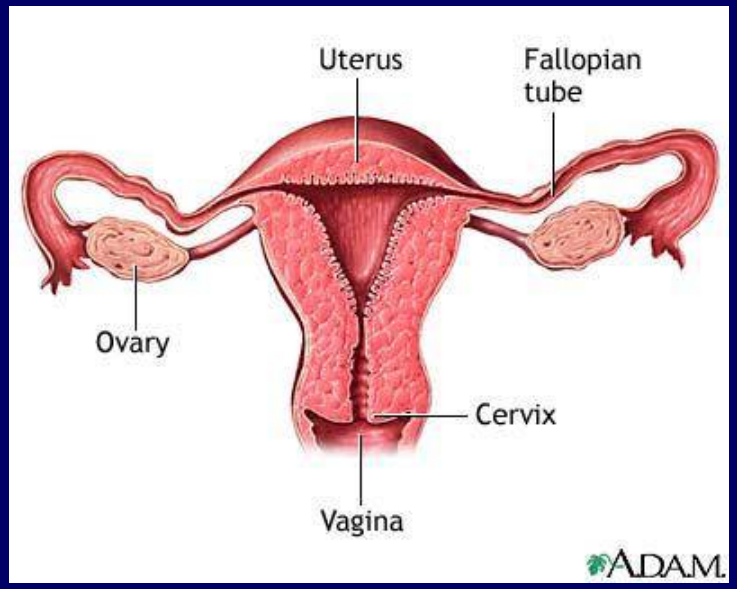
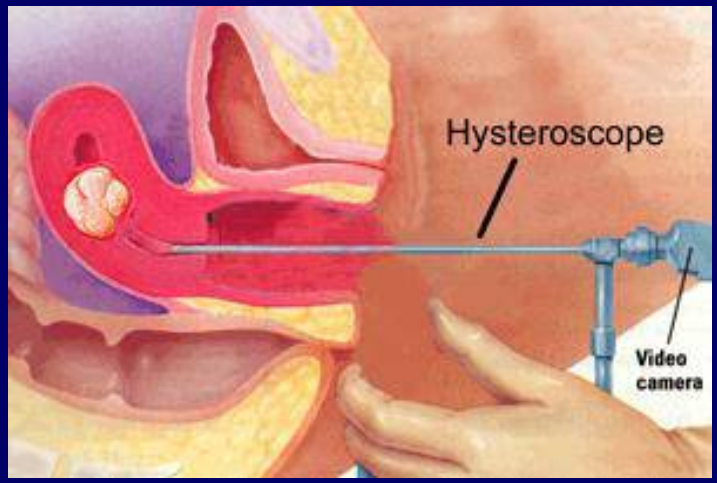
Hysteroscopy



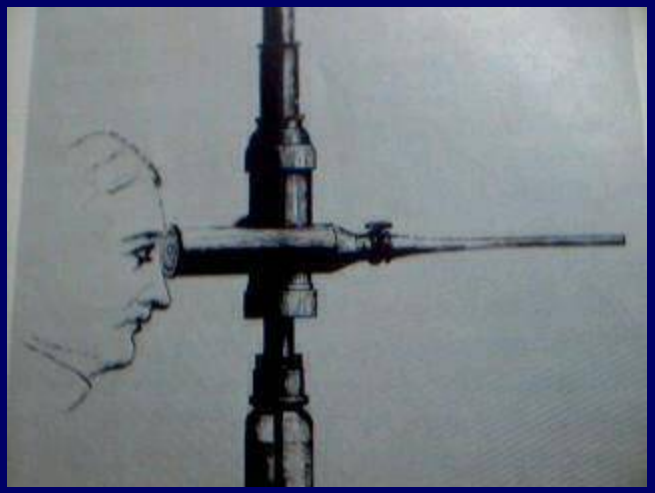
Prof. R. K. Mishra

Definition

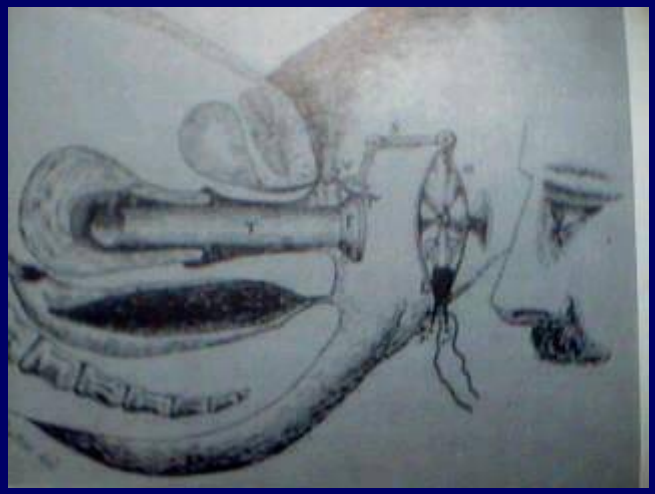
- Hysteroscopy is a procedure used to view the inside of the uterus through a telescope-like device called a hysteroscope
- The hysteroscope is placed in the vagina and introduced into the uterus through the cervix



History



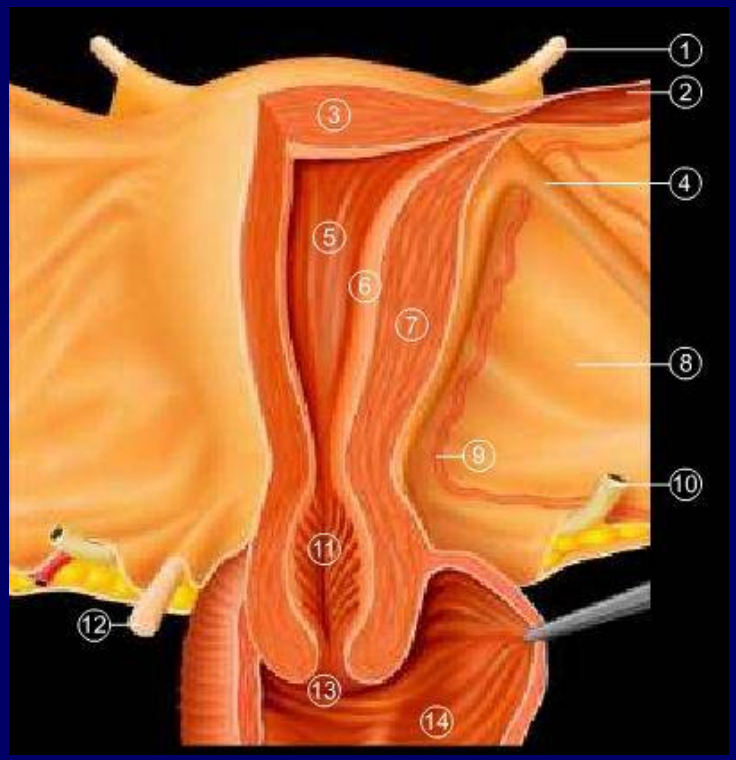
First hysteroscope with Cystoscope of Desormeaux by Pantaleoni 1869



First hysteroscope with built in lens to magnify the image

Surgical Team and Patient Position

Hysteroscopic Anatomy

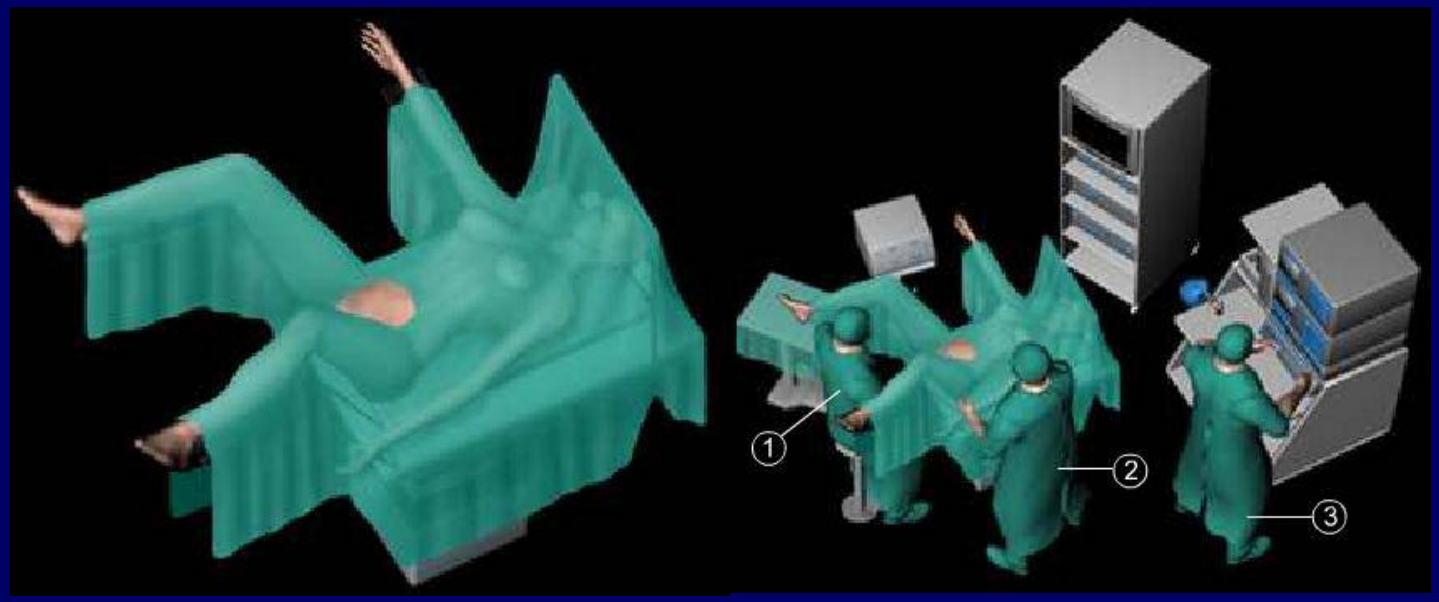


1. Round ligament
2. Uterine tube
3. Fundus of uterus
4. Proper ovarian ligament
5. Uterine cavity
6. Endometrium
7. Myometrium
8. Mesometrium of broad ligament
9. Uterine artery
10. Ureter
11. Cervical canal

Indication

1. Evaluation of unexplained uterine bleeding in pre or post-menopausal patients
2. Diagnosis & hysteroscopic removal of suspected submucous leiomyoma or endometrial polyp
3. Location and retrieval of ‘lost IUD’ or other foreign body
4. Exploration of endocervical canal, internal cervical os, and uterine cavity in patients with repeated miscarriages.
5. Evaluation of patients with failed first trimester elective abortion
6. Trans-cervical division of small uterine septae

Operating room setup



O.T Setup

Procedure

- Inside of the uterus is a potential cavity, like a collapsed airdome, it is necessary to fill (distend) it with either a liquid or a gas (carbon dioxide) in order to see.
- Diagnostic hysteroscopy and simple operative hysteroscopy can usually be done in an office setting.
- More complex operative hysteroscopy procedures are done in an operating room setting.

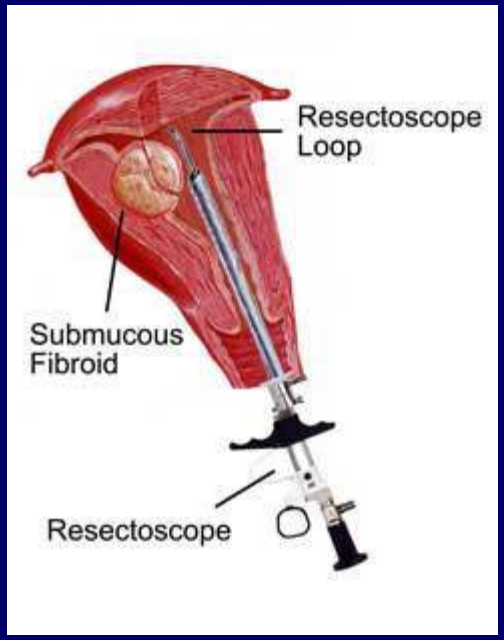
Access

Equipment

- Hysteroscope
- Microhysteroscope
  - Unit magnification- Panoramic view
  - 20 magnification- Panoramic view
  - 60 magnification- Contact Microscopic view depth 80microns
  - 150 magnification- Contact microscopic view shows nuclei and cytoplasm

Distending media

- Carbon dioxide
- Dextran 70
- Low viscosity media like normal saline, 5% Dextrose, 10% Dextrose, Dextran 4%.
- Most of the surgeon uses normal saline for Diagnostic Hysteroscopy & Glycine for Operative Hysteroscopy

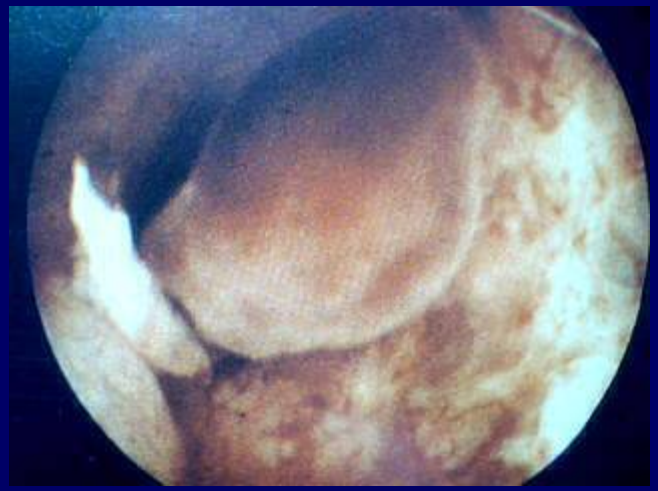


Property of Glycine

- Do not react
- Natural Amino Acid
- Prevents Clot Formation
- Inhibits Ionization by Monopolar current
- Only Side effect is Hyponitremia after intravasation

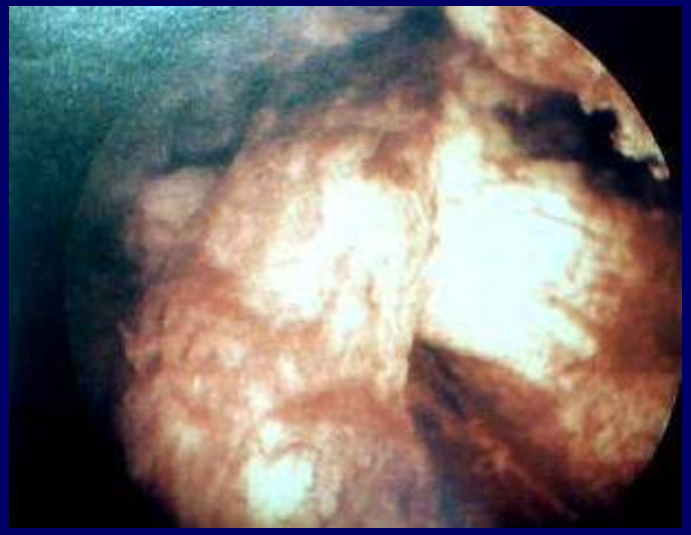
Diagnostic Hysteroscopy

Diagnostic Hysteroscopy for abnormal uterine bleeding



Endometrial Polyp

Diagnostic Hysteroscopy for abnormal uterine bleeding



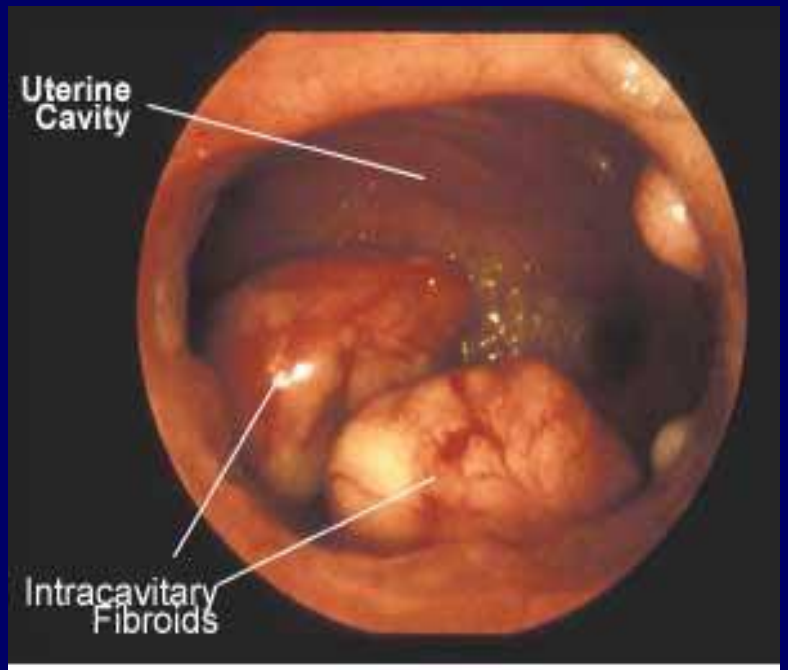
Atypical adenomatous endometrial hyperplasia

Diagnostic Hysteroscopy for abnormal uterine bleeding

Endometrial Carcinoma

Diagnostic Hysteroscopy for abnormal uterine bleeding

Submucous Myoma



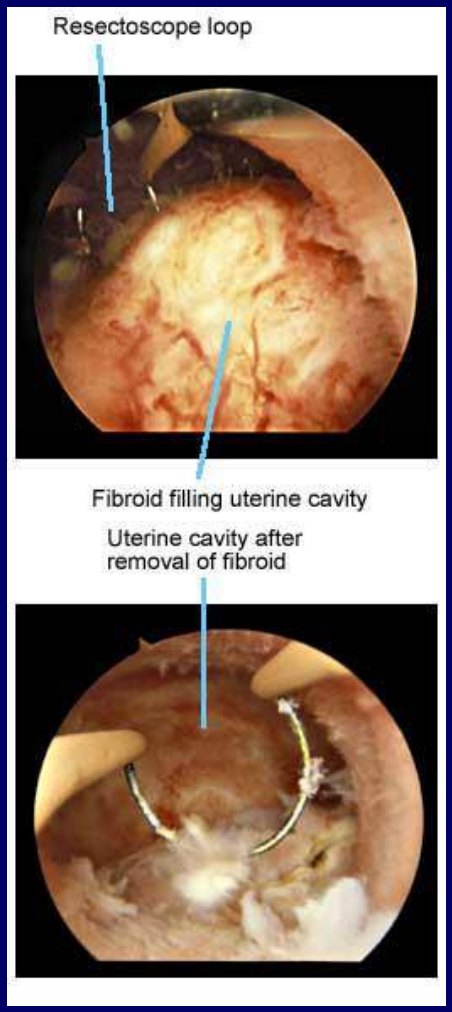
View of uterus through a hysteroscope

Hysteroscopy in cases of Infertility

Septate uterus

Hysteroscopy in cases of Infertility

Submucous Myoma



Hysteroscopy in cases of Infertility

Endometrial Polyp

Hysteroscopy in cases of Infertility

Forgotten IUD

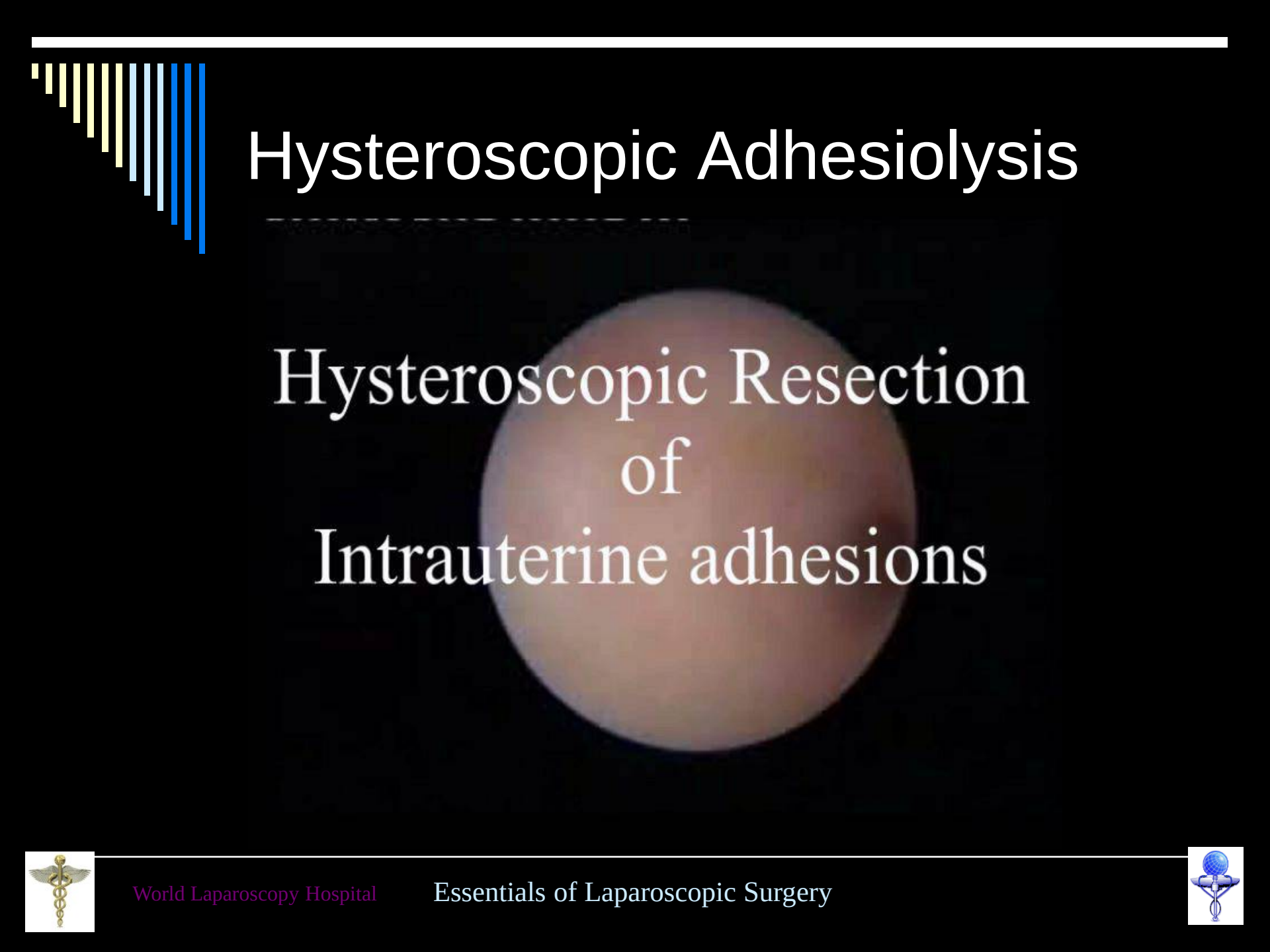
Hysteroscopy in cases of Infertility

Intrauterine Adhesion

Asherman's syndrome

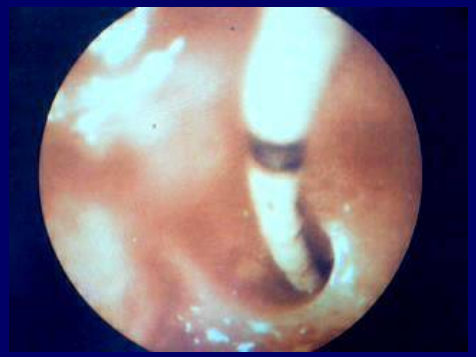
Asherman Syndrome typically occur as a result of scar formation after uterine surgery, especially after a dilatation and curettage (D&C). The adhesions may cause amenorrhea (lack of menstrual periods) and/or infertility.

Hysteroscopic Adhesiolysis



Tubal Cause of Infertility

Combined effort of Laparoscopy, Hysteroscopy & Falloposcopy can be used to rule out all the Uterine & Tubal Cause of Infertility



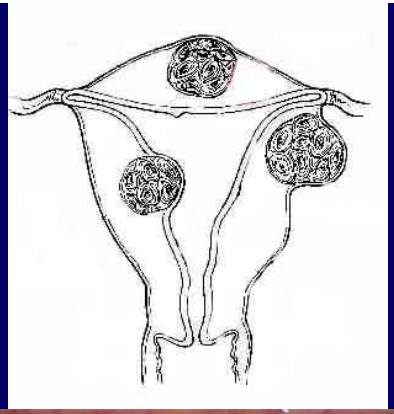
Hysteroscopy in malignancy

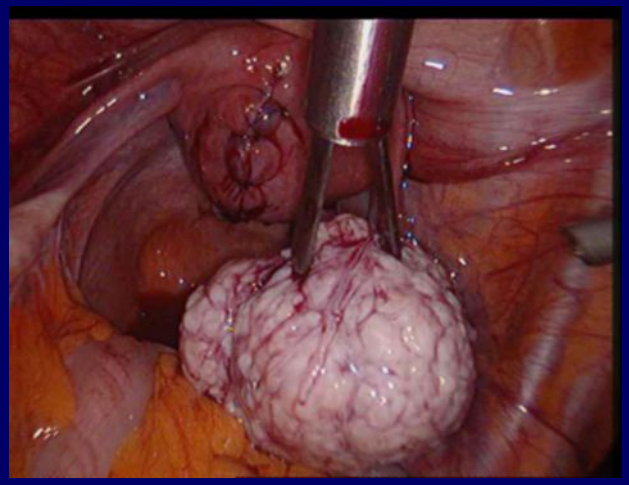
Endometrial carcinoma

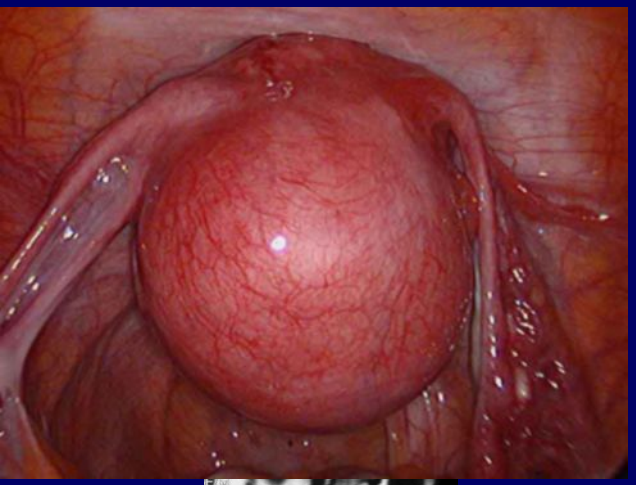
Hysteroscopy correlation in Diagnosis

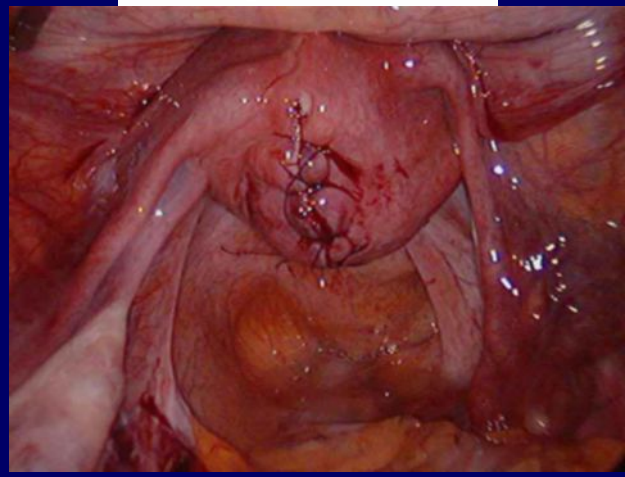
Bicornuate Uterus

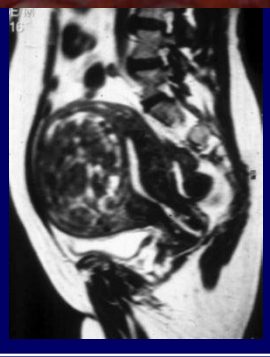
Hysteroscopic correlation & Diagnosis

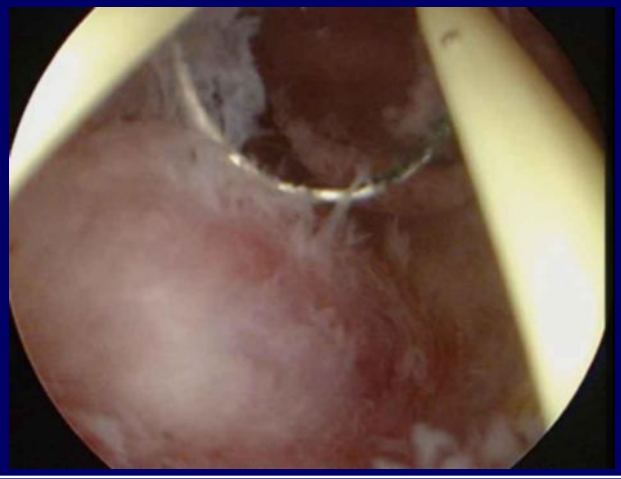












Myoma

Hysteroscopy correlation in Diagnosis

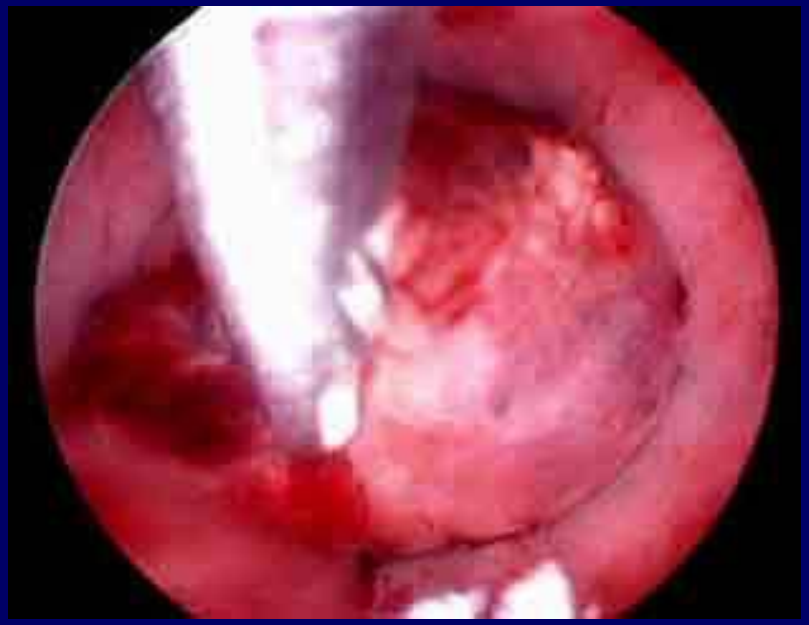
Submucous Myoma

Hysteroscopy correlation in Diagnosis

Endometrial Carcinoma

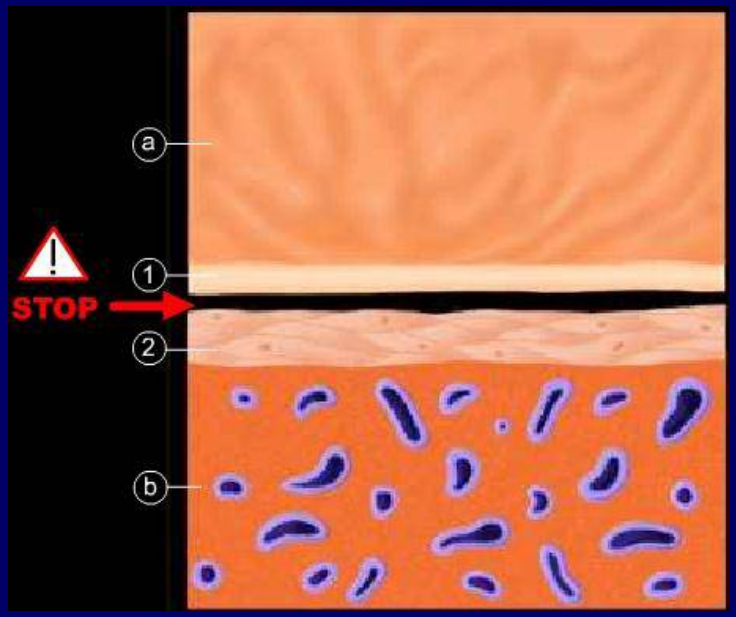
Operative Hysteroscopy

Therapeutic role of Hysteroscopy



In many situations, operative hysteroscopy may offer an alternative to hysterectomy.

Anatomy of Endometrium

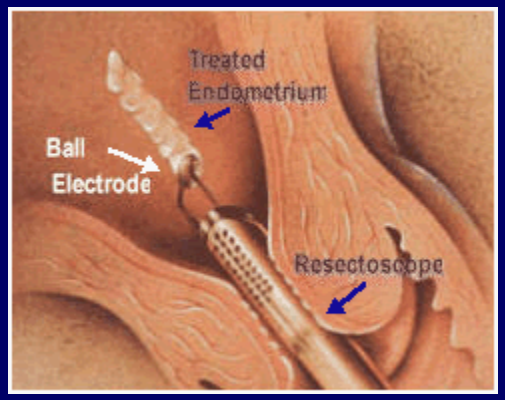


1. Internal longitudinal layer
2. External circular layer
a. Functional endometrium
b. Venous plexus

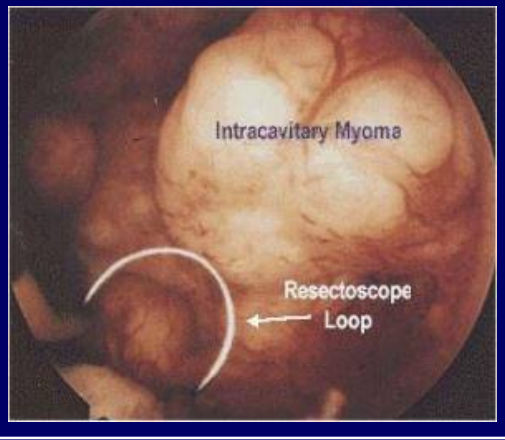
To determine the edges of the resection, knowledge of the anatomy of the endometrium is essential.

Resectoscope

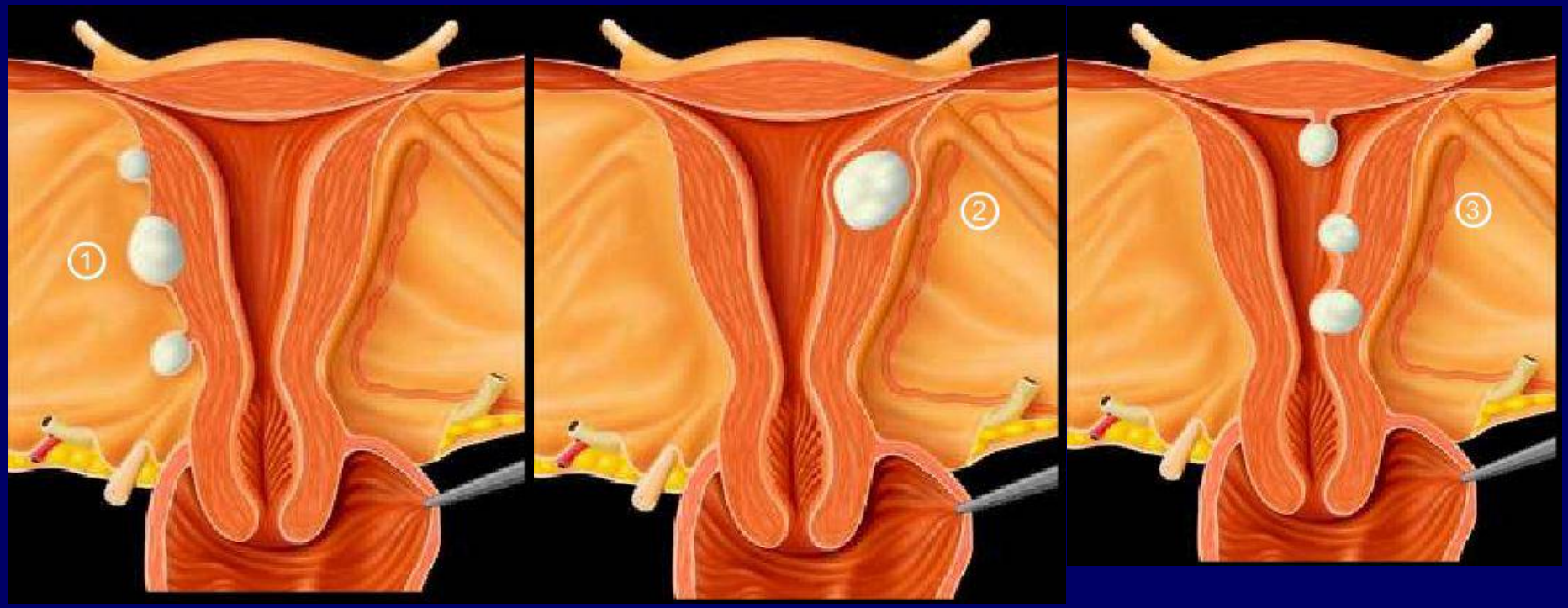
- The *resectoscope* has been used for male prostate surgery for over 50 years.
- The resectoscope with a built in wire loop or other shape device, uses high-frequency electrical current.



TCRE



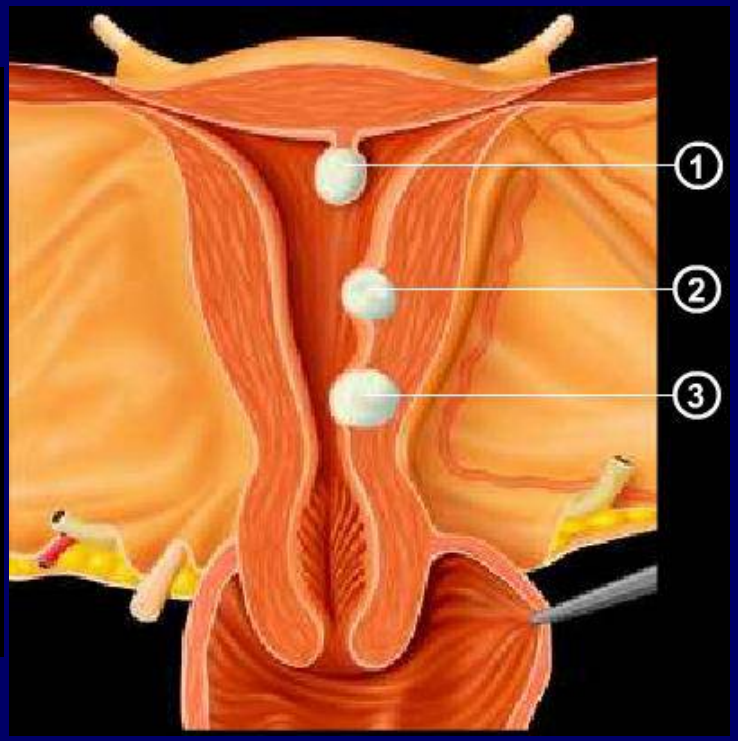
Myomectomy



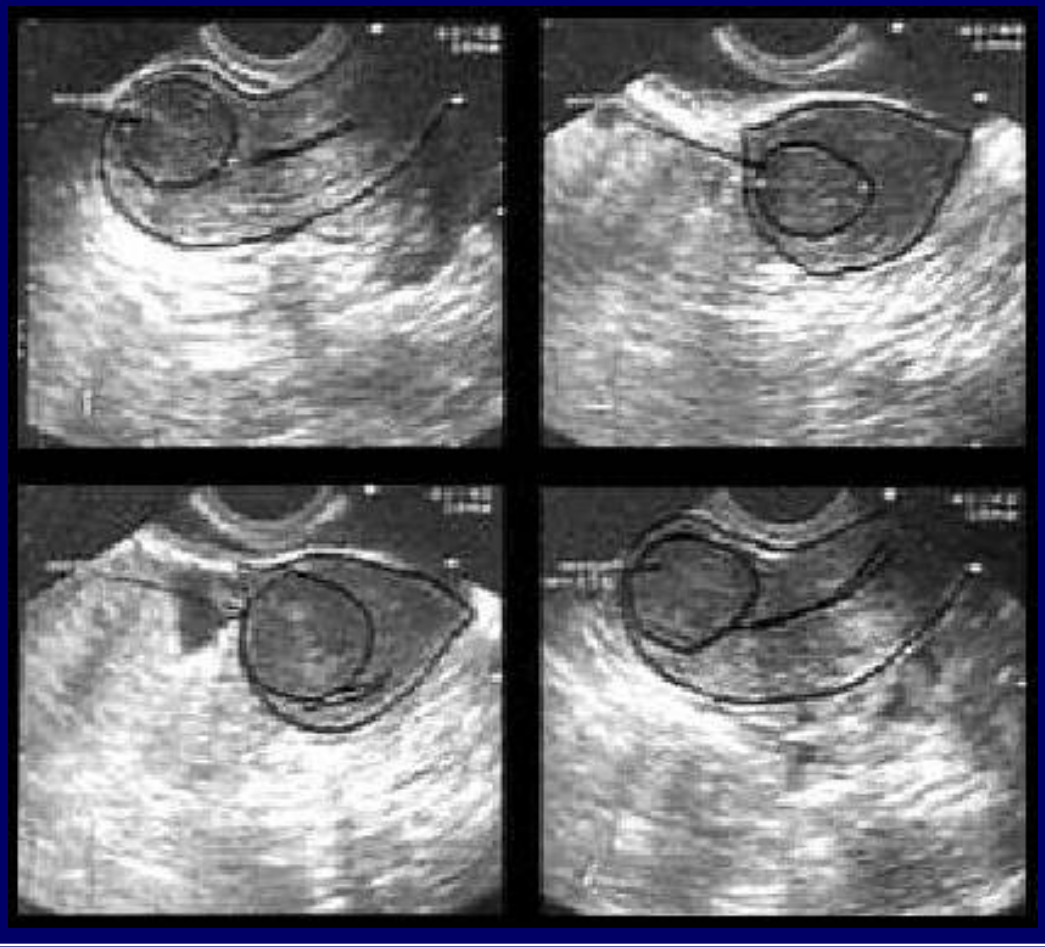
Grades of Submucous Myoma

Three grades of submucous leiomyomas can be identified, according to the degree of intramural development:

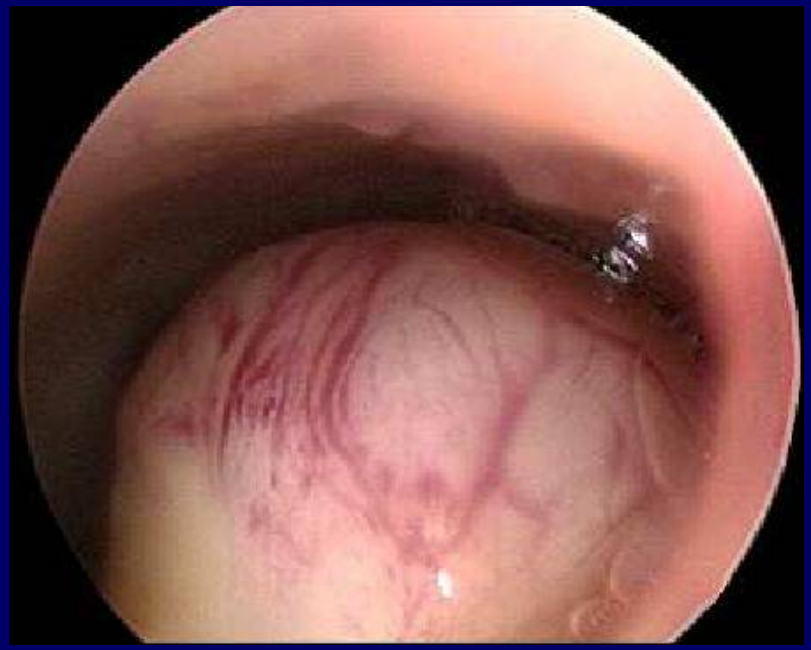
1. Grade 0: development limited to the uterine cavity (pedunculated or with limited implant base);
2. Grade 1: partial intramural development (endocavity component >50%);
3. Grade 2: predominantly intramural development (endocavity <50%).



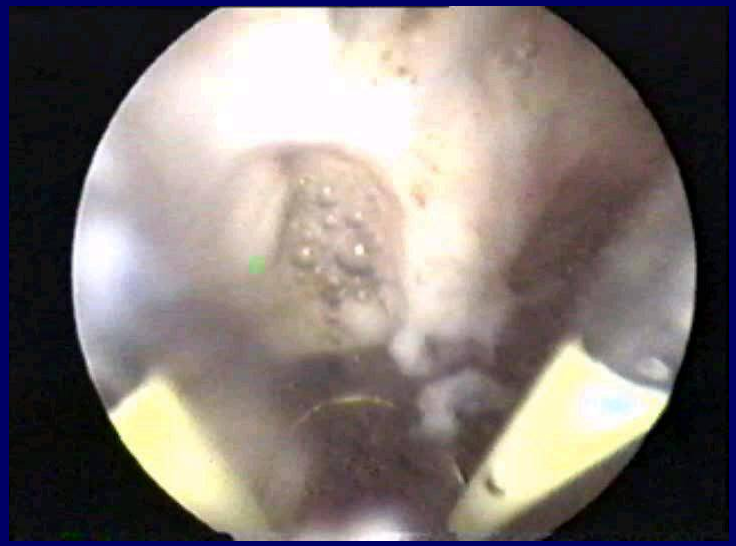
Diagnosis



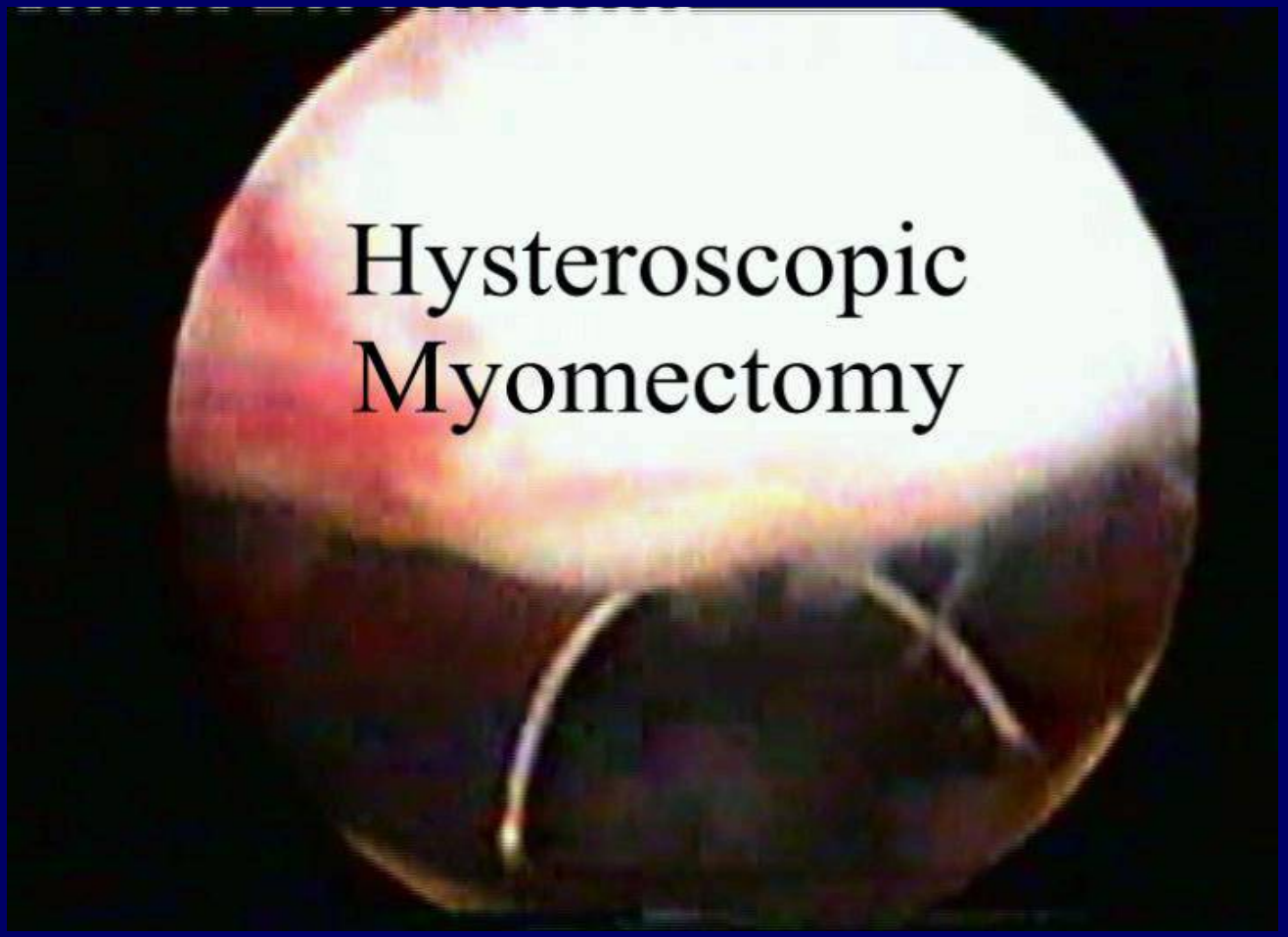
Diagnosis



Resection of Submucous Myoma

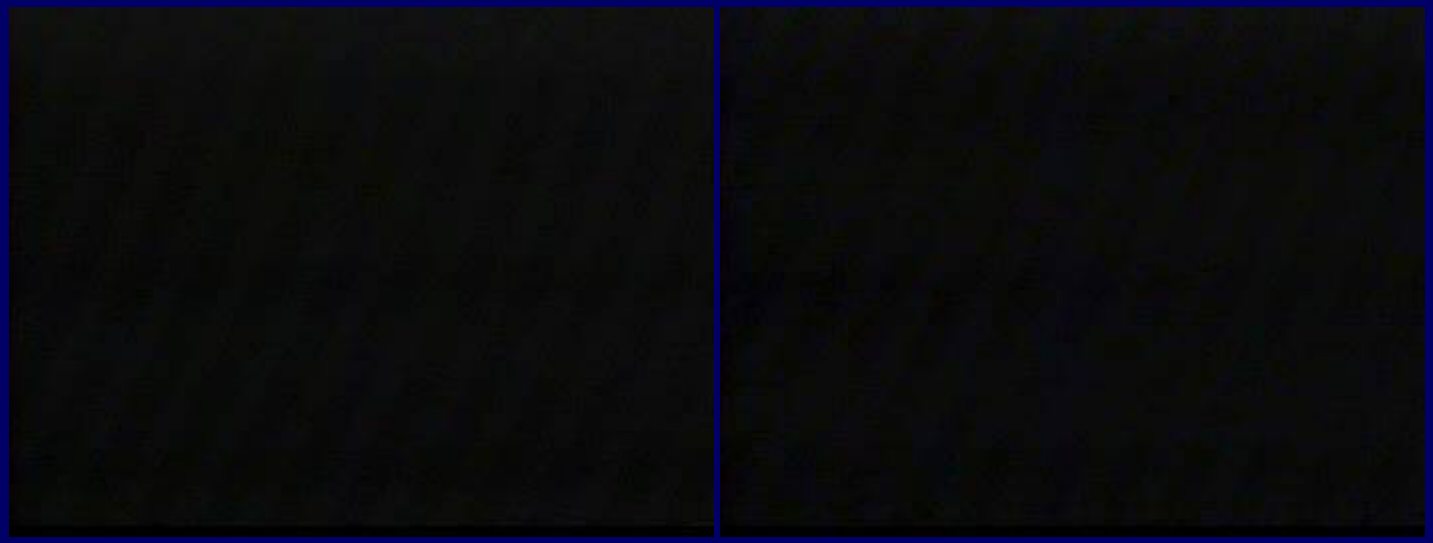


Resection of Myoma

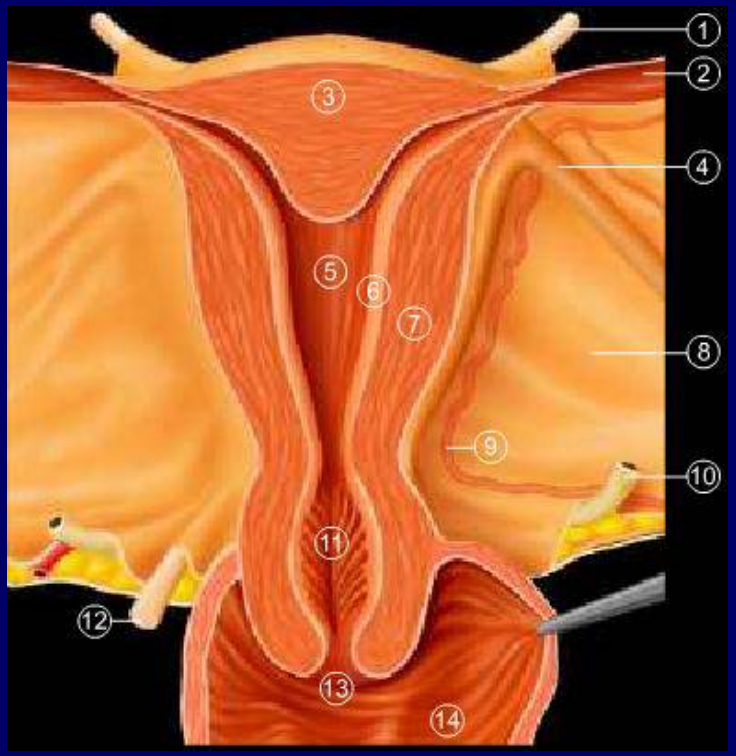


Myomectomy

Plasma Sect and V Samples

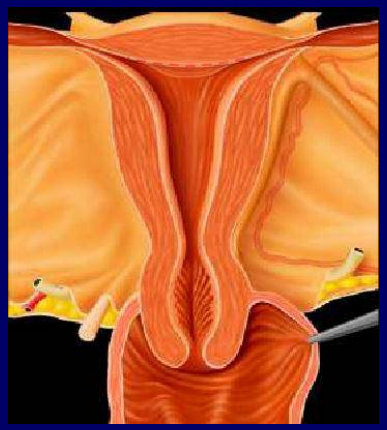


Hysteroscopy for Septet Uterus

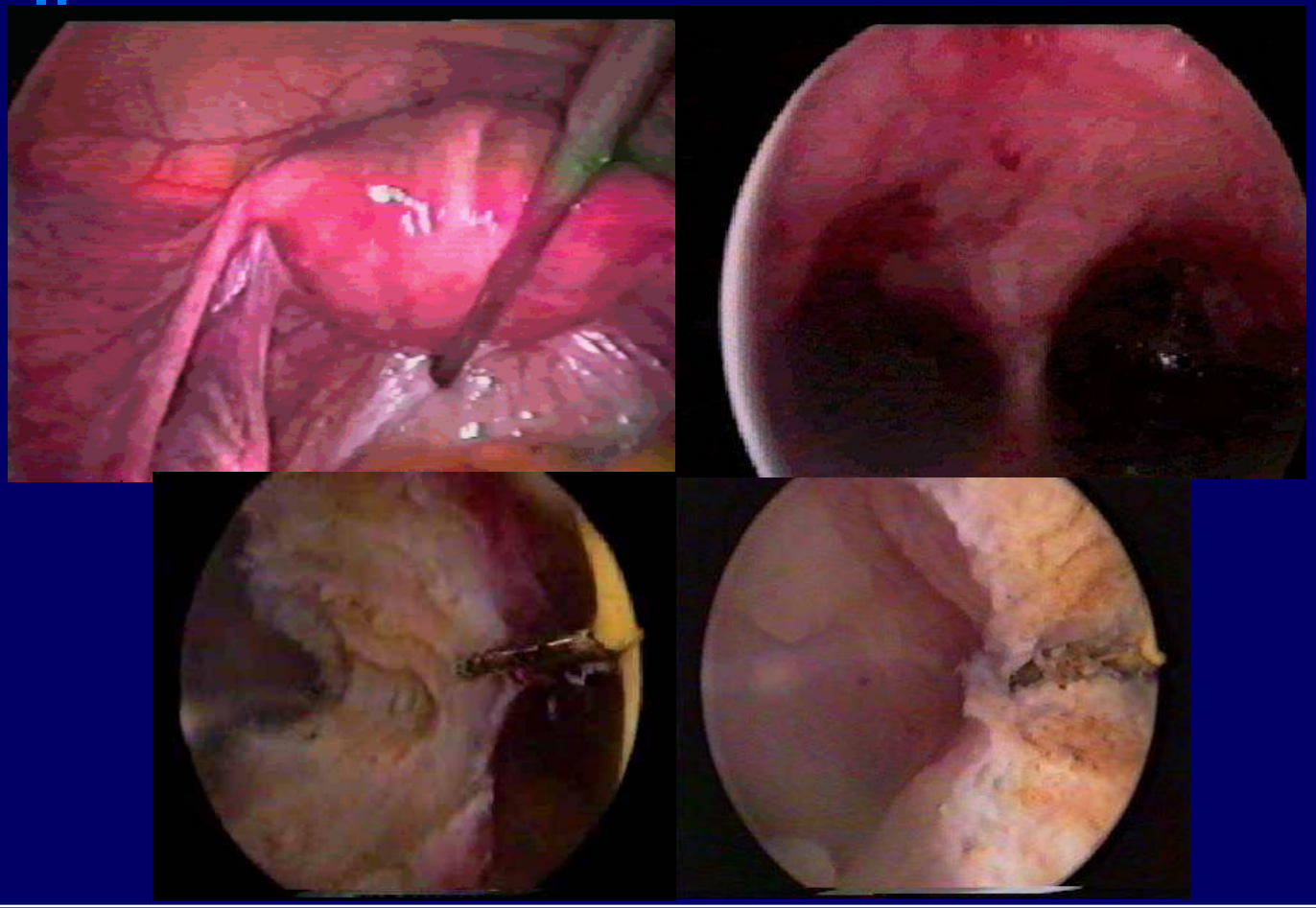


Principle

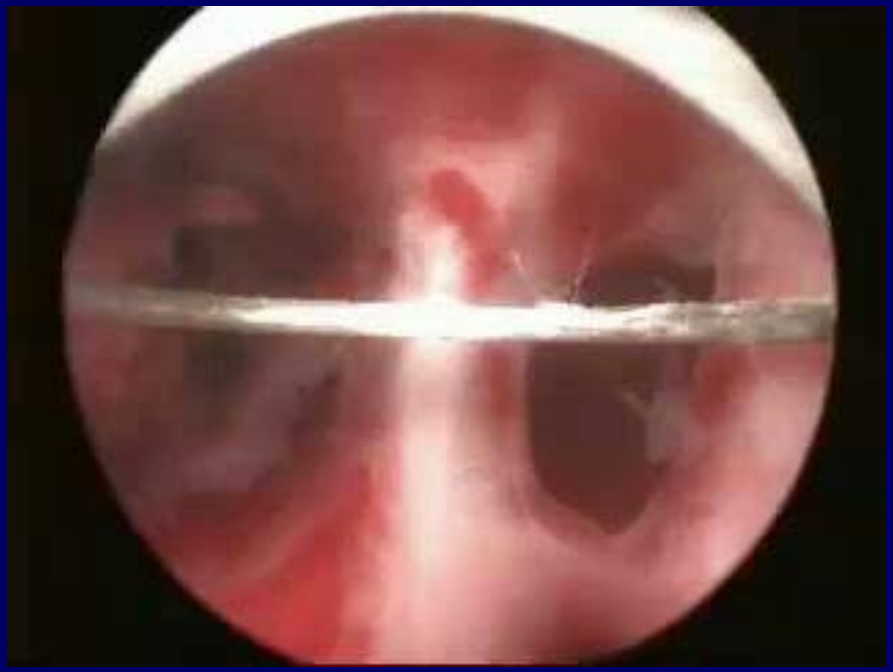
Cutting Current Is Used



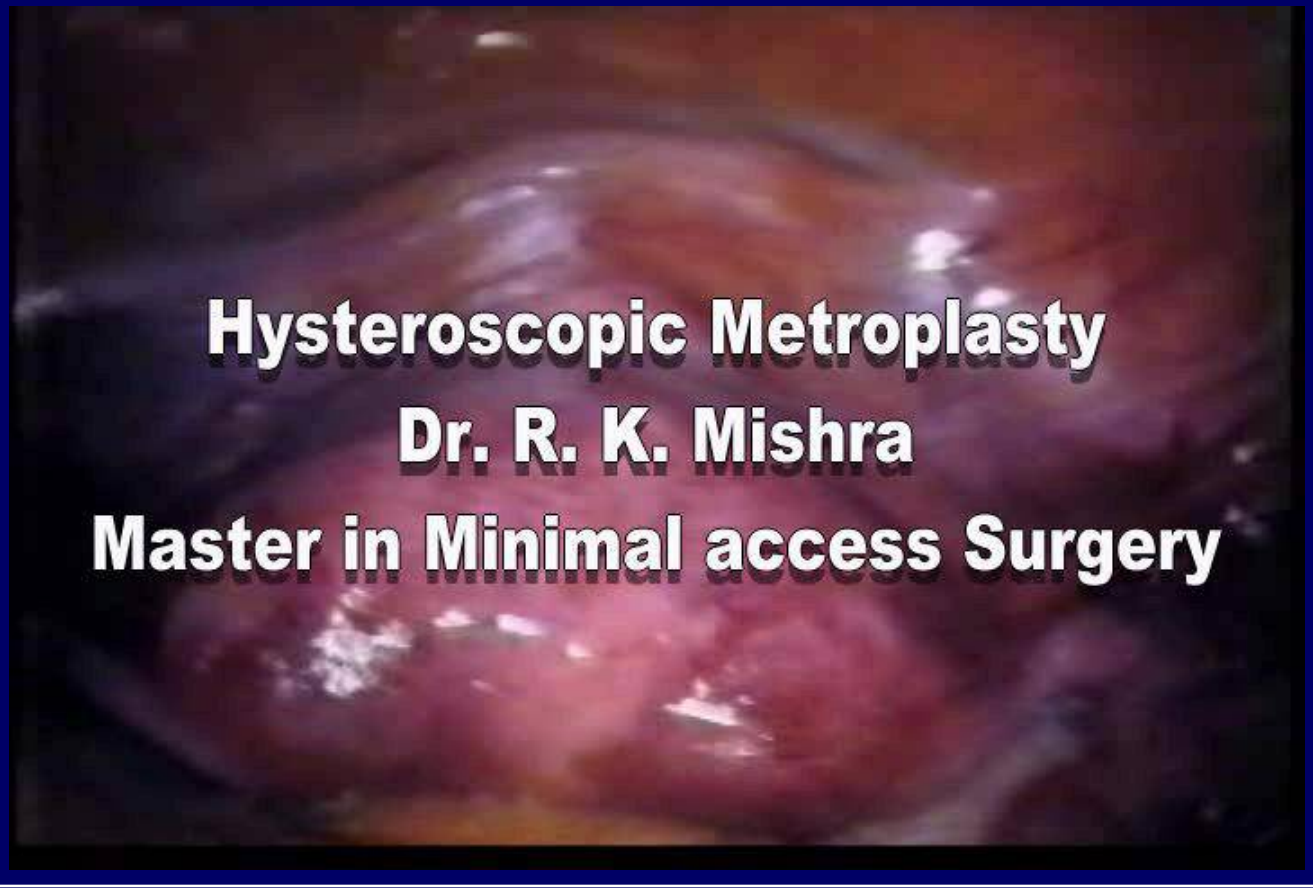
Resection of the Uterine Septum



Resection of Septum



Therapeutic role of Hysteroscopy



Hysteroscopic Sterilization

Complications

- Trauma
  - Cervical laceration
  - Uterine perforation
  - Injury to Intra-abdominal Viscera-Rectum, Bladder, Intestine
- Intravasation – Predisposing factors for venous intravasation of distending media:
  - Uterine Tuberculosis, Submucous tumour, Hypoplastic uterus, Recently traumatised uterine cavity, Proximal tubal obstruction, Excessive Pressure of Instillation

Complications contd…

- Infection
  - Exacerbate latent salpingitis
  - PID
  - Febrile reaction
- Bleeding
- Mortality
  - Peritonitis
  - Very high instillation pressure and flow rate

Contraindications

- Absolute
  - Adnexal and endometrial infection
- Relative
  - Menstruation
  - Pregnancy (Rarely used)
  - Cone Biopsy of Cervix
  - Pelvic irradiation
  - Cardiac and Pulmonary diseases
  - Recently Scarred Uterus and adhesions

Thank you

Advance Batch February 2005