blunt dissection in recto-vesical space after giving a small incision at the vaginal dimple. The split skin graft taken from buttock / back/ thigh is mounted on the mould with deep surface of the graft facing outwards and stitched to vagina with delayed absorbable sutures. No abdominal cavity entry is required for this procedure. The disadvantage of skin graft method is the unsightly scar it leaves at the graft site apart from reported complications like potential vaginal stenosis, perforation of the bladder and rectum and graft failure.<sup>8</sup> The neovaginal lining bears the inherent property of skin tissue. Partial or complete flap necrosis and hair growth inside neovagina have been reported. A regular follow up is warranted as risk of squamous cell carcinoma has been reported.<sup>9</sup>

Alternatively, amnion has also been used in place of autologous skin graft. Mature squamous epithelium is formed by complete metaplasia of amniotic epithelium.<sup>10</sup> The drawback of this method is risk of infections like HIV and Hepatitis B, need for timely availability and storage of the amnion, risk of graft uptake failure and granuloma formation.

The mould is left in-situ for about 7-10 days postoperatively. This is followed by regular dilatation done for 3 months and requires strong patient inclination and compliance. Alternatively regular sexual activity helps to maintain the vaginal patency.

### Vecchiotti Procedure

This technique was first described by Giuseppe Vecchiotti in Italy in 1965 as a hybrid of surgical and non-surgical procedure. Earlier described as an abdominal procedure, this technique is now practised laparoscopically.<sup>11</sup> Fedele and Brucker modified the procedure further to skip the step of extensive vesico-rectal peritoneal dissection.<sup>12</sup> A straight needle is inserted through the vaginal dimple to hook and pull out the threads. Simultaneous cystoscopy is done and a finger is placed in the rectum to avoid any inadvertent injury. These threads are then passed through an external olive. These threads are attached to an external traction device placed abdominally. A suprapubic catheter is placed to avoid necrosis of the bladder neck by vaginal olive bead.

The patient remains admitted in the hospital for 7-10 days and traction is increased by 1 cm per day. Once adequate length of the vagina is achieved the traction device and threads are removed in OT and patient is discharged. The patient is told to continue vaginal dilatation with moulds at home. Since this procedure derives its benefits from elastic property of the perineum, this surgery is not recommended in cases with prior reconstructive surgery. The complications of this procedure are slippage of traction device, snapping of traction threads and dehiscence of vagina as a result of uneven traction.

### Sigmoid Neovaginoplasty

In this technique, a segment of recto-sigmoid colon is used as a covering structure in place of split thickness graft after creating a vaginal space in a similar manner as in McIndoe operation. The sigmoid is mobilized from mesentery, blood vessels kept intact & 6 inches of sigmoid is pulled into the neovagina space created by vaginal surgeon between bladder and rectum. The advantages of this procedure are self-lubrication by sigmoid segment and lesser tendency to shrink. The disadvantages include anastomosis site leak, foul smelling vaginal discharge and risk of adenocarcinoma in the graft for which regular follow ups are warranted.<sup>13</sup> This procedure is usually used when there is history of prior extensive abdominal surgery.

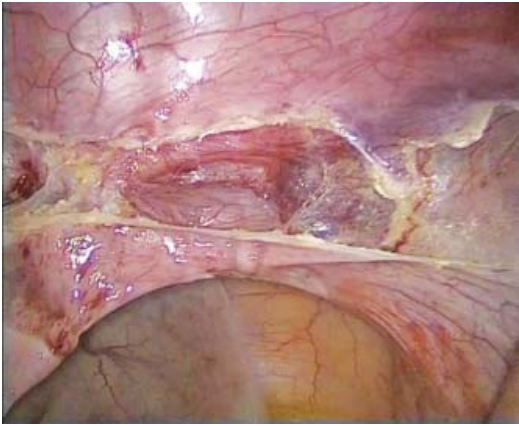
### Davydov Procedure

Initially described as an abdominal procedure, this technique is now widely used laparoscopically.<sup>15</sup> It is a minimally invasive procedure in which the pelvic peritoneum is mobilised and is used for lining the neovagina. After confirming the diagnosis, a thorough preoperative evaluation is done. The patient is put in modified lithotomy position. This procedure is done in two parts – laparoscopic and vaginal. An H shaped incision is made at the vestibulum and through blunt and sharp dissection a space is created between urinary bladder anteriorly and rectum posteriorly. A probe is put in this created space. Then laparoscopically, surgeon explores the pelvic and abdominal cavity. Retrograde filling of bladder is done and a rectal probe may be put in the rectum by the assistant at the vaginal end to guide the laparoscopic surgeon and to minimise any inadvertent intraoperative bladder

and rectum injury. The surgeon makes a horseshoe shaped incision on the pelvic peritoneum from one round ligament to another. The round ligament can be identified by giving gentle traction on the band connecting the two rudimentary horns. The vesical peritoneum is dissected and reflected anteriorly. Upper part of rectum is dissected away from vaginal plate. This will be forming the vault of the neovagina. A transverse incision is made over the prominent part of vaginal probe inserted by the assistant by using an endoscopic energy device (Harmonic scalpel or Monopolar hook). This incision should be at least of two finger breadths to provide adequate width of neovagina for comfortable sexual activity. Few medial fibres of levator ani muscles can be cut if vagina is not sufficiently wide.

The pneumoperitoneum further aids in the peritoneal dissection. The ureters are identified bilaterally by their characteristic peristaltic movement at the pelvic brim by lifting the peritoneum and giving gentle traction on the infundibulo-pelvic ligament. The dissected vesical peritoneum anteriorly and rectal peritoneum posteriorly are pulled into the space created by vaginal assistant. Alleys forceps are used vaginally to pull the peritoneum towards the introitus. This peritoneum is then sutured with the introitus using delayed absorbable interrupted sutures to form the lining of neovagina. Care is taken to avoid excess of sutures to avoid avulsion and necrosis. The vault is formed by taking a purse string suture laparoscopically by using delayed absorbable sutures. The purse string suture is taken around the vesical peritoneum, pelvic peritoneum, round ligaments, rectal peritoneum and the rudimentary horns. Taking rudimentary horns, round ligaments and uterosacral ligaments in this purse string suture helps in suspending the vault and preventing the prolapse of the neovagina.<sup>16</sup>

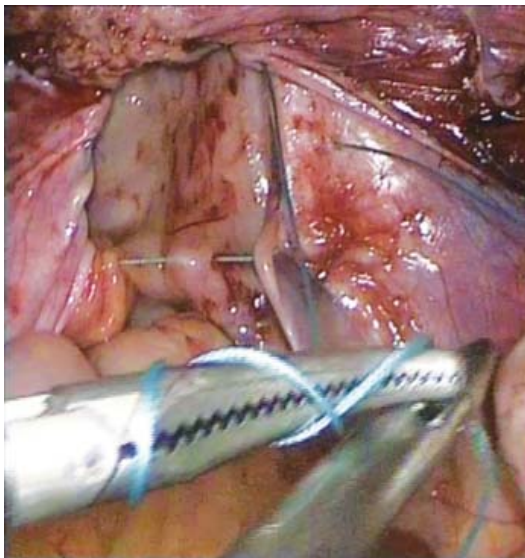
Cystoscopy may be performed to confirm the ureteric integrity and rule out any bladder injury. A mould is placed in the neovagina to maintain its patency. Two to three sutures may be taken at introitus to keep the mould in position. The mould can be formed by using a soft sponge corresponding of the size of the neovagina. It is wrapped in a condom and its open end is tied. It is inserted after generous lubrication with jelly and povidone iodine to avoid any infection. The mould is changed gently after 5 to 7 days.



**Picture showing anterior dissection**



**Picture showing incision over sponge on holder pushed vaginally**



**Picture showing purse string suture to create vault of neo-vagina**

The advantages of this procedure are faster and relatively painless recovery as it's a minimally invasive procedure. The abdominal incisions are around 0.5 -1 cm thus ensuring a good cosmesis for the patient. It

overcomes the drawback of unsightly scarring of skin graft technique of Mc Indoe surgery. This procedure doesn't require any separate device like in Vecchiatti surgery. It can be easily performed by gynaecologist surgeons unlike sigmoid vaginoplasty. The functional and anatomical outcome have been reported to be satisfactory with this procedure.<sup>14,15</sup> The risk of bowel-bladder injury and blood loss is very less in good surgical hands. The anterior and posterior leaves that form the lining of neovagina are kept intact with their origin thus the blood supply of peritoneal lining is kept intact, leading to a good epithelisation of the neovagina. A good depth of the vagina can be achieved up to pouch of Douglas (POD) with this procedure. However, this procedure demands a high surgical skill of laparoscopic suturing.

### Post Op Care

The patient is demonstrated reinsertion at the time of discharge to continue self-dilatation of the neovagina. The patient is advised to wear continuous vaginal mould for 6 weeks post operatively except at the time of defecation. Thereafter, the mould is to be worn at night and gradually the frequency can be reduced to once a week dilatation. The sexual activity can be commenced from 6 weeks onwards. Neovagina has a strong tendency to shrink at any stage of life in absence of regular sexual intercourse or alternative artificial dilatation. Thus requires a lifelong maintenance in order to retain its benefits.

### Conclusion

The goal of neovagina creation in women with MRKH is not only restricted to creating a space but to form a functional vagina of adequate length, to allow the patient to have a comfortable sexual intercourse; thus contributing to a better quality of life. Along with physical effects, MRKH has lot many psychological, social and reproductive bearings. It's equally important to focus on continuous psycho-emotional counselling and keep the patient motivated to make the treatment successful in long term. Any treatment approach, irrespective of its technique will end up in failure unless the patient diligently practises regular vaginal dilatation or sexual intercourse to maintain patency. The non-surgical approach should be the first mode of treatment if a soft vaginal dimple is present and no history of any prior perineal surgery is there and the patient is motivated and intellectually reliable

to carry out this self-administered technique. In our opinion the laparoscopic Davydov procedure is one of the most promising surgical techniques with minimal complications and good results. The use of pelvic peritoneum not only gives a natural neovagina lining responding to physiological hormonal stimulation<sup>17</sup>, the length achieved is greater as peritoneum from POD is used. The plication of rudimentary horn and round ligaments in purse string suture aids in reducing the chances of prolapse. The minimally invasive laparoscopic approach has been a boon for these women. More research studies with large sample size and long follow ups must be encouraged.

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# Minimally Invasive Surgery During COVID Times

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## Introduction

The COVID-19 pandemic raises questions regarding Minimally Invasive Surgery in gynecology. Theoretically MIS involves risk of inhalation and exposure to conjunctiva from aerosols generated during endoscopic surgery. [1]

The risk of infection due to aerosols from MIS may be increased due to:

1. Because of gas insufflation during port entry and during surgery.
2. Aerosols generated by electrosurgery.
3. The gas leaks during surgery may cause viral load in the atmosphere.

According to Mallick et al., there is a possibility of aerosols in the atmosphere, yet there is little evidence of infection due to the virus. [2] Though in the smoke there is presence of virus but there are very few actual documented cases of infection due to aerosols during surgery.

Actually, the spread of COVID-19 infection is by droplets and contact with the infected surfaces to mucosa.

Wang et al. reported the presence of SARS-CoV-2 viral ribonucleic acid (RNA) particles in stool in 29 % of cases and detected live virus in few cases. Consequently, surgeries involving intestines e.g. adhesions or due to endometriosis should preferably be done by open method. The risk of spread of COVID-19 infection during open surgery is also not known. In open surgery also electrocautery is used which creates aerosols.

## Planning Surgeries

- Emergency operations have to be performed.
- Semi-urgent surgeries like early stage endometrial and cervical cancers have to be done in a planned way.
- Benign surgeries like prolapse uterus may wait.
- Surgeries if possible, perform by laparoscopy so

that early discharge can be done.

- All cases posted for surgeries should have COVID-19 RT-PCR done at least 40 hours prior to surgery.
- For cancelled and postponed cases rescheduling of the surgeries has to be planned.
- Surgery for endometriosis should be postponed and symptoms are managed medically.
- If bowel involvement is suspected in any surgery, then such cases should be performed by open surgery. Because studies have shown a high viral RNA load of COVID-19 in stool.
- For emergency surgery e.g. ruptured ectopic pregnancy or cesarean for abruption placenta then a rapid test for COVID-19 should be done.
- If the patient is COVID positive, surgery should be postponed.
- If an emergency surgery has to be performed in a COVID-19 positive patient, then it should be undertaken with full PPE.
- Irrespective of the facts whether the patient is COVID positive or negative, all health care workers should wear full PPE in the operation theatre.
- The senior, experienced, efficient and knowledgeable surgeon should perform the surgery. So that there is lesser operating time and lesser risk to the theatre staff.
- During surgery, avoid opening the laparoscopic ports to release smoke.
- Remove specimens in retrieval bags to minimize gas leaks.
- Some surgeons perform vaginal colpotomy after removing all the gases as done during laparoscopic assisted vaginal hysterectomy.
- Always use closed smoke evacuation system during surgery.
- Suction should be used to remove smoke generated during surgery.
- The suction is used to remove the entire gas from the abdominal cavity at the end of the surgery

before removing the ports.

- The ports are removed only once all the gas has been removed.

### Considerations for Anesthesia

COVID-19 is a respiratory virus, and whenever general anesthesia is given there is chance of viral transmission both during intubation and extubation <sup>[3]</sup>

- The patient to be intubated should always wear mask.
- The entire anesthesia team should wear full PPE.
- If possible, surgery should be performed under local or regional anesthesia.
- If possible, avoid positive airway pressure (Continuous positive airway pressure (CPAP) and bilevel positive airway pressure (BiPAP).
- During intubations, only personnel needed should be there in the operating room.

### Open versus laparoscopic surgery

- According to Li et al. laparotomies have lesser chance of aerosols spread during surgery <sup>[4]</sup>.
- There is no robust evidence that viral transmission is increased during laparoscopy.
- Even during open and vaginal surgery aerosols are produced, and is increased by using electrosurgery e.g. monopolar, bipolar and ultrasonic devices. <sup>[5]</sup>
- During open and vaginal surgeries suction may be utilized to minimize droplets and aerosols spread.
- Similarly, during laparoscopy there are provisions for using filters and closed system smoke evacuators to minimize aerosols.

### Operating Room Management

- There should be no crowding in the OT.
- Only personal required should be present in the OT.
- Ideally disposable instruments, tubing and filters should be used.
- Negative pressure theatres should be used.
- Routes of entry, exit, donning, doffing should be clearly defined.
- Specimen handling, instruments sterilization and theatres sterilization protocols should be in place.

### Managing Hysteroscopy

- There is less evidence of hysteroscopic aerosol production during surgery. <sup>[6]</sup>

- Benign conditions and elective surgeries may be postponed.
- There is lesser chance of smoke production during hysteroscopic electrosurgery.
- Suction devices should be used.
- Surgeons and OT staff should use full PPE.
- Either no anesthesia, or sedation, local or regional anesthesia should be used for hysteroscopy.
- Preferably use day care surgeries or early discharge.

### For All Surgeries

- Patients can be followed up telephonically in the post-operative period.
- A log of all staff involved in the surgery should be maintained, in order to help in contact tracing should a patient become positive at a later date.

### Conclusion

The pandemic of COVID-19 is challenging both for the patients as well as for the treating physician. The MIS should be used appropriately. The precautions and adjustments should be done so that, risk to the health care workers is minimized during the surgery whether it is open, laparoscopic or hysteroscopic surgeries.

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# Laparoscopic Access Techniques

Dr Poonam Khara, Dr Kanika Garg

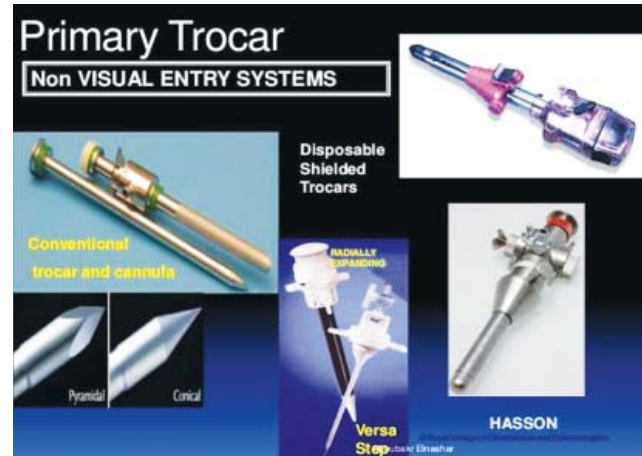
BLK-Max Super Speciality Hospital

Laparoscopic techniques have revolutionized the field of surgery with benefits that include decreased postoperative pain, earlier return to normal activities following surgery, and fewer postoperative complications compared with open techniques. Access into the abdomen is the first challenge of laparoscopy that is particular to the insertion of surgical instruments through small incisions. Laparoscopic entry is the blind procedure and many entry techniques have been developed to avoid complications while gaining access to the abdomen.

The various laparoscopic access techniques for classified into in the following ways-

Open Technique	Closed Technique
	1. Veress Needle
1. Hasson 'S' Technique	2. Direct Trocar Insertion
	3. Optical Veress Trocars
	4. Radially Expanding Trocars

First Generation	Second Generation
1. Insufflated Access <ul style="list-style-type: none"> <li>- Closed conventional technique</li> <li>- Radically expanding trocar</li> </ul>	1. Optical cannula 2. Endotip
2. Non Insufflated Access <ul style="list-style-type: none"> <li>- Hasson's technique</li> <li>- Direct trocar entry</li> </ul>	



## Hasson's Technique

The concept in the open technique is to create a tiny incision, directly incise the layers of the abdominal wall, directly cut the peritoneum and enter the abdomen. Since gas can escape around the incision, an olive is placed over the end of the trocar to occlude the incision, and sutures are placed on the abdominal fascia and attached to the cannula.

The benefits of this method of entry are the prevention of bowel injury caused of blind puncture with a needle and trocar, gas embolism, avoidance preperitoneal insufflation, a very low incidence of vascular injuries, and also a correct anatomical repair of the abdominal wall incision.

Reasons for limiting the use of the open technique include greater time needed for performance, difficulty with the technique, obese patients, and difficulty in maintenance of the pneumoperitoneum.

Widespread use of this technique has been limited to patients with previous lower abdominal surgery, pregnant women, children, and very thin patients where little space exists between the abdominal wall and the spine.

**Veress Needle Technique** The Verres needle is the oldest method, developed by Dr. Verres in 1938 and it is the most used technique especially in gynecological



procedures. Verres needles vary from 12 to 15 cm in length, with an external diameter of 2 mm. A bezel-shaped tip enables the needle to pierce the tissues of the abdominal wall. On entering the peritoneal cavity, the resistance generated from the abdominal wall is overcome, which permits the exposure of the interior needle with its blunt atraumatic mandril. Once the peritoneal cavity is inflated by this technique, the first trocar can be inserted without problems, minimizing intraoperative gas leakage and saving surgical time.

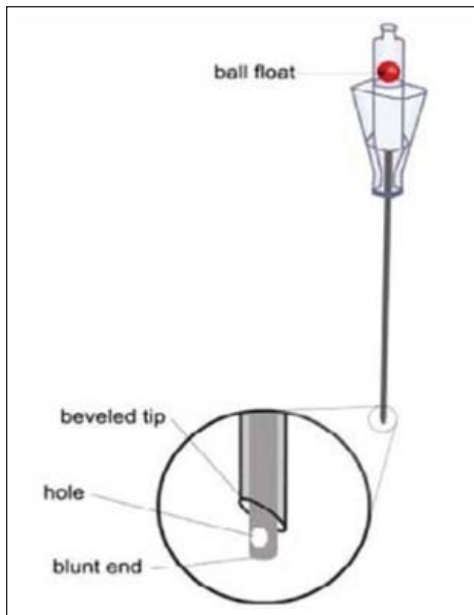


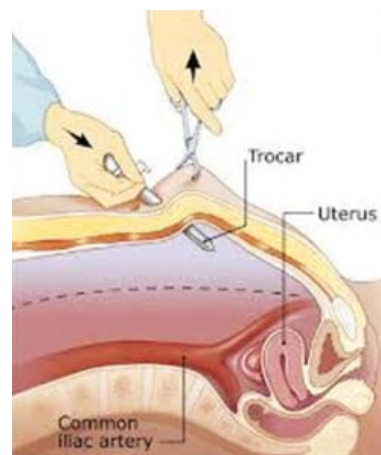
Fig 1: The Verres needle

### Direct Trochar Entry

Direct trocar insertion was first reported in the literature by Dingfelder in 1978.

In this technique, an infraumbilical skin incision is made that is sufficient to accommodate the diameter of a sharp 10mm trocar. Abdominal wall is elevated away from the underlying viscera, and a 10 mm trocar is inserted and advanced in a controlled fashion into peritoneal cavity with twisting semicircular motion. Then, the laparoscope is introduced, proper intraperitoneal placement is ascertained and pneumoperitoneum created.

The suggested advantages of direct trocar entry technique is the avoidance of complications related to the use of verress needle like failed pneumoperitoneum, preperitoneal insufflation, intestinal insufflation or gas embolism. The direct entry method is faster than any other method of entry.



### Optical Trocar Entry

The optical access technique (also called direct vision technique) accesses the peritoneal cavity with specialized trocars that have a transparent tip which allows each layer of the abdominal wall to be visualized as it is being traversed with zero degree laparoscope.

### Endotip

Endotip consists of a threaded stainless steel cannula, with a proximal valve segment and a hollow distal segment with a unique sharp tip. It is introduced into the abdomen together with laparoscope, using controlled rotating motion. Threaded design ensures secure hold in the abdominal wall. Laparoscope is fixed by laparoscope stopper.

The major advantage of endotip is that the wrong insertion of port can be detected immediately and be corrected at the same time avoiding major injury.

### Visiport

This is a visual entry device, which serves dual functions. It has a hollow trocar, which allows the insertion of a 5- or 10-mm endoscope and is completed with a separate cannula. The trocar consists of a trigger handle. With each squeeze, a sharp cutting blade of 1 mm in length is advanced, which enables the tissue to be transected. The blade will retract swiftly into the trocar after the trigger action. The surgeon can then access the abdominal cavity by a sharp entry.

### Rapidly Expanding Access System

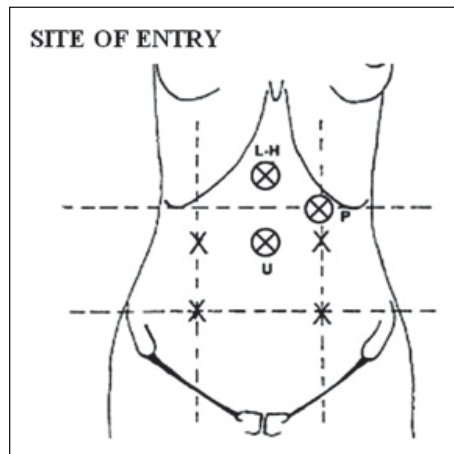
The radially expanding access system was introduced in 1994. It consists of a 1.9 mm Verres needle surrounded by an expanding polymeric sleeve. The



abdomen may first be insufflated by using the Veress needle. The needle is removed, and the sleeve acts as a tract through the abdominal wall that can be dilated up to 12 mm by inserting a blunt obturator with a twisting motion.

### Position of Patient

Patient is made to lie in lithotomy position with no trendelberg tilt. Legs should be supported by padded stirrups. Operating table should be at lowest position. Non slip mattress or beanbags should be used to prevent slippage of patient when patient is in head down position.



- Intraumbilical - most common site used for access to abdomen because-
  - peritoneum is fixed, abdominal wall is thin and less vascular here, also it is cosmetic.
- Palmer's Point - It is 3 cm below the left subcostal margin in midclavicular line.
  - it is considered in patients with previous surgeries with suspected umbilical adhesions
- Supraumbilical Access (Lee-Huang Point)
  - 2.5 to 3 cm above the umbilicus
  - considered in large abdominopelvic masses
  - in case of suspected umbilical adhesions

### Secondary Ports

They are inserted under direct vision at right angles to skin Inferior epigastric vessels should be visualised and avoided during port insertion

Once trocar has pierced the peritoneum , it is angled towards pelvis

Distance between two ipsilateral ports should be atleast 5 cm

Two ports should make an acute angle with each other

1st secondary port is usually inserted lateral to rectus abdominis muscle, 2 cm above and 2 cm medial to anterior superior iliac spine

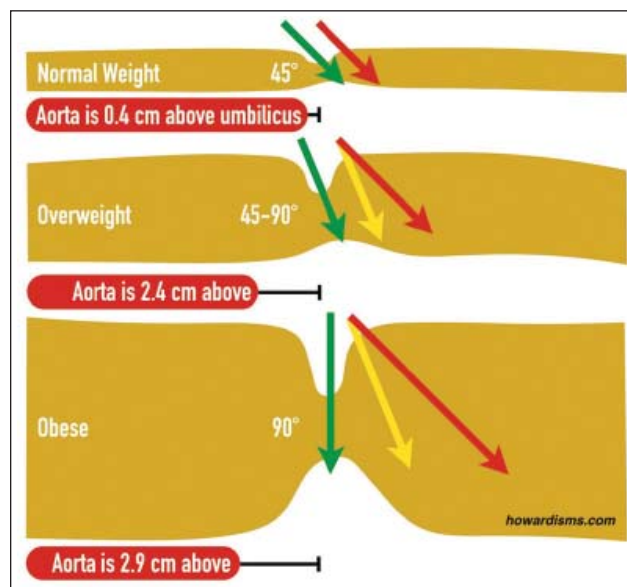
Usually one port of 5 mm is placed on both right and left side

4 th port is placed approximately 8 cm above and parallel to lower left trocar

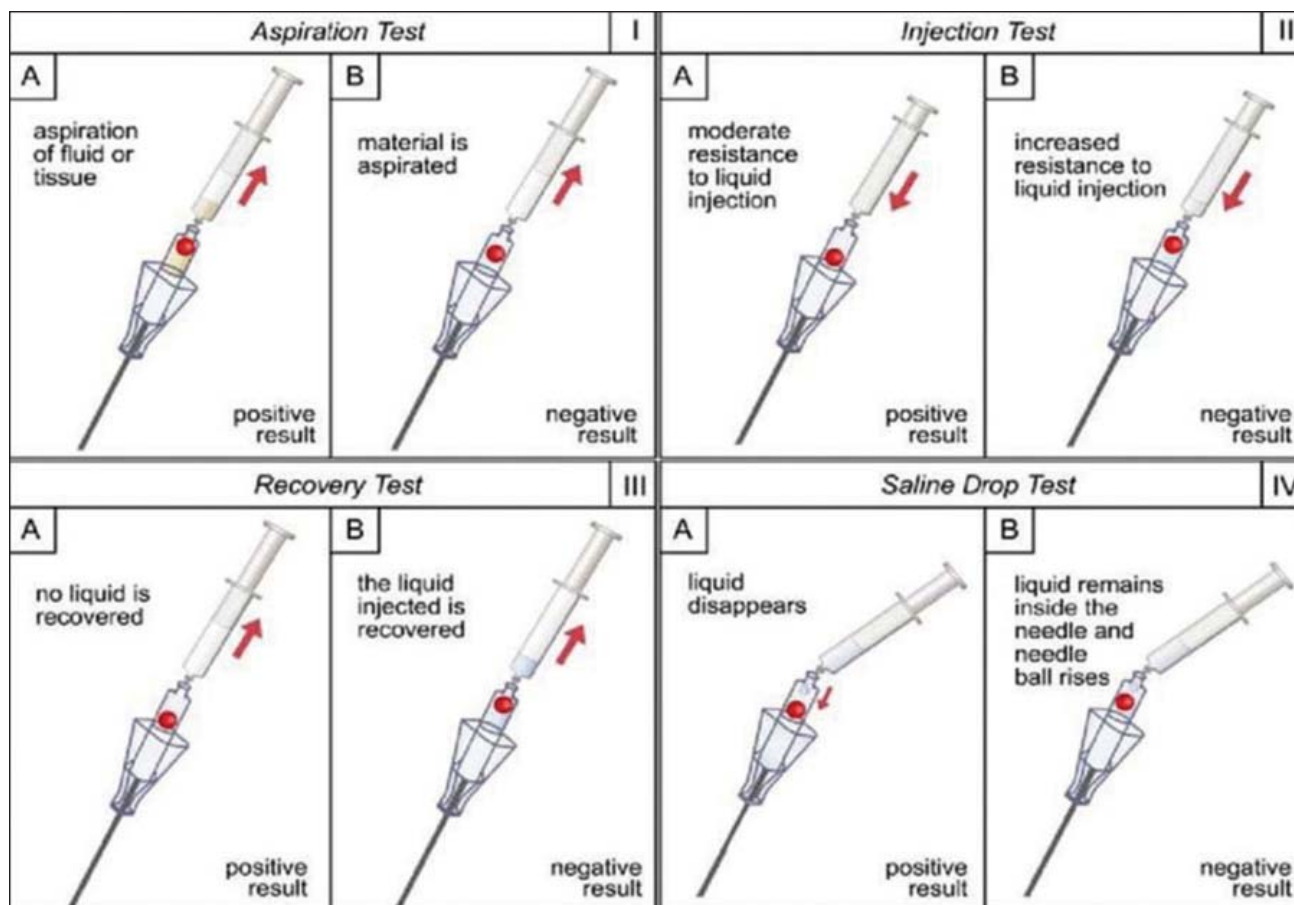
### Insertion of Verress Needle

First step is to palpate the abdomen for any masses. Patency of the veress needle should be checked before inserting.

Veress needle is held in pencil grip and inserted at angle of 45 degree with abdominal wall. In obese patients , it should be inserted at 90 degree angle. Double click is felt while inserting the veress needle. First click is felt when needle passes through the abdominal fascia. Second is felt when the needle pierces the parietal peritoneum. The needle should not be waggled from side to side.



## Verification of Intra-abdominal Entry



### Single Incision Laparoscopic Surgery (SILS)

It is laparoscopic surgery through only one 20 mm incision at umbilicus. The main contraindication is previous hernia repair with mesh placement at access site.

The main advantage is that it is cosmetically superior and recovery is early.



The main disadvantage of SILS approach lies in technical challenges which require some time to master. The

challenges include decreased range of movement of instruments, clashing of hands due to reduced extraabdominal working space and reduced field of vision due to suboptimal position of camera or instruments.

### Complications of Laparoscopic Access

Complications during initial abdominal access occur in less than 1% of patients. The different injuries which may occur are:

- 1. Extraperitoneal Insertion:** It is caused by improper placement of veress needle or port and causes subcutaneous emphysema, mediastinal emphysema, pneumothorax, and cardiac arrhythmias.
- 2. Vascular Injury:** The rate of vascular injuries is 0.1 to 6.4 per 1000 laparoscopic surgeries. Major vessel injuries are rare and include injuries to aorta, inferior vena cava or iliac vessels. The reason for these injuries is the close proximity of the anterior abdominal wall to the retroperitoneal vascular structures. In thin patients, this distance may be as little as two centimeters. The distal aorta and right common iliac artery are particularly prone to injury. Minor vascular injuries include injuries to vessels of abdominal wall, mesentery or other organs. Most common is the injury to inferior epigastric vessels,

usually during secondary port insertion when the trocar is not placed under vision or abdominal wall is not illuminated prior to insertion.

- 3. Bowel Injury:** It occurs in 0.03 -0.18 % of patients. It is the third cause of death from a laparoscopic procedure after major vascular injury and anaesthesia. Many bowel injuries go unrecognised at the time of the procedure and patients present postoperatively, often after discharge with peritonitis. This delay makes it a significant cause of morbidity and mortality. Small bowel is the most common site of injury but stomach, colon, liver may also get injured especially in subcoastal insertions.
- 4. Bladder Injury:** It is rare during laparoscopy. Most commonly occurs during insertion of primary or secondary trocar insertion. Gaseous distention of urinary bag and hematuria indicates bladder injury. Prior pelvic surgery is the major risk factor.

Patients should be made to pass urine prior to surgery and foley's catheter should be inserted to deflate bladder to prevent injury.

- 5. Incisional Hernia :** The risk of incisional hernia is more in old patients, increased BMI, increased operative time, larger port size and multiple ancillary ports.. Fascial closure should be done in open access or port size more than or equal to 12 mm. Port at sites of previous mesh should be closed with permanent suture.

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# Robotic Sacrocolpexy

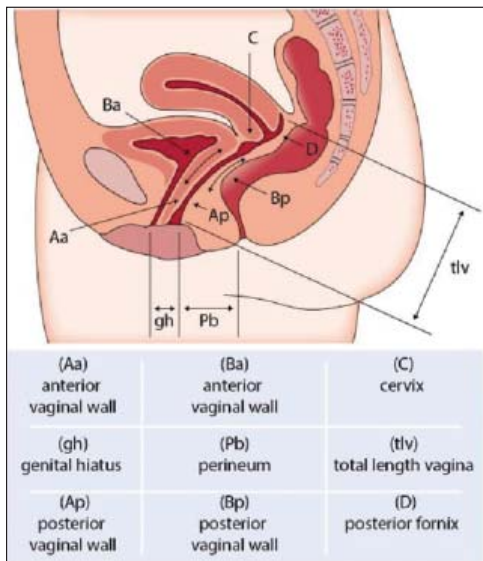
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Descent of one or more of the pelvic organs, anterior vaginal wall, posterior vaginal wall, apex of the vagina (cervix to uterus), or vault (cuff) after hysterectomy is known as Pelvic organ prolapse (POP). Above 50 years of age almost half of the women are affected with POP with lifetime prevalence of 30% to 50%.<sup>1</sup>

## Classification of Pelvic Organ Prolapse

Pelvic organ prolapse can be staged or graded using the Baden-Walker Classification or the POP-quantification (POP-Q) classification<sup>2</sup> (Fig 1). POP-Q is defined as follows:



**Fig 1:** Pelvic organ prolapse-quantification adapted from Bump et al.

- Stage O: No prolapse
- Stage I: Distal prolapse > 1 cm proximal to hymen
- Stage II: Distal prolapse within 1 cm of hymen, either proximal or distal
- Stage III: Distal prolapse >1 cm below hymen without complete eversion
- Stage IV: Complete vaginal eversion.

## Management

The management of Pelvic organ prolapse is necessary for the patient who are troubled by their symptoms and includes conservative and surgical

management. Conservative management is offered to elderly patients with multiple comorbidities, who are unfit for surgery or patients who decline surgery.

## Conservative Management

Conservative management can be done by pelvic floor muscle exercise (PFME) and behavioral modifications; however supportive function is also served by pessaries. Behavioral modifications such as obesity, chronic cough, constipation and cigarette smoking should be avoided as they cause chronic increases in abdominal pressure.<sup>3</sup> In 1948 Kegel introduced PFME for the treatment of postpartum sexual dysfunction and stress urinary incontinence.<sup>4</sup>

## Surgical Management

Various vaginal & abdominal treatment modalities are available for treatment of POP but Sacrocolpexy / Sacrohysteropexy is considered the gold standard for apical prolapse.

## Vaginal Approach

Transvaginal repairs can be performed primarily with the native tissue or with the use of mesh. POP can be corrected through vaginal approach by using the uterosacral ligament, sacrospinous ligaments or iliococcygeus muscles to regain support of the apex. Advantages of this technique are less operative time and faster return to daily activities, which in turn decreases the cost of procedure overall. Though transvaginal approaches are less invasive but long-term success rates is less without mesh and complication rates were high when mesh was used.<sup>5</sup>

## Abdominal Sacrocolpexy

The abdominal Sacrocolpexy is performed under general anaesthesia by a laparotomy. It is usually performed by Pfannenstiel incision. One piece of polypropylene mesh is attached to the anterior vaginal wall and another piece is attached to the posterior vaginal wall as far as possible. Both meshes are sutured to each other. The posterior mesh is fixed to

the sacrum followed by peritonisation of meshto avoid mesh exposure.

### Laparoscopic Sacrocolpopexy

Steps of abdominal and laparoscopic sacrocolpopexy/sacrohysteropexy are almost same however laparoscopy gives better exposure of surgical field, reduced blood loss and faster recovery. Excessive bowel manipulation and abdominal packing can be avoided in laparoscopy which lead to a lesser morbidity as compared to abdominal sacrocolpopexy. However both were found to be equally effective at 2 years follow-up by Tan et al in 2007.

### Robotic Assisted Sacrocolpopexy (RASC) / Hysteropexy

Since the introduction of robot system daVinci in urogynaecology in 2005, it has shown to be highly advantageous over Laparoscopy. The robot improves manual dexterity by allowing multiple degree of freedom and eliminates tremors. It has better visualization due to three-dimensional vision system. It has a shorter learning curve for those already doing laparoscopic or abdominal surgery and desiring to switch to robotic surgery.<sup>7,8</sup>

### Surgical Technique (Fig-2- A-D)

The patient is placed in Lithotomy position under general anesthesia and pneumoperitoneum is obtained. The General principle of the surgery remains the same, however slight variation of technique may be there in RASC. A Supra or Peri Umbilical 8 mm port is placed for camera. Two other 8 mm robotic ports and one assistant port are placed for assistance. To prevent collision of robotic arms there should be a gap of 8 – 10 cm between the ports. The robot is docked after the patient is placed in steep Trendelenburg position.<sup>7,8</sup>

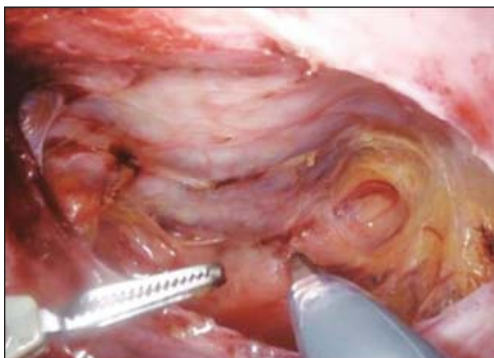


Fig 2a:



Fig 2b:

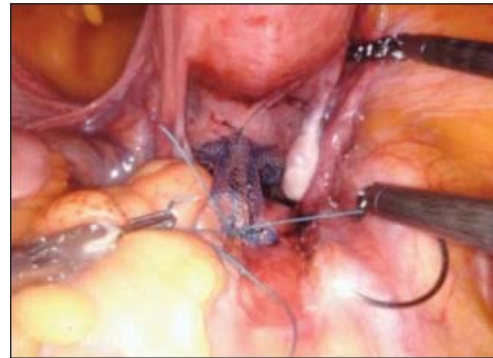


Fig 2c:

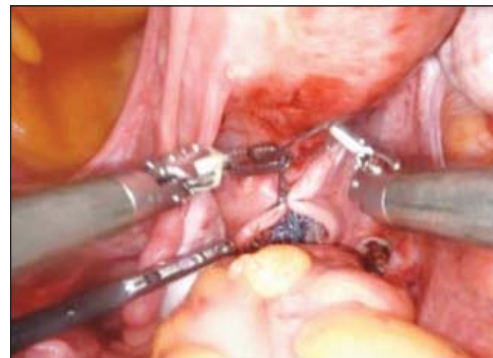


Fig 2d:

A uterine manipulator is placed inside the uterus. The dissection at the sacral promontory should be done with identification of key anatomical landmarks in close proximity including the aortic bifurcation, right common iliac vein, right middle sacral artery and vein. Identification helps to prevent injury to these structure during dissection. The presacral space is entered through a longitudinal peritoneal incision above the sacral promontory almost up to the aortic bifurcation.

The promontory and the anterior sacrum are cleared off to expose the anterior sacral ligament. The ventral surface of S1 & S2 vertebral bodies are exposed. The peritoneal incision is extended up to the cul-de-sac, keeping the ureter in view. The peritoneum is dissected to make space to cover the mesh. Some

surgeon prefers to make space by tunneling into the region of vaginal dissection because tunneling can lessen the inconvenience of subsequent closure of the peritoneum.

The rectovaginal and vesicovaginal spaces are opened and rectum and bladder are separated from the vaginal wall. The distal extent of the dissection should be carried far enough inferiorly to allow secure attachment of the mesh to at least several centimeters of the posterior vaginal wall. Anterior dissection should extend nearly as far as bladder trigone. A large porous Y shaped polypropylene mesh is used, two leaves of mesh are required and should measure 3-4 cm in width and 14 cm in length. One leaf is attached to rectovaginal fascia of the post vaginal wall with transverse row of interrupted non-absorbable material.

The second leaf is attached to the pubocervical fascia of the anterior vaginal wall with rows of interrupted transverse sutures. Suture should be tied in such a way that mesh lay flat against the endopelvic fascia and loosely to avoid necrosis and mesh erosion. The proximal arm of the mesh should be fixed in the sacral promontory. The tension of the mesh should be adjusted because excessive tension may cause pain or irritative bladder symptoms after surgery. The mesh is sutured to the anterior longitudinal ligament overlying the sacrum with 2–5 sutures. As the endoscopic approach becomes more common, reports of postoperative Discitis is more common with laparoscopic approach due to penetration of the L5-S1 disc. To avoid discitis surgeons should either confirm the position of S1 body or consider the thickness of the anterior longitudinal ligament, which ranges from 1 to 2 mm, and should avoid deep suture bites that may penetrate into the disc. The Sacral hysteropexy is similar to sacral colpexy, except that the anterior leaf of mesh is passed through windows in the broad ligament and then attached to the sacral promontory.<sup>9</sup>

## Complications

The most worrying intraoperative complications of laparoscopic hysteropexy/sacrocolpopexy are haemorrhage from the pelvic vessels, injury to bowel, right ureter, bladder and mesh erosion. The risk of conversion from minimally invasive to open surgery is shown to be 1-5%.<sup>6,10</sup> Most common perioperative complications for RASC are bladder, bowel, ureteral injury, ileus, port site hematoma, urinary retention,

fever, urinary tract infection, vaginal mucosal injury and cardio-pulmonary issues. Mesh complications and post-operative urinary retention are the common complication in prolapse surgery. A Cochrane review reveals that transvaginal mesh repair has more rate of dyspareunia as compared to ASC. There is 0 – 10 % risk of mesh erosion in RSC while 18% in transvaginal mesh repair as published in various articles.<sup>11</sup>

## Discussion

According to a recent Cochrane review, sacrocolpopexy was associated with a lower rate of recurrent vault prolapsed and painful intercourse than sacrospinous suspension, and a higher success rate and lower reoperation rate than high vaginal uterosacral suspension and transvaginal polypropylene mesh. Abdominal sacrocolpopexy (ASC) is considered as the most effective treatment for apical vaginal prolapse with reported long-term success rates of 68-100%. In addition, an abdominal approach allows a simultaneous correction of the three pelvic floor compartments defects: anterior, apical and posterior, preserving vaginal integrity. The laparoscopic approach represents an alternative to open surgery, with comparable outcomes, while befitting patients with the well-recognized advantages of minimally invasive surgery. The characteristics of this completely minimally invasive surgery, as well as its potential benefits for sexual function (preservation of vaginal length and axis and lower rates of dyspareunia), make this procedure a better option for younger, sexually active women.

Laparoscopic Sacrocolpopexy / Sacrohysteropexy is a complex procedure with steep learning curve which has resulted in decreased adoption of this technique by a wider group of surgeons. Robotic sacrocolpopexy is safe and has equivalent outcomes as compare to open and laparoscopic Sacrocolpopexy. RASC has rapidly gained popularity because morbidity is less as compared to abdominal and sacral dissection, knot tying is easier in robotic surgery as compared to laparoscopic surgery due to three-dimensional visualization.

## Conclusions

Transvaginal repair for POP is less invasive, but long-term success rates without mesh is low and complication rates are high with the use of mesh. The abdominal sacrocolpopexy (ASC) is the

gold standard for the surgical management of POP. The surgical management of POP has expanded with the use of minimally invasive surgery. However, emerging technologies have allowed for more minimally invasive approach including the use of laparoscopic assisted sacrocolpopexy and robotic assisted sacrocolpopexy (RASC). Robotic Assisted surgery for POP is superior to Laparoscopic and Abdominal surgery due to a short learning curve, and its 3D visualisation, but the high cost associated with the use of the daVinci surgical system and its non-availability in most of the center are the main constraints of using it.

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# COVID 19 - The Psychological impact of COVID 19 on HCW

Dr Ashok Prasad

Healthcare workers bear a particular psychological and emotional brunt in the context of isolations and quarantine, including both being quarantined and caring for patients in isolation, sometimes both – quarantined on isolation wards

and caring for critically ill patients in isolation. Sometimes they find in such situations voluntarily, and sometimes it happens by circumstances – quarantine and isolation orders go into effect while they are at work, and they find themselves quarantined and mandated to continue providing care while cut off from their loved ones and their everyday lives. They are in a situation to help and care for others while being exposed to the illness itself. This issue is of particular importance and apposite in the contemporary context as we battle COVID 19 pandemic. And among the healthcare workers, perhaps the ones most likely to experience psychological problems are the surgeons and gynaecologists.

As the psychological effects of the COVID 19 among the surgeons and gynaecologists is yet to be formally studied, we have to rely on the studies that have been conducted in this regard when the SARS pandemic was in place not that long ago. There are many lessons to be learned from our experiences in the previous pandemic which can assist us in formulating effective guidelines.

The burden of an outbreak on healthcare providers is yet to receive its due attention. During and in the aftermath of an outbreak, about one in six healthcare providers to affected patients develop significant stress symptoms<sup>[1]</sup>. Fortunately, even without significant interventions, those symptoms tend to remit over time and give place to everyday life and work stressors<sup>[2]</sup>. Another study found about 11% caretakers have developed stress–reaction symptoms, such as anxiety, depression, hostility, and somatization. Particularly affected was a population of providers who were mandated to work, sometimes for extended periods of time, on specialized units due to provider shortage<sup>[3]</sup>.

Healthcare workers in such situations are subject to additional stress due to their involvement in the event. They may be concerned about their health and the health of their families. They may fear contagion, be concerned about the safety of coworkers and peers in the healthcare field, and face loneliness and demanding expectations which could result in anger, anxiety, and stress related to the uncertainty of the event.

In the case of SARS, about 10% of the healthcare providers had experienced high levels of posttraumatic stress symptoms since the outbreak in 2003. Those who had been quarantined, however, those who worked on SARS wards, or had friends or close relatives who contracted SARS, were two to three times more likely to have high posttraumatic symptom levels compared with those without these exposures<sup>[4]</sup>. Even 5 years after the SARS outbreak, the experience of being quarantined or having worked in high-risk locations such as SARS wards during the outbreak resulted in higher alcohol use symptom counts among healthcare workers<sup>[5]</sup>.

In yet another study from Taiwan during the SARS outbreak, the occurrence of psychiatric symptoms was linked to direct exposure to SARS patient care, previous mood disorder history, younger age, and perceived negative feelings. The

most prevalent symptoms in those providers were depression and insomnia. Significant reduction in mood ratings, insomnia rate, and perceived negative feelings, as well as increasing knowledge and understanding of SARS, developing among participants toward the end of the study (and the outbreak) indicated a possibility that a psychological adaptation had occurred<sup>[6]</sup>. Despite limited resources and opportunities, there are several studies that attempted to understand some of the factors that may act detrimentally to psychological adaptation as well as those that foster psychological adaptation to working on isolation units or in quarantine.



A post-SARS study of healthcare workers in Toronto identified the following factors as likely to cause psychological distress among healthcare workers caring for patients in isolation:

- (a) Perception of risk to themselves
- (b) Impact of the SARS crisis on their work life
- (c) Depressive affect
- (d) Working in a high-risk unit
- (e) Caring for only one SARS patient vs. caring for multiple SARS patients<sup>[7]</sup>

The last finding is somewhat surprising, and it may indicate either mastery through repeated experience or disengagement through repeated exposure. Another survey from Toronto after SARS found that more contact with patients with higher severity illness resulted in higher Impact of Event Scale scores (a measurement of traumatic distress). As nurses tended to have most contact with such patients, their exposure and scores tended to be higher compared with other healthcare workers. Three factors were identified as having an effect on the Impact of Event Scale scores: health fear, social isolation, and job stress<sup>[8]</sup>.

A different study from Singapore found about one in five providers displaying symptoms of posttraumatic stress after the SARS outbreak. Its findings were, however, that doctors were more susceptible to stress and that single providers were more adversely affected than those who were married. Four areas were found as important in this study: health and relationship with the family, relationship with friends/colleagues, work, and spirituality. Factors that helped reduce posttraumatic stress were as follows:

- (a) Clear communication of directives and precautionary measures
- (b) Ability to give feedback to and obtain support from management
- (c) Support from supervisors and colleagues
- (d) Support from the family
- (e) Ability to talk to someone about their experiences
- (f) Religious convictions<sup>[9]</sup>

In addition to professional coping styles, there may be some cultural differences as well. Another study from Singapore after SARS found posttraumatic stress at around 18%, with doctors scoring lower than nurses. Doctors appear more likely to use humor as a coping

mechanism, while Filipino nurses employed religion and spirituality as their coping styles<sup>[10]</sup>.

Surveys summarized above give us a limited glimpse into a complex psychological dynamic that happens with healthcare providers in isolation wards, tending to critically ill infected patients or being placed in quarantine. Surveys rely

on voluntary responses by the subjects who may choose not to revisit a traumatic experience by participating, which leads to underreporting the incidence of traumatic sequelae in such circumstances. Alternately, individuals may perceive the isolation experience as unremarkable and disregard the surveys, leading to underreporting of posttraumatic stress among healthcare workers.

Despite their limitations and possible cultural bias, those surveys indicate that about 20% of healthcare providers have posttraumatic symptoms after working in isolation caring for critically ill patients. While some factors identified by those surveys are demographic (gender, age, and marital status) and cannot be changed, there are some other factors that transpire as a fertile ground for intervention in preparation for a future outbreak. And an untreated posttraumatic stress disorder in a physician particularly so a surgeon or a gynaecologist has the potential to cause enormous harm to the patient under treatment. Clear guidelines and expectations: Factual preparedness ranks high among factors in most surveys, indicating that the existence of a clear plan, policies and procedures, and occasional drills may have a significant psychological impact as well. Knowing what is happening, knowing what the response is, knowing how they fit into the whole operation, and knowing own roles and expectations from them clearly help healthcare workers focus on critically important work and avoid anxiety-provoking uncertainty. Frequent policy changes, unclear criteria of case management, and other ambiguities during crisis create frustration, stress, and anxiety

**Communication:** Another important factor is the fostering of communication between the frontline providers and their supervisors. It is essential that this communication be two way. Healthcare providers appreciate being provided with the ability to give feedback. It automatically heightens the sense of appreciation and support which they expect from supervisors. Open communication also reflects the

concern that the supervisors demonstrate for the well-being of the providers.

Concern for the well-being of providers: In addition to eliciting feedback, it assumes focus on providers' health status, acknowledging risk for burnout, attempting to provide reasonable rest and relief, and at least generally assessing their ability to cope and what support they may need imminently.

Logistical support: This important segment includes both elements of logistics – clinical on-site and general off-site. On-site, it is important to provide healthcare workers with PPE, medications, equipment, electricity, HVAC, and other necessities for intensive clinical work. Off-site, it is critical to provide for healthcare workers' families, to confirm their safety, and to make sure that their basic needs are met.

Providing communication equipment is an important element of logistical support.

Peer and spiritual support: Understanding that providers appreciate an opportunity to talk to someone, both formally and informally. They may be encouraged to talk to each other or to a designated support staff member from the outside via telecom equipment. Their spiritual needs should also be assessed and met as they spirituality can significantly foster resilience.

Psychological support: Professional psychological support may not be necessary during the isolation or quarantine work, but it should be made available to healthcare workers in isolation. They may be informed about the possibility of stress reactions and how counseling after the isolation will be made available although most providers do not need it. In some cases, however, that include preexisting medical illness and the emergence of grossly disorganized or dangerous behavior, as well as active substance abuse issues, actual psychiatric intervention may be needed.

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# Medicolegal Aspects in Endoscopy

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Endoscopy has grown leaps and bounds since its introduction to medical field. With more and more sophisticated and specialised equipment, endoscopic surgery has become fascinating. Demand for minimally invasive surgery is also increasing, as endoscopy is gaining popularity

Like any other surgical field, endoscopic surgery has its share of complications which are peculiar to endoscopy. Complications peculiar to endoscopy relate to injuries due to entry, use of energy sources and in hysteroscopy deficit in inflow outflow distention medium. Endoscopy surgical skills have a long learning curve and most of the complications occur in the initial phase. When such complications do happen patients and kin can accuse of various forms of deficiency and or negligence.

Some of the common allegations faced are, doctor is not qualified/ competent, complications can happen was never explained to us, doctor was negligent in performing surgery. To defend ourselves from such allegations we need to follow proper protocols in each and every case.

## Defending allegations:

### Allegation of qualification and competence;

With regards to qualification any postgraduate diploma/degree holder of a surgical field is qualified to do endoscopic surgery. It would be helpful to preserve the logbook maintained during postgraduate studies showing number of laparoscopic surgeries done under supervision and number of surgeries done independently. When an allegation of qualification is made it is important to submit diploma/degree certificates along with registration and additional registration certificate from medical council of India in the court. Production of these documents is enough to counter the allegation of qualification.

When questions of competence are raised, highlighting the years of experience in the field and mentioning the number of surgeries carried out successfully can help the court in judging the competence of a surgeon, it

would also be helpful to produce certificates of training courses undergone, various endoscopic conferences attended as part of continuous medical education to counter the allegations of competence.

### Allegations on counselling/consent;

Consent is the most important part of preoperative preparation for surgery. Law regarding consent is well settled in India in the case of Samira Kohli v/s Dr Prabha Manchanda decided by the Supreme court.

Consent should not be relegated to mere mechanical job of taking signature on a form. It is the duty of the doctor to counsel patient about the nature of illness the patient is suffering from. The course of treatment or surgery planned, consequences of not undergoing treatment. Probable benefits of the treatment. Alternatives if any to the course of treatment planned, advantages and disadvantages of the alternative methods and why a particular mode of treatment is planned for the patient. Lastly the risks and complications of the treatment or surgery need to be explained to the patient. Risks and complications which are common need to explained, remote risks need not be explained.

Merely following this is not sufficient, this needs to be proved in the court of law in the form of evidence. To prove this in the court we need to have surgery specific consents enumerating and encompassing all the specifics mentioned above. Moreover patients can be counselled with the help of diagrams and charts, which can be attached with the consents.

### Allegation of negligence

When a patient alleges negligence, it is not enough to say there was negligence in the case. The patient has to point out specifically what was the negligence. The patient has to prove that the doctor had duty to take care, this legal duty was breached & such breach of duty has caused the undesirable consequences. There has to be a direct connection between the breach of duty and the damage caused. Remote or casual correlation is not enough.

### **Duty to take care:**

Duty to take care arises as soon as the patient is accepted to be treated by the doctor. At the time of acceptance the doctor has to judge his competence to treat the particular ailment of the patient. In cases of surgical treatment doctor has the duty to judge the competence of his surgical skills, the set up in which he operates whether it can handle such cases, Operation theatre in which he operates whether it is equipped with requisite equipment's and whether they are in working condition. This is especially important in cases of endoscopic surgeries as lot depends, not only on the surgical skills of the operating surgeon but also depends on the correct functioning of the equipment for eg. correct insufflation pressures of insufflators, functioning of electrocautery equipment's. Proper insulation of instruments to prevent jumping of electric current so as to damage adjacent structures. Freelance endoscopic surgeons need to take extra precautions to see, that the patients are adequately worked up preoperatively, set up in which they would operate is well equipped, the team managing the patients postoperatively is competent enough to monitor patients postoperatively and pick up complications.

To provide evidence that the hospital and the surgeon take due care that the equipment is functioning, evidence in the form of AMC contracts with manufacture's and maintenance of log book of repairs and maintenance would help.

### **Breach of Duty:**

To establish breach of duty the complainant has to point out specifically, what was done or not done which in normal course of management any other doctor would have done or not done.

While doctor on his part would have to provide evidence that he has followed a course which is standard as per the textbooks and or guidelines. Course followed is regular practice followed in medical colleges and by colleagues. To prove the course of treatment and continuity of care detailed notes right from history, examination, provisional diagnosis, investigations, final diagnosis. Preoperative assessment, Induction notes, Intraoperative detailed surgical notes which include details of insufflation. Pressures used for insufflation, flow of gases, pressures maintained during surgery. Site of insertion of primary trocar and

secondary ports. Technique of insertion. Detailed step wise notes of surgery. Intra op vital parameter monitoring. Immediate post operative findings and post operative monitoring of the patient. Notes should include time of shifting to OT, time of induction of anaesthesia, time of starting surgery, time at which surgery ended, time of extubating. Time of shifting out from OT. Daily recovery notes till patient is fit to discharge.

Detailed comprehensive notes of patient care are the best evidence to disprove breach of duty.

Along with notes references from textbooks, journals, affidavits of colleagues would also help in defending the case.

### **Damages:**

More often than not any complication which occurs, is negligence in the eyes of the patient and relatives.

Pre operative counselling of associated complications of surgery inspite of best possible care and caution would go a long way in preventing these allegations.

Inspite of preoperative counselling once complications occur patients deny about any such counselling done. In such cases proper documentation of counselling done and consent mentioning the specific complications of surgery will help in defending the case. Along with the documentation textbook references mentioning the complications would add a good defence to the case.

## **Case Studies**

### **St Antony Hospital v/s C L D'Silva ( National Commission)**

#### **Facts of the case:**

Patient was diagnosed with ovarian endometriotic cyst with ovarian fibroids. Laparoscopy was decided and patient was posted for surgery under a foreign visiting faculty for demonstration surgery. Laparoscopy equipment was arranged from some other hospital.

During surgery extensive endometriosis was encountered with findings of PID. Surgery was technically challenging and difficult, but was completed. Patient developed post op complications, had to be reexplored with findings of sigmoid colon tear and faecal peritonitis. Post exploration patient was shifted to tertiary care centre in ICCU, was on ventilator, finally succumbed due to septicaemia.

During the course of hospital stay patient's relative had learned about malfunctioning laparoscopy equipment during surgery.

Patient's husband filed a case alleging patient was used as a guinea pig for experimental surgery. Equipment was faulty and that intestine of the patient was injured due to negligently performed surgery.

One of the principles of medical negligence is that a medical practitioner is expected to bring a reasonable degree of skill and knowledge and must also exercise a reasonable degree of care and caution in treating a patient.

In the instant case, it is very clear from the facts that a reasonable degree of care was not taken in the treatment of the patient. This is apparent, from the fact that the laparoscopy equipment's were not checked before they were used because of which several problems arose with its functioning during the procedure, as admitted by the doctor who conducted the procedure. Apart from this, the doctors from the appellant hospital have not been able to explain how the colon tear occurred. The instant case is a case of *res ipsa loquitur* where medical negligence is clearly established.

### Conclusion

Discussion regarding patients complications, problems encountered during surgery or malfunctioning equipment should not be done loosely in front of the relatives.

While holding live laparoscopy demonstration workshops extreme caution needs to be taken with regards to consent and proper functioning of any demonstration equipment. Prior consent from patient informing about live demonstration and operating faculty should be obtained. In case any faulty equipment or malfunctioning equipment is identified the same equipment should be immediately removed from the surgical field and should not be used.

Here negligence was attributed because the surgical team failed to take due care to check working of the equipment prior to surgery. In spite of finding malfunctioning equipment surgery was continued.

Though the tear in colon could have been defended as known complication the fact that malfunctioning equipment was continued to be used during surgery weighed against the hospital. No defence was taken

against the allegation that colon tear was due to negligence.

## Dr Sanjay v/s Smt Jaywanti

### Facts of the case:

In this case patient was posted for laparoscopic cholecystectomy. On introduction of scope it was found that the gall bladder was badly infected with dense adhesions. Laparoscopy was abandoned and converted to open surgery after informing the relative waiting outside the operation theatre. Surgery was done successfully, however patient developed secondary haemorrhage and reexploration was required. Patient was shifted to ICU, recovered and discharged.

The patient alleged latter that the bleeding in abdomen occurred due to negligence of surgeon. The patient also produced an opinion of medical association which expressed sympathy with the patient for the sufferings and the costs incurred due to the complications. Though there was no opinion of negligence from the body.

However the forum construed this as negligence and also observed the fact that consent was only for laparoscopy and not for laparotomy. Compensation was awarded in this case.

### Conclusion

Complications are known to occur and cannot be construed as negligence. In this case the doctor did everything he could to save the patient and was successful in saving the patient.

The only blemish if at all, consent for conversion to laparotomy was not documented.

It would be wiser to take consent for conversion to laparotomy in all cases of laparoscopy.

Medical fraternity should not entertain requests from patients to give opinion on negligence. If at all an opinion is given, opinion should be restricted to opinion on negligence or no negligence without sympathising with the patient.

## Manish Baghel & Anr. v/s Sarvodaya hospital & ors ( State commission)

In this case patient presented to the hospital with acute abdomen. Ultrasound suggested torsion of

ovary. Patient was suggested laparotomy but insisted on laparoscopy. Therefore the patient was referred to laparoscopic surgeon. Patient was operated laparoscopically and cyst was removed. Material was sent for histopath. Histopath report was suggestive of Mucinous cystadenoma.

However the patient after about 6 months again had recurrence of complaints of pain in abdomen. On investigations it was found that there was a large mass above the uterus with spread all over suggestive of 4th stage carcinoma. Patient was operated at Nanavati hospital in Mumbai. Latter patient succumbed to the malignancy.

Patients relative filed a consumer complaint alleging medical negligence against doctors who had conducted the first surgery. Specific allegations against the doctors was doctor should have done open surgery rather than laparoscopic surgery so that they could meticulously remove the tumor. Since laparoscopically complete tumor could not be removed and was removed in pieces the malignancy had spread. Further that the histopath report was not reported correctly and reported only as benign tumor. Had it been reported correctly corrective action could have been taken and cancer would not have spread to such an extent.

Doctors in defence stated that patient was diagnosed as a case of torsion of ovary which is an emergency and hence operated in emergency without detailed investigations. It was also brought to the notice of the court that doctors had suggested open surgery but the patient and relatives themselves insisted on laparoscopic surgery and hence referred to laparoscopic surgeon. This fact was clearly recorded in the notes. Laparoscopic surgeon further stated that even with laparoscopy all due precautions were taken and the tumor was operated on within an endobag and was removed meticulously without spillage. All these facts were well documented in the surgical notes. Histopathologist in her defence stated that she is a senior pathologist working as professor and head in a medical college. She has vast experience in the field. She brought out limitations of histopathology examination and said that sometimes benign and malignant slides can look similar. Textbook references were submitted to support her contention. She also

brought out to the court that the histopathology report from Mumbai was suggestive that the primary cancer was not ovarian and it could be metastatic cancer from the colon. Hence it was quite possible that during the first surgery the ovaries were not involved, and metastasis has occurred latter. Also during the laparoscopy surgery for ovarian torsion the clinical picture and intraoperative findings were hardly suggestive of malignancy.

Court after going through all the documents and arguments of the doctors agreed with the doctors and the case was dismissed.

### Conclusion:

When things go wrong patients can allege negligence purely due to ignorance of medical science and the turmoil they go through due to loss of near ones. However once the case is in court we need to prove our side of story through evidence. Verbal defence is no defence as it is one's word against other's. Courts rely on evidence and evidence can be produced only by way of documents. Hence correct and complete documents with record of relevant facts are the best way in defending a case. Writing complete notes has to be a habit in each and every case. Only when it is a regular habit notes appear appropriate. When notes are completed only in case where there is medicolegal problem mistakes tend to happen.

Value of evidence differs in type of case against you. In a criminal case the burden of proof is entirely on the prosecution and they have to prove their case beyond all reasonable doubts. The accused has to merely raise a suspicion or doubt in the story of prosecution which would be enough to defend his case. While in a civil case the evidence is based on probability. Judgement is based on whose evidence seems to be more probable than the other. Hence stronger the evidence better chance of defending the case. Civil courts also have procedural requirements for production of documents. Consumer courts are quasi judicial and strict protocols of production of documents may not be followed. Hence in cases of consumer courts we need to be proactive in production of documents favouring our side of the story. Person against whom case is filed has to take active interest in his own case and cannot rely only on the lawyer.

# Journal Scan

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## Laparoscopic TOT – Like Burch Colposuspension: Back to the Future?

A Atanas , Moshe M ,Benoit R, et al.

Journal of Minimally Invasive Gynecology, Vol 28, Issue 1, pg 24-25, Jan 2021

**Objective:** To demonstrate a modification of the classic Burch procedure, called “laparoscopic transobturator tape (TOT)-like Burch colposuspension.” The technique does not involve any type of prosthesis placement, and it is an alternative for patients with stress urinary incontinence in a future without meshes. Describing and standardizing the procedure in different steps makes the surgery reproducible for gynecologists and safe for the patients.

**Conclusion:** The classic colposuspension was created in 1961 for the treatment of stress urinary incontinence prolapse<sup>1</sup>. In the following years, vaginal meshes gained popularity as a treatment option for prolapse and for incontinence owing to their ease of use and satisfying results, which led to a decreased use of the Burch procedure<sup>2,3</sup>. In 2019, the Food and Drug Administration forbid the production of the transvaginal meshes for prolapse<sup>4</sup>, an interdiction that could influence the use of synthetic meshes for incontinence in the future<sup>5</sup>. Owing to these recent events, searching for an effective way of management for patients with stress urinary incontinence without any synthetic prostheses, gynecologists have turned back to the 60-year-old Burch colposuspension. One of the drawbacks of the original technique is the high incidence of voiding difficulties—up to 22%<sup>6</sup>. Owing to the knowledge of the exact course of traction with the TOT, in our modified technique, the lateral direction of the suspension provides a tension-free support on the urethra and the bladder neck. The laparoscopic TOT-like Burch colposuspension is a safe and effective treatment for patients with stress urinary incontinence with low rates of dysuric symptoms and represents a valuable alternative for gynecologists in a future without meshes.

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## Neovagina Creation: A Novel Improved Laparoscopic Vecchiatti Procedure in Patients with Mayer-Rokitansky-Kuster-Hauser Syndrome

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**Study Objective:** To report a new improved laparoscopic Vecchiatti vaginoplasty in patients with congenital vaginal agenesis and to investigate its efficacy and safety.

**Design:** A retrospective descriptive and case-control study.

**Patients:** Women who were diagnosed with Mayer-Rokitansky-Kuster-Hauser (MRKH) syndrome and underwent our new improved laparoscopic Vecchiatti procedure from July 2010 to June 2019 were selected as the study group. The eligible participants had congenital vaginal agenesis with normal 46, XX karyotype and ovarian function. Age-matched, nulliparous, sexually active women were selected as

the control group. Interventions: Women with MRKH syndrome in the study group underwent the novel improved laparoscopic Vecchietti procedure. All participants in both groups were required to complete Female Sexual Function Index and Female Genital Self-Image Scale questionnaires.

**Measurements and Main Results:** The effects of our procedure, including the anatomic and functional efficacy of the neovagina, were the primary outcomes. The secondary outcomes consisted of the perioperative complications, surgical morbidities, and long-term postoperative discomfort. A total of 79 patients with MRKH syndrome underwent our new improved Vecchietti vaginoplasty, of whom 44 (55.7%) were diagnosed as Type I MRKH syndrome, whereas 35 (44.3%) were Type II MRKH syndrome. At a 30-month follow-up after surgery, an anatomic neovagina measuring 10.44 cm in length and 1.30 cm in width was achieved. All 79 patients obtained anatomic success with 92.41% of functional efficacy. Compared with 81 age-matched, nulliparous women in the control group, there was no statistical difference regardless of individual measure or total Female Sexual Function Index scores ( $p > .05$ ). The Female Genital Self-Image Scale assessment showed a significantly lower score in patients undergoing the vaginoplasty ( $20.14 \pm 3.05$  vs  $22.95 \pm 2.12$ ;  $p < .001$ ). There were no severe perioperative complications except 1 mild bladder injury and 1 transient fever.

**Conclusion:** Our novel improved laparoscopic Vecchietti vaginoplasty is a relatively safe and effective method for surgical treatment of congenital vaginal agenesis. It may be an alternative to neovagina creation for reaching satisfying anatomic and functional efficacy and improving patients' sexual function.

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## Incidence and Prevention of Vaginal Cuff Dehiscence Following Laparoscopic and Robotic Hysterectomy: A Systematic Review and Meta-Analysis

**Uccella S, Casarin J, Marconi N, Gisone B, Sturla D, Podesta Alluvion C, Candeloro I, Ghezzi F. Obstetrics and Gynecology, University of Insubria Varese, Varese, Italy Study**

*Journal of minimally invasive gynecology, Vol 28, Issue 3, p-710-720*

**Objective:** To identify the real incidence and the possible strategies to prevent vaginal cuff dehiscence after total laparoscopic hysterectomy (TLH) and total robotic hysterectomy (RH).

**Design:** Systematic review and meta-analysis of the available literature.

**Setting:** Department of Obstetrics and Gynecology, University of Insubria, Varese, Italy.

**Patients:** PubMed, ClinicalTrials.gov, Scopus and Web of Science databases (between 1st January 1989 and 30th September 2014) have been systematically queried to identify all articles reporting either TLH or RH in which vaginal dehiscence was reported as an outcome. We also manually searched the reference lists of the identified studies. Only papers written in English were considered. Series of subtotal hysterectomies and radical hysterectomies were excluded.

**Intervention:** Two independent reviewers identified all reports comparing two or more possible strategies to prevent vaginal dehiscence. Metaanalysis was performed using RevMan 5.3.5.

**Measurements and Main Results:** A total of 401 articles were identified; only 15 (3 randomized, 3 prospective, 9 retrospective) studies met the criteria to be included in the present review, for a total of 20,668 patients. Incidence of vaginal cuff dehiscence in TLH group ranged between 0.64 and 1.35%, while RH was associated with a risk of approximately 1.64%. The risk of vaginal dehiscence was not affected by the



power of monopolar electrocautery during colpotomy (0.12%vs.0.48% for 50 vs. 60 Watts; OR: 0.22, 95% CI:0.02-2.45). Double-layer and reinforced sutures did not decrease the risk of dehiscence. Barbed sutures reduced the risk of separation compared with non-barbed closure (0.6% vs. 2.2%; OR: 0.37; 95% CI:0.15-0.95). Transvaginal suture of the vault at the end of an endoscopic hysterectomy appeared to reduce the risk of dehiscence when compared to both laparoscopic (0.45%vs.0.84%; OR:0.48; 95% :0.29-0.79) and robotic closure (OR:0.13; 95% CI: 0.07–0.26).

**Conclusion:** Only two effective strategies have been identified in preventing the risk for vaginal cuff dehiscence: the use of barbed suture and the adoption of a transvaginal approach to close vagina

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## Salpingectomy for the Risk Reduction of Ovarian Cancer: Is It Time for a Salpingectomy-alone Approach?

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**Objective:** To summarize published evidence supporting current strategies for the prevention of

epithelial ovarian cancer in women with a genetic, elevated risk for the development of this disease, as well as the emerging data on the novel salpingectomy with delayed oophorectomy (SDO) strategy. Furthermore, we will explore whether salpingectomy alone is a viable risk-reducing strategy for these women. We will also discuss current national guidelines for risk-reducing surgery based on patients' individual genetic predisposition.

**Data Sources:** MEDLINE, PubMed, EMBASE, and the Cochrane Database, with a focus on randomized controlled trials and large prospective, observational studies.

**Tabulation, Integration, and Results:** The fallopian tube is now well established as the site of origin for most ovarian cancers, particularly high-grade serous carcinomas. This finding has led to the development of new preventive surgical techniques, such as SDO, which may be associated with fewer side effects. However, until the results of ongoing trials are reported and the impact of SDO on ovarian cancer risk reduction is established, it should not be recommended outside of clinical trials, and bilateral salpingo-oophorectomy remains the treatment of choice for risk-reducing surgery, especially in women with a genetic, high risk for ovarian cancer.

**Conclusion:** The decision to undergo risk-reducing surgery among women with an elevated risk for ovarian cancer should be made after comprehensive consultation and individually based on genetic predisposition, childbearing status, and personal preference.

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# Glimpses of DGES - ESGE 2018



# Glimpses of DGES 2019



## AOGD 2019 in association with DGES



## CME on Advanced Laparoscopic Surgery at ESI, Basaidarapur on 8<sup>th</sup> Januray, 2020



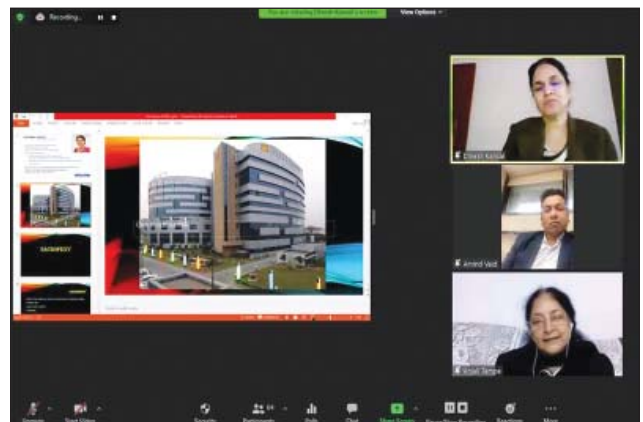
## CME at MAMC on 15<sup>th</sup> February, 2020 under the aegis of DGES



## CME on Myomas and Adenomyosis on 24<sup>th</sup> December, 2020 by DGES and IAGE DELHI CHAPTER



## Mastering Prolapse Endoscopic way-on 28<sup>th</sup> January, 2021 by DGES and IAGE



# Glimpses of DGES 2019-21



Dr Dinesh kansal takes over as President DGES



CME on 'Entometriosis-An Enigma' on 27<sup>th</sup> March, 2019



IFS Organised Academic Meeting in 17<sup>th</sup> May 2019 at Hotel City Park in Association with DGF North and DGES



Legends Go Live 2019 at Hotel Hyatt on 20<sup>th</sup>-21<sup>st</sup> July, 2019



Cme on Laparoscopy - Basic & Advanced at ESI, Basaidarapur on 16<sup>th</sup> May, 2019

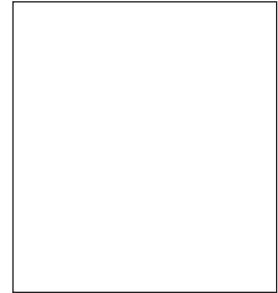


Cme on Laparoscopy - Basic & Advanced at ESI, Basaidarapur on 16<sup>th</sup> May, 2019

# Delhi Gynaecological Endoscopists Society

## Membership Application Form

The President  
Delhi Gynaecological Endoscopists Society  
BLK-Max Super Speciality Hospital  
Department of Gynaecology & Obstetrics  
Pusa Road, New Delhi - 110005  
Website: www.dges.in  
Email: dgesblk2019@gmail.com  
Contact Us: 9999774988,9873120509, 9910001711



Respected Mam/Sir,

I wish to join the Delhi Gynaecological Endoscopists Society (DGES) as a Life member. Subject to approval of the DGES Executive Board, if admitted, I will abide by the rules and regulations of the society.

Member's Name: \_\_\_\_\_

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Phone: \_\_\_\_\_ Tel.No/Hospital No. \_\_\_\_\_

Place of Working: \_\_\_\_\_ Primary Speciality: \_\_\_\_\_

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