Gynaecological surgeries have come a long way since the first ovarian cystectomy carried out by Ephraim McDowell in Kentucky in 1809. Charles Clay performed the first abdominal hysterectomy in 1843, patients died of infection in the post – operative period. The first successful abdominal hysterectomy was performed by Ellis Burnham in 1853. Vaginal hysterectomy dates back to 120 BC and was performed by Soranus of Ephesus.

Harry Reich is credited with the first Laparoscopic Hysterectomy in 1988. Langenbeck performed the first vaginal hysterectomy in 1813 and Non descent vaginal hysterectomy was popularized by Haene’y since 1934. However early comparison of the three modes namely Vaginal Hysterectomy [VH], Laparoscopy Assisted Vaginal Hysterectomy [LAVH] and Total Abdominal Hysterectomy [TAH] the LAVH was found to be the most cost effective.
The first successful vaginal hysterectomy was performed by the “patient” in 1670, as reported by Percival Willouby. A 46-year old peasant named Faith Haworth was carrying a heavy load of coal when her uterus prolapsed completely. Frustrated by this frequent occurrence, she grabbed her uterus, pulled as hard as possible, and cut the whole lot off with a short knife. The bleeding stopped and she lived on for many years, "water passing from her insensibly day and night".

Burnham performed the first successful abdominal hysterectomy in 1853, by accident. Upon opening the patient to remove a large ovarian cyst, she vomited, expelling a large fibroid uterus. As the surgeon was unable to put it back into the peritoneal cavity, he removed it
supracervically. The first elective abdominal hysterectomy was by Clay and Koeberle in 1863.

In the eighties 70 to 80% of the hysterectomies were carried out through the Abdominal route. Over the years the trend reversed and laparoscopic surgeries were carried out even for Uterus more than 12 weeks size.

Meta-analysis of the Randomized Control Trials showed that vaginal hysterectomy is preferable to abdominal hysterectomy where possible. Where vaginal hysterectomy is not possible, laparoscopic hysterectomy is preferable to abdominal hysterectomy.
The appropriate indications for Hysterectomies include conditions like menorrhagia, dysfunctional uterine bleeding, fibroid uterus and adenomyosis uterus, pelvic inflammatory disease, pelvic endometriosis, and ectopic pregnancy -- and neoplastic disease, namely, cervical intraepithelial carcinoma (carcinoma in situ), early invasive cervical cancer, endometrial adenocarcinoma and sarcoma, trophoblastic disease, ovarian and fallopian tube neoplasms, and malignant disease of other adjacent organs.

There are some relative indications like the one listed in the slide.

A partial list of inappropriate indications for hysterectomy includes prophylaxis against uterine cancer, contraception in a gynecologically normal patient, management of the
menopause, leucorrhoea and chronic cervicitis, primary dysmenorrhea and premenstrual tension, mild urinary incontinence, postmenopausal bleeding, abnormal vaginal/cervical cytology, and cervical dysplasia.

Compared with other conventional and laparoscopic methods, the GILLS LAVH has the advantages concerning variables like

- Operative time
- Blood loss
- Intraoperative and postoperative complications
- Postoperative pain
- Being back to normal work
- Vaginal discharge
THE PROCEDURE

Patients are advised to hydrate and eat lightly for 24 hours prior to the surgical procedure after optimizing their medical conditions. Prophylactic antibiotics are important as some parts of the equipment like the optics are not sterile. The patient is placed in lithotomy position with the free arm tucked in and with shoulder braces to prevent slipping in steep Trendelenburg position. Both the perineum and abdomen are cleaned and draped.

The SIMS speculum is used to visualize the cervix which is held with a vulsellum forceps. Dilatation of the cervix is carried out to pass comfortably the uterine manipulator. Several
types are available. A simple one can be made by lengthening a Haegar dilator. The manipulators used for total laparoscopic hysterectomies differ from the ones used for LAVH.

Two towels clips are used for holding the lower edge of umbilicus. They are held up and an incision is made towards the half near the umbilicus. The upper portion of the umbilicus is held with the towel clip and S shaped retractors are used for retraction while deepening the incision. Once the peritoneum is entered the intra-abdominal portion of the Lift is placed inside the abdomen and then connected to the lifting apparatus.

It is important to start the lift process with the lifting part at the lowest position and after making the connections and tightening them the apparatus is lifted under vision so that
there is no omentum or bowel caught in the intra – abdominal portion of the apparatus. Surgeries are usually possible with Single Incisions especially while using vessel sealing device

Staying close to the Uterus the tubo-ovarian ligaments, the round ligaments are divided. Modern tools like the vessel sealing systems [Valley lab or the local equivalents], harmonic shears or regular mono - polar or bipolar energy sources could be used. Once well coagulated the tissues appear white and sufficient stretch offered by the uterine manipulator is important. The uterine manipulator holds the uterus pushed in {superior}, anterior and to the opposite side of division of vessels.
The broad ligaments are then dealt with by coagulating and dividing. Then the bladder is dissected off the Uterus by holding it with an atraumatic forceps and holing the uterus down and pushed in with the manipulator. Then the posterior fornx could be entered by cutting over a large Haegar dilator pushed from below in the posterior fornx. The uterine manipulator holds the uterus anteverted.

Skeletonizing the broad ligament leads to the uterine vessels. They could either be tied if using multiple trocars or sealed using the vessel sealing systems. Staying close to the uterus avoids injury to the ureters and bladder. The cervico-vaginal junction could be identified using the delineator portion of the uterine manipulator or if such instruments are not available using the Hagar’s dilator in the anterior fornx. The division could be carried out using a hook electrode. Suturing the vaginal walls is easy with Lift laparoscopy and using the regular long needle holders. Doing it with a single incision requires a little practice.

A circumferential incision is made using the coagulating current with mono – polar cautery and 4 retractors are used for good exposure. Allis forceps is used to hold the vaginal wall and dissect the bladder off the Uterus. The earlier dissection of the bladder from above helps in finding the correct planes for dissection. Once the anterior and posterior fornices are dissected the lateral ligaments could be divided using vessel sealing equipment having the finger then a Kelly clamp to isolate the lateral ligaments. These lateral ligaments could be tied together later to offer support and the vagina could be closed below it.
The recent advance is the use of robotic surgery for TLH. The advantage is that it would be advisable in COVID 19 setting with minimal staff in the operating room or doing the surgeries remotely. However it is very expensive at the moment

A short video about LAVH could be found in YouTube

https://www.youtube.com/watch?v=G8mLqhj3oxs&list=UU5mdzFx0SRaUPT-8GTeHApQ&index=26
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