



**Cleveland Clinic**

# **From Blind to Clear: Revolutionizing Patient Care Through Office Hysteroscopy**

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# Objectives



- **Enumerate the limitations of blind intrauterine evaluation and how enhanced diagnostic accuracy with hysteroscopy impacts clinical decision making**
- **Describe equipment options, procedural steps and best practices for patient comfort and safety**
- **Evaluate the benefits of office hysteroscopy, including patient selection and how to integrate hysteroscopy into routine gyn practice**

# Disclosures

- **Royalties**
  - **Up to Date**
  - **Wolter Kluwers**
- **Medical Director AAGL**

# Implementation of Office Hysteroscopy for the Evaluation and Treatment of Intrauterine Pathology

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Obstetrics & Gynecology: [September 2022](#) - Volume 140 - Issue 3 - p 499-513

**Abstract**      **In Brief**

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Hysteroscopy provides a minimally invasive strategy to evaluate intrauterine pathology and manage conditions such as abnormal uterine bleeding, infertility, intrauterine adhesions, müllerian anomalies, and intrauterine foreign bodies. Increasing access to hysteroscopy procedures in the office has the potential to improve patient care by minimizing financial and logistical barriers, aiding in streamlined diagnosis

# Completion Rate of Office Hysteroscopy

Study	Completion Rate	Sample Size
Capmas et al., 2016 [ <a href="#">13</a> ]	90.5%	2,402
Wang et al., 2024 [ <a href="#">21</a> ]	98.0%	157
Martire et al., 2025 [ <a href="#">22</a> ]	96.7%	60

# Conclusions

- **Women with undiagnosed pathologies are deprived of treatment options such as simple hysteroscopic removal of polyps and leiomyomas.**
- **Directs surgical therapy, informed consent and instrumentation for surgery**

# **The Bottom Line of Hysteroscopy**

- **Office hysteroscopy will decrease the need for blind biopsy and direct physicians to targeted biopsy and removal of focal lesions**
- **Improved experience and prompt diagnosis with ability to recommend treatment of diseases that affect the endometrium (focal and global diseases)**
- **Minimal discomfort**
- **Local anesthesia-but usually not needed**
- **Vaginoscopy possible**
- **Immediate visual affirmation for pt and MD**
- **See and treat possibility**
- **Pre op decision making**

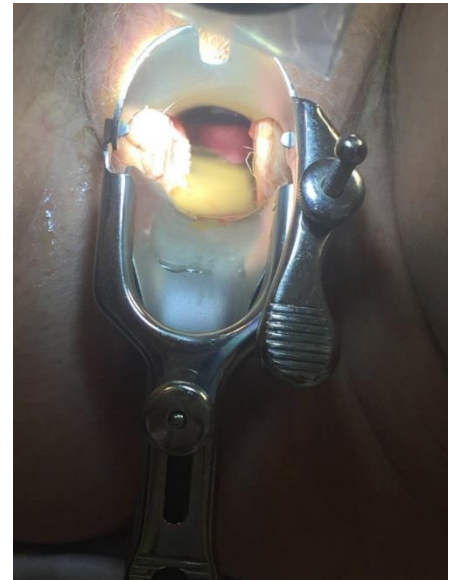
# Indications for Office Hysteroscopy

- **Evaluation of abnormal uterine bleeding in reproductive years**
  - Follow up treatment of endometrial hyperplasia or endometrial cancer
  - Post coital bleeding evaluation
  - Evaluation of endocervix
- Evaluate postmenopausal bleeding
- Location of foreign bodies and IUD's
- Infertility evaluation
- Leukorrhea
- Complications of pregnancy
  - Retained products of conception
  - C/Section niche
- Planning operative hysteroscopy and ablation
- Post operative evaluation following myomectomy, Asherman's syndrome, uterine fibroid embolization



# Contraindications of Office Hysteroscopy

- **Absolute Contraindications**
  - **Cervical Cancer**
  - **Acute Pelvic Inflammatory Disease**
  - **Pyometria**
  - **Uncooperative Patient**
  - **Inadequate Operator Experience**
  - **Inadequate Instrumentation**
  - **Prodromal or active herpes outbreak**
  - **Viable pregnancy**

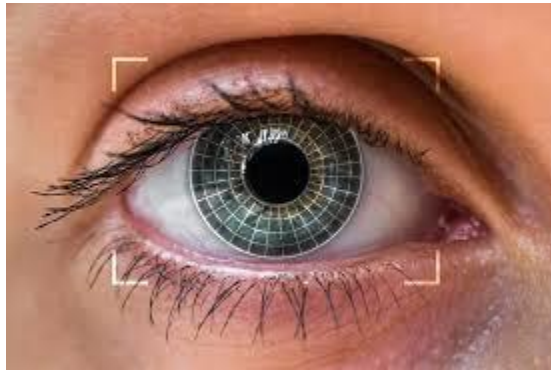


TM, Harris JB. Fulminant hepatic failure due to herpes simplex after hysteroscopy. *Obstet Gynecol.* 2001;98(5 Pt 2):954.

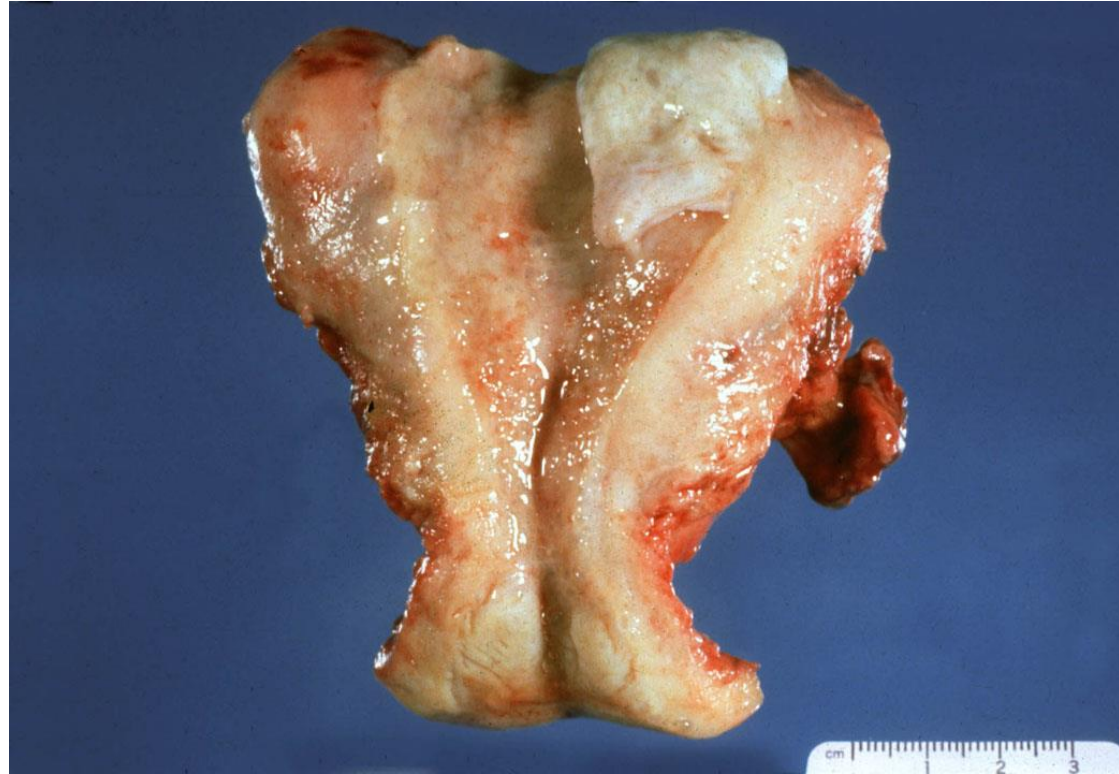
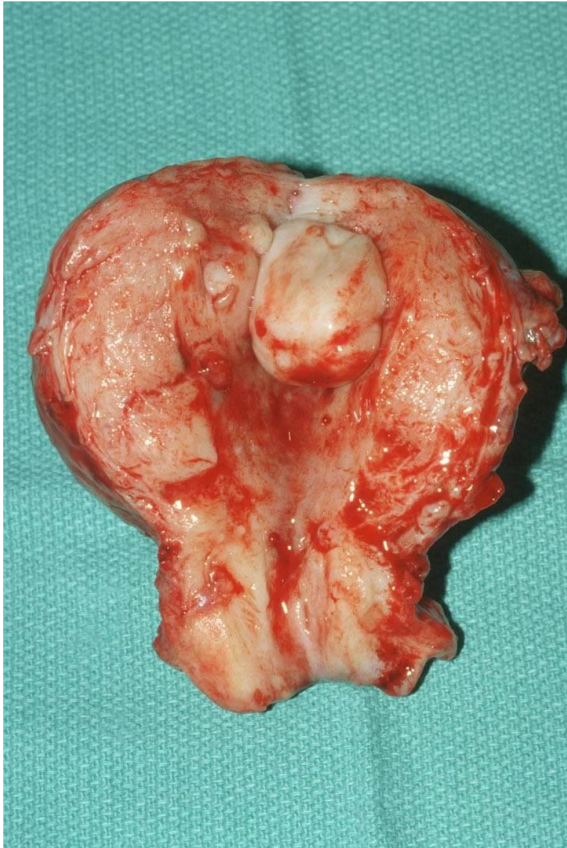
# You Can't Judge a Book By It's Cover



# Is Your Vision 20/20?

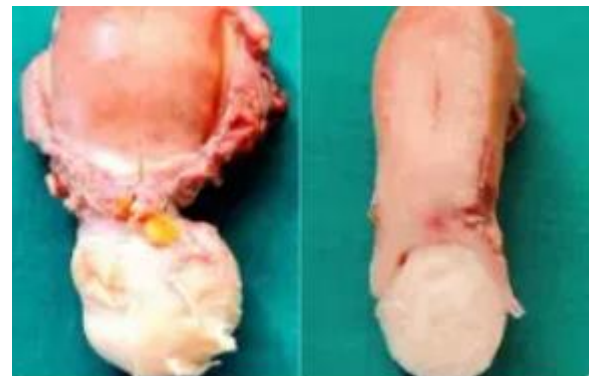
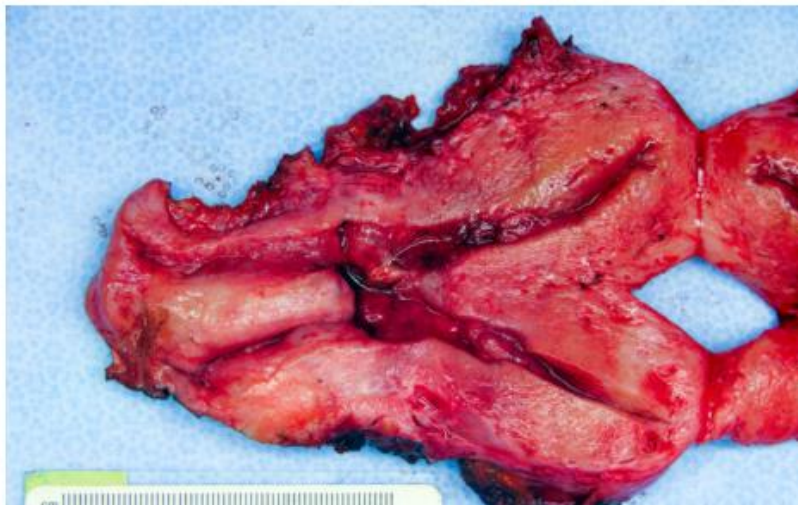


**What will you  
miss?  
If you don't look?**



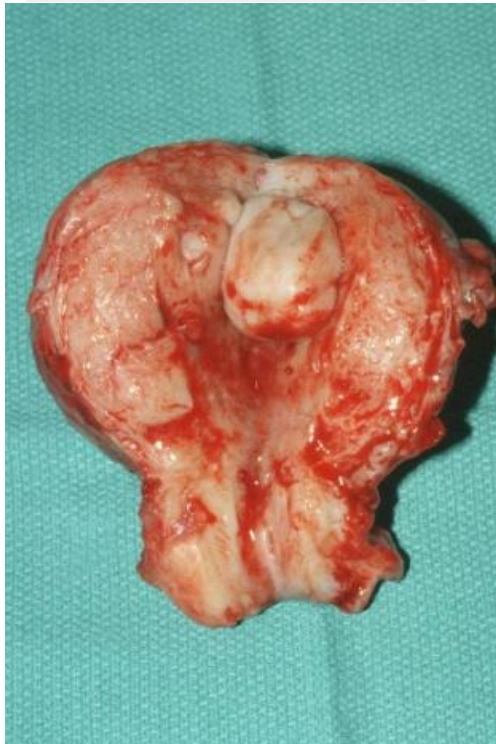


Bicornuate bicollis uterus with chronic endometritis, leiomyoma and focal adenomyosis

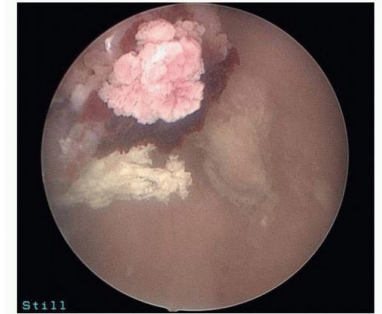
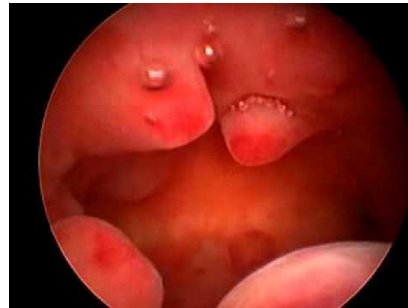
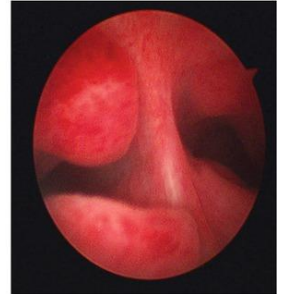
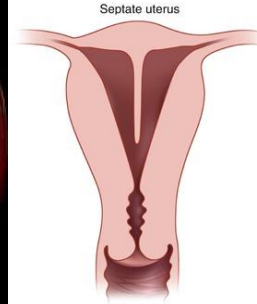
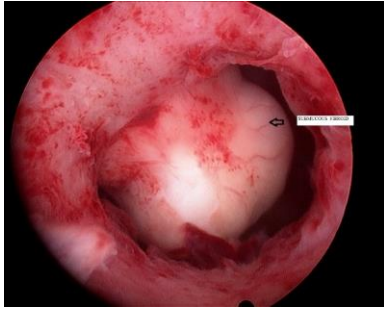


Leiomyoma of Uterus : Cervical

# Was Hysterectomy Really Necessary For These Women?



# Is Your Vision 20/20? What Are We Missing If We Don't Look?



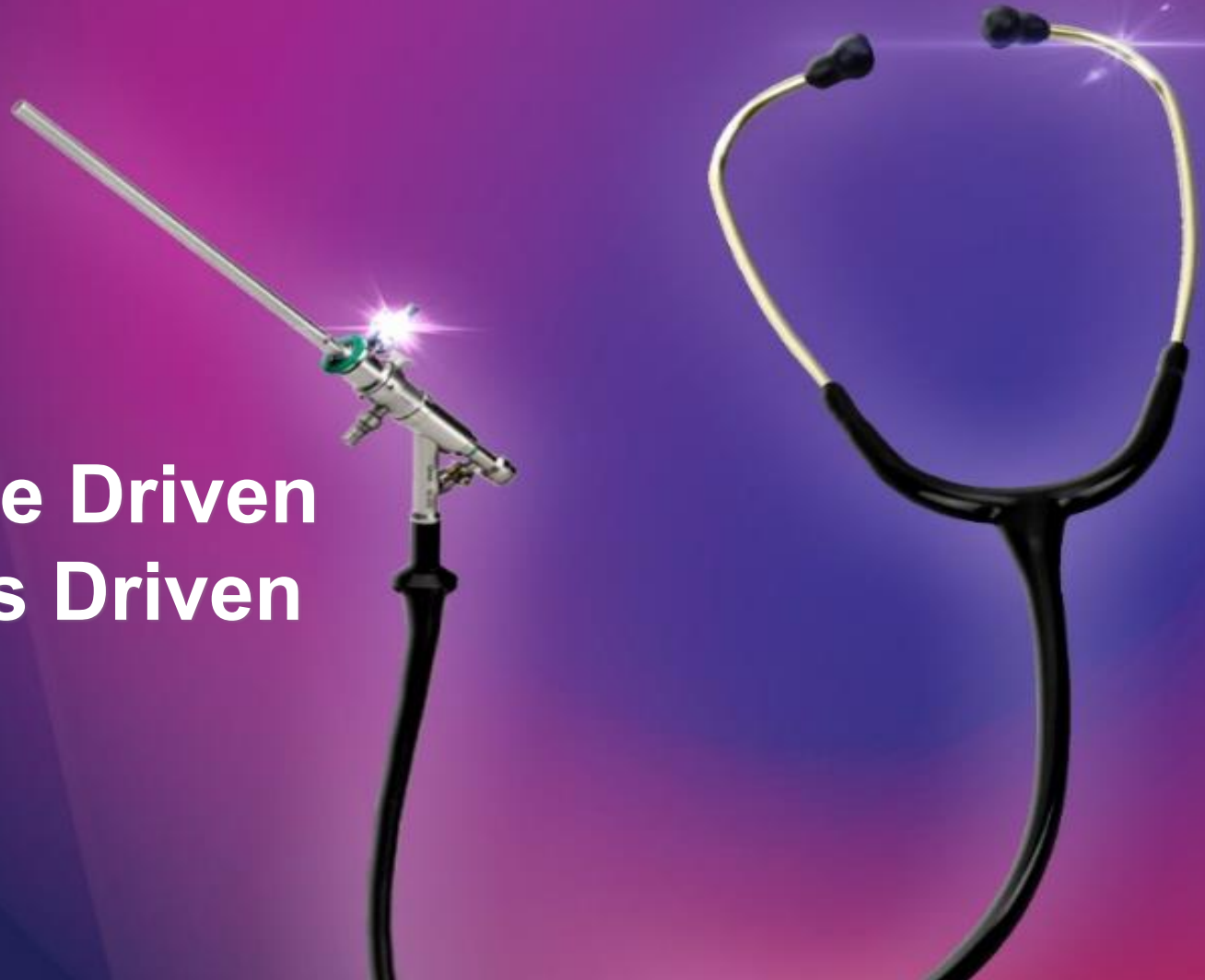
# What Hysteroscopy Reveals That Blind Procedures Miss

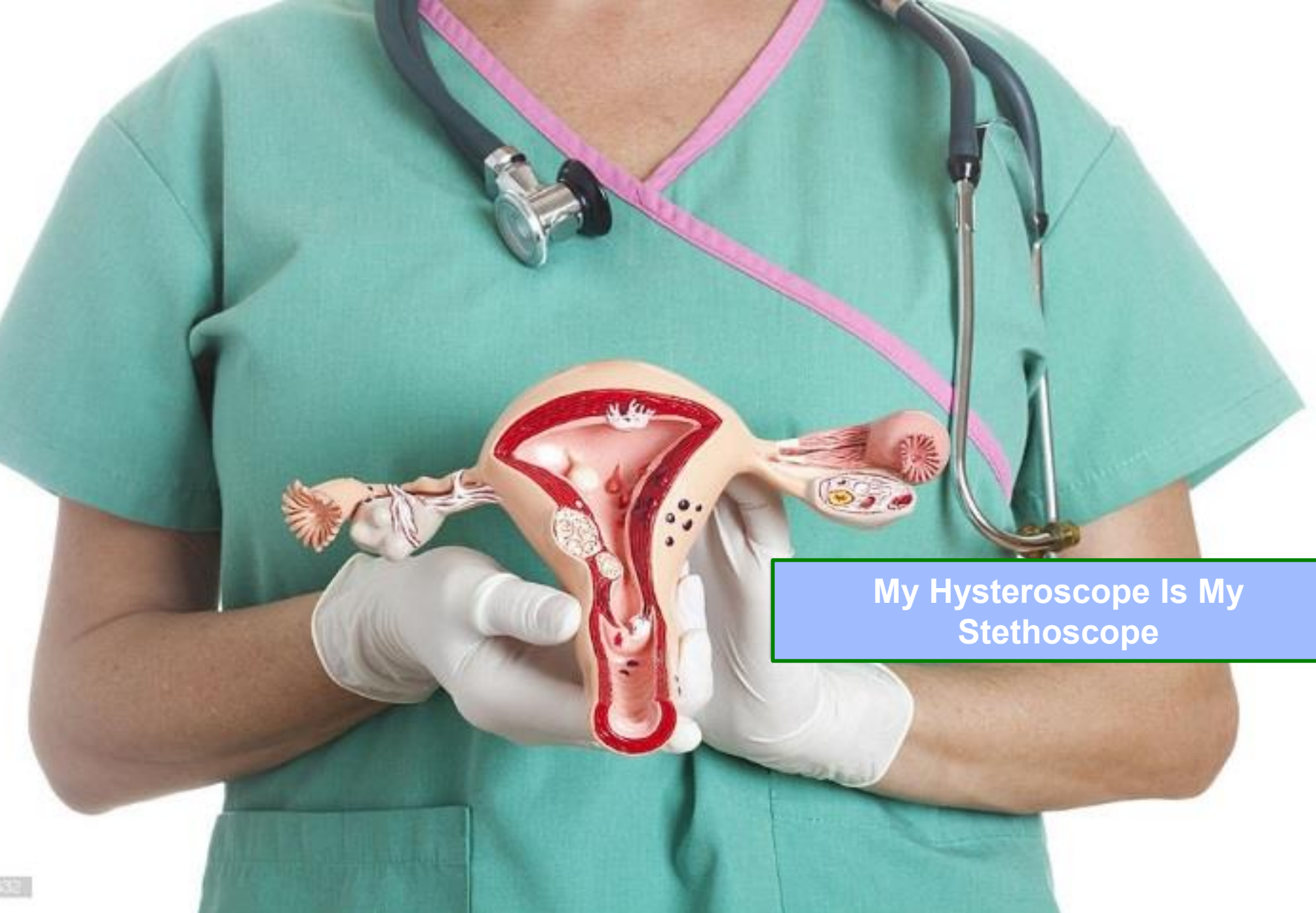
- **Anatomic variants:** Uterine septae, bicornuate uteri, T-shaped cavities
- **Intrauterine adhesions:** Asherman's syndrome, post-surgical scarring
- **Endometrial architecture:** Glandular distribution, vascular patterns
- **Cervical pathology:** Often visible during hysteroscope insertion



# **My Vision**

**Purpose Driven  
Results Driven**





**My Hysteroscope Is My  
Stethoscope**



- **Only 25-28% of gynecologists perform in-office hysteroscopy**
- **Misconceptions about the safety and patient discomfort of in-office hysteroscopic procedures**
- **Reluctance to accept the learning**
- **Return on investment for office equipment is disappointing because reimbursement is not very rewarding (not true)**

# **Clinical Opportunities—Your Future**

- **Increased volume of surgical procedures**
- **Increase the scope of your clinical practice**
- **More referrals**
- **Scope of surgical practice will increase**
  - **Operative hysteroscopy**
  - **Removal of retained products of conception**
  - **More complex intrauterine surgery**
- **Surgical confidence sky-rockets**
- **Improved ability to train others**

# **Key Advantages of Office Hysteroscopy**

- **elimination of anesthesia risks,**
- **same-day "see and treat" capability,**
- **reduced costs,**
- **faster recovery,**
- **high patient satisfaction rates**
- **Success rates for diagnostic office hysteroscopy 94.8%**
- **complication rates consistently reported at 0-1.5%.**

**Hematuria**  **Cystoscopy**

**Rectal Bleeding**  **Sigmoidoscopy**

**Upper GI Bleed**  **Upper Endoscopy**

**Hemoptysis**  **Bronchoscopy**

# Pantaleoni: A Nosy Physician

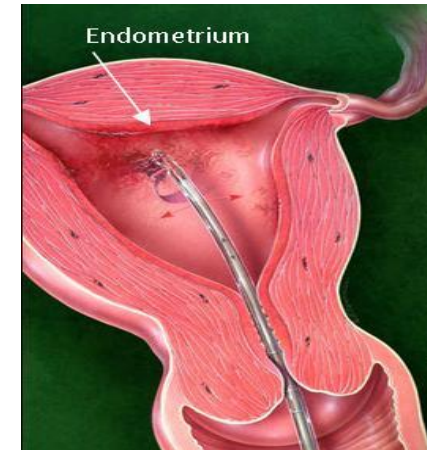


***The credit of performing the first successful hysteroscopy goes to Pantaleoni in 1869. He evaluated a 60 year old patient with therapy resistant bleeding and detected a polypoid growth in the uterus on hysteroscopy, which was cauterized with silver nitrate***

# **Endometrial Pipelle Biopsy:**

## **Sobering Statistics: 2.2 million performed yearly in USA**

- **25-100% sensitive in detecting endometrial cancer**
- **Insufficient tissue detected in 10-50%**
- **44% sensitive for detecting benign disease**
- **10% cervical stenosis**
- **Often misses focal diseases including polyps, fibroids, and focal malignancy**
- **Accuracy related to uterine size, size of lesions, or malformations**





# Endometrial Pipelle Biopsy: Sobering Statistics

- *Size of lesion matters*
- If pipelle biopsy reveals cancer, then you have made the diagnosis. But if it doesn't what could you miss?
- Pipelle samples on average 4% (range 0-12%) of endometrium vs 41% for Vabra biopsy.
- What does a negative biopsy really mean? It might mean that you have missed a focal lesion.



# Endometrial Pipelle Biopsy: Sobering Statistics

- **Guido et al**
  - 65 pts with known uterine cancer
  - Adequate tissue sample in 97%
  - Malignancy detected in 54 (83%)
    - 11 false negative
      - 5 pts had disease limited to endometrial polyps
      - 3 had tumor localized to less than 5% of cavity surface area
      - 5%-25% of the cavity involved in 12 (18%) of which Pipelle missed 4
      - 26%-50% of the cavity involved in 20 (31%) of which Pipelle missed 4
      - Greater than 50% of the cavity involved
        - 30 (46%) of which Pipelle missed none
- **“Pipelle is excellent for detecting global processes in the endometrium”**

Guido RS et al. Pipelle endometrial sampling sensitivity in the detection of endometrial cancer. J Reprod Med 1995;40:553-555.

# Fallacy of the D&C: The Sampling Problem

- **Gravitational bias:** Curettage naturally samples dependent portions of uterus
- **Operator variability:** Different surgeon's sample different amounts and locations
- **Tissue destruction:** Curettage destroys normal architecture, making histologic interpretation difficult

# **Fallacy of the D&C: The Sampling Problem**

- **Incomplete assessment of the endometrium**
  - **Residual tissue in 20-60% of cases**
- **Unknown endpoint**
- **Unrepresentative biopsies**
- **Inherent risks**



# **Dilation and Curettage: Sobering Statistics**

- **Samples less than 75% of the uterine cavity in 84% cases**
- **Samples less than 50% of the uterine cavity in 60% cases**
- **In 16%, less than 1/4<sup>th</sup> of cavity was curetted**
- **4-20% yield specimens with inadequate tissue for histology**
- **Submucosal fibroids and polyps often not sampled, missed, or incompletely removed**
- **10-15% lesions not retrieved**
- **Risk of uterine perforation**

# Fallacy of the D&C

- **Stock and Kanbour (1975)  
pre hysterectomy curettage**
  - **50 consecutive patients scheduled for hysterectomy**
    - 16% had less than one-fourth of endometrium curetted
    - 60% less than one-half curetted
    - 84% less than three-quarters curetted
- **Submucosal fibroids and polyps often not sampled, missed, or incompletely removed**
- **10-15% lesions not retrieved**

# Why Does a D&C Fail?

- **105 postmenopausal bleeding**
  - Endometrial echo > 5mm
  - Hysteroscopy followed by D&C, repeat hysteroscopy
- **Findings:**
  - 84/105 intrauterine pathology
  - 82/84 (98%) had focal hysteroscopic findings
    - 87% of pts with focal findings had lesion still in situ after D&C

# Why Blind D&C Fails?

- **Findings:**
  - 84/105 intrauterine pathology
  - 82/84 (98%) had focal hysteroscopic findings
    - 87% of pts with focal findings had lesion still in situ after D&C
- **D&C missed:**
  - 25/43 (58%) polyps
  - 5/10 (50%) hyperplasias
  - 3/5(60%) complex atypical hyperplasias
  - 2/19(11%) endometrial cancers
- **D&C accurate in 94% of women without focal lesions**



# When a D&C Fails This is the Outcome



# Blind Sampling with Polyp Forceps

<i>Polyps</i>	<i>Endometrial thickness</i>	
	<i>&lt;10 mm (n = 28)</i>	<i>≥10 mm (n = 40)</i>
Entirely removed	23	18
Remnants	3	16
Completely remaining	2	6

# Transvaginal Ultrasound

- **More than 37% of intracavitary anomalies are missed by TVUS alone**
  - **Sensitivity is low for polyps, with 50% missed**
- **Women with undiagnosed pathologies are deprived of treatment options such as simple hysteroscopic removal of polyps and leiomyomas.**
- **TVUS sensitivity is lower in postmenopausal women with a detection rate of only 60%.**

# Fallacy of TVUS Alone in Reproductive-Aged Women

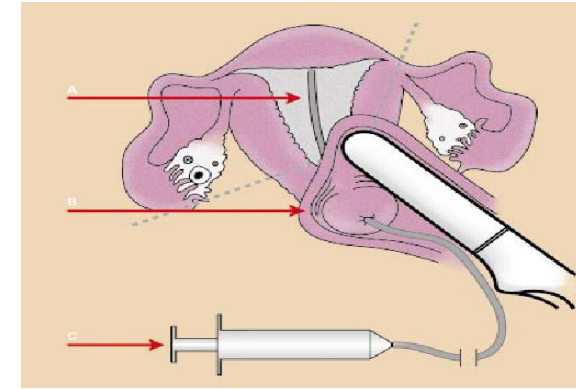
- **In the premenopausal women**
  - 1/6 intracavitary lesions are missed with TVUS alone
  - Saline infusion sonography increases the sensitivity of detecting an intracavitary lesion

Breitkopt DM, Frederickson RA, Snyder RR. Detection of Benign Endometrial Masses by Endometrial Stripe Measurement in Premenopausal Women. Obstet Gynecol 2004;104:120-5.

# Transvaginal Ultrasound

- **Transvaginal ultrasound should be combined with hysteroscopy (when SIS is not available) to provide optimal detection rate for intracavitary and focal pathology.**

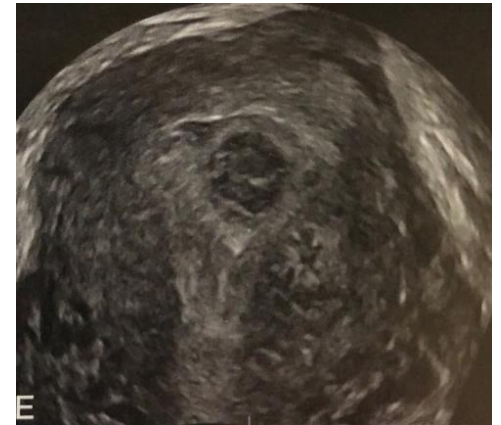
# Saline Infusion Sonography (SIS)



- **Permits detection of adenomyosis**
- **Successfully performed in 95% of patients**
- **Visualization of myometrium and ovaries**
- **Depth of leiomyoma**
  - **Identification of serosa surface**
  - **Identification of discrete leiomyomas**
  - **Facilitates surgical planning**
- **Well tolerated, less painful than hysteroscopy and quicker than hysteroscopy**

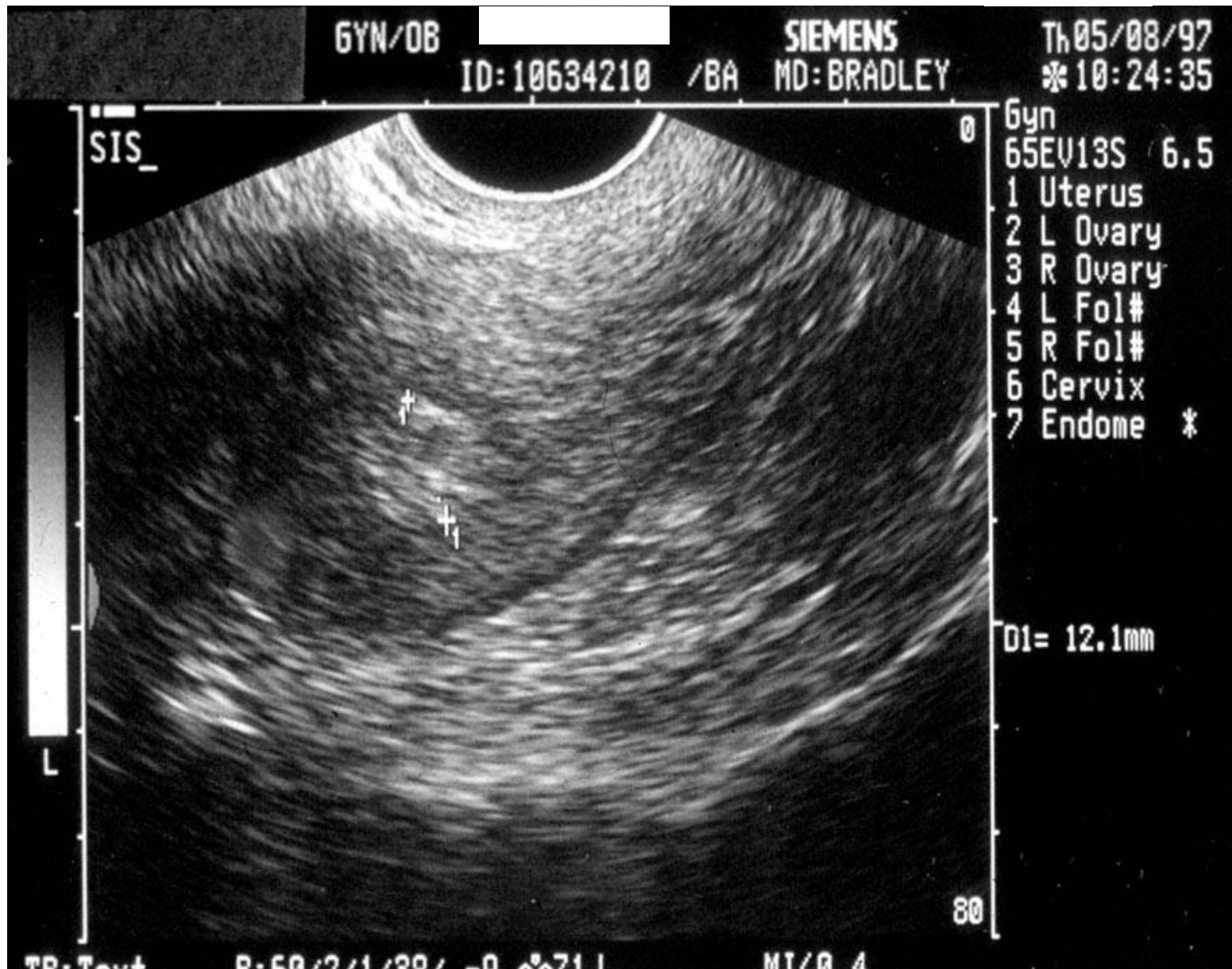
# 3 D and 4 D SIS

- **Increases sensitivity in the detection of intracavitary pathology**
- **Increased sensitivity in determining FIGO classification system of leiomyomas**
- **Enhanced imaging**





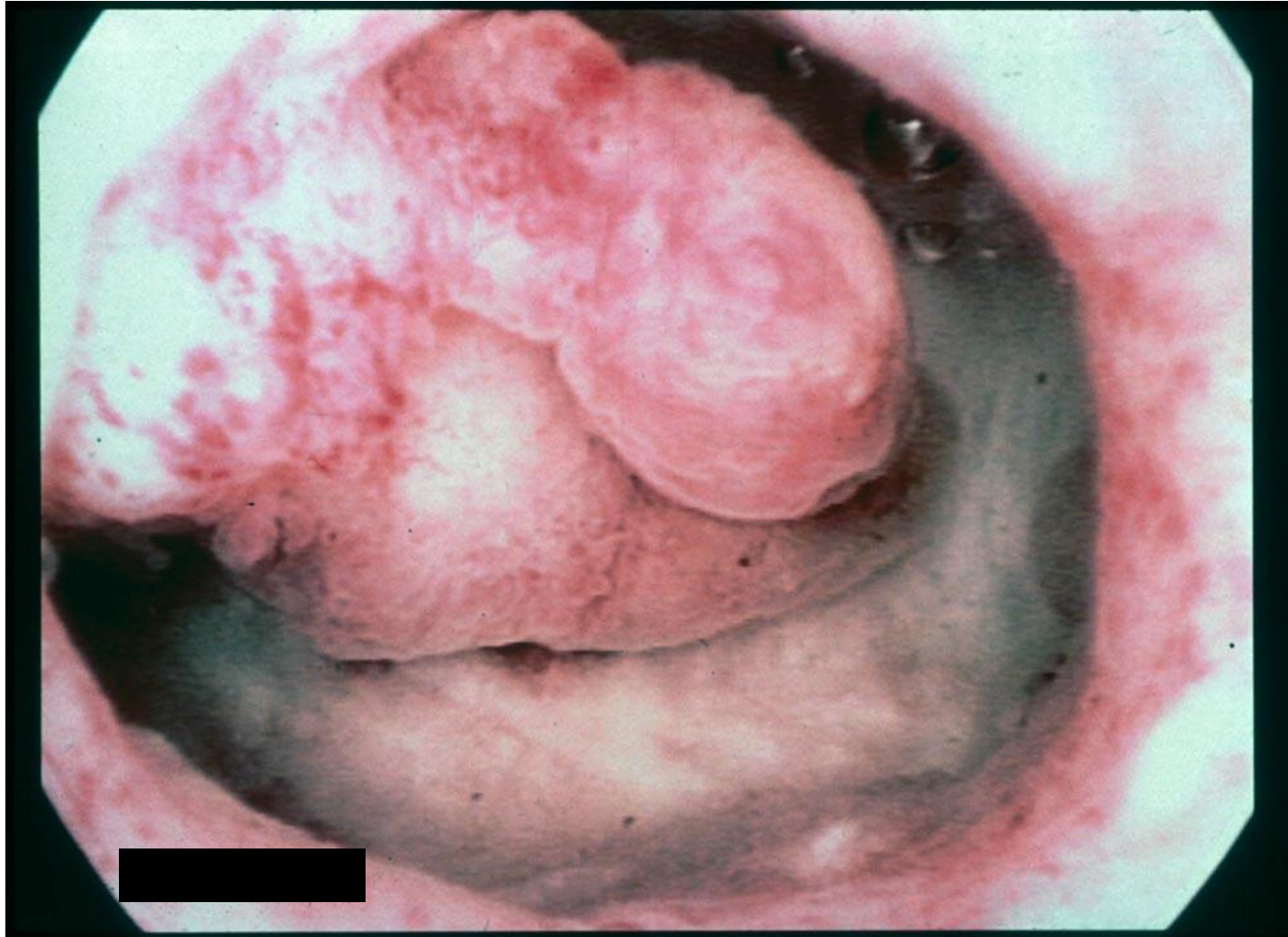
# Transvaginal US



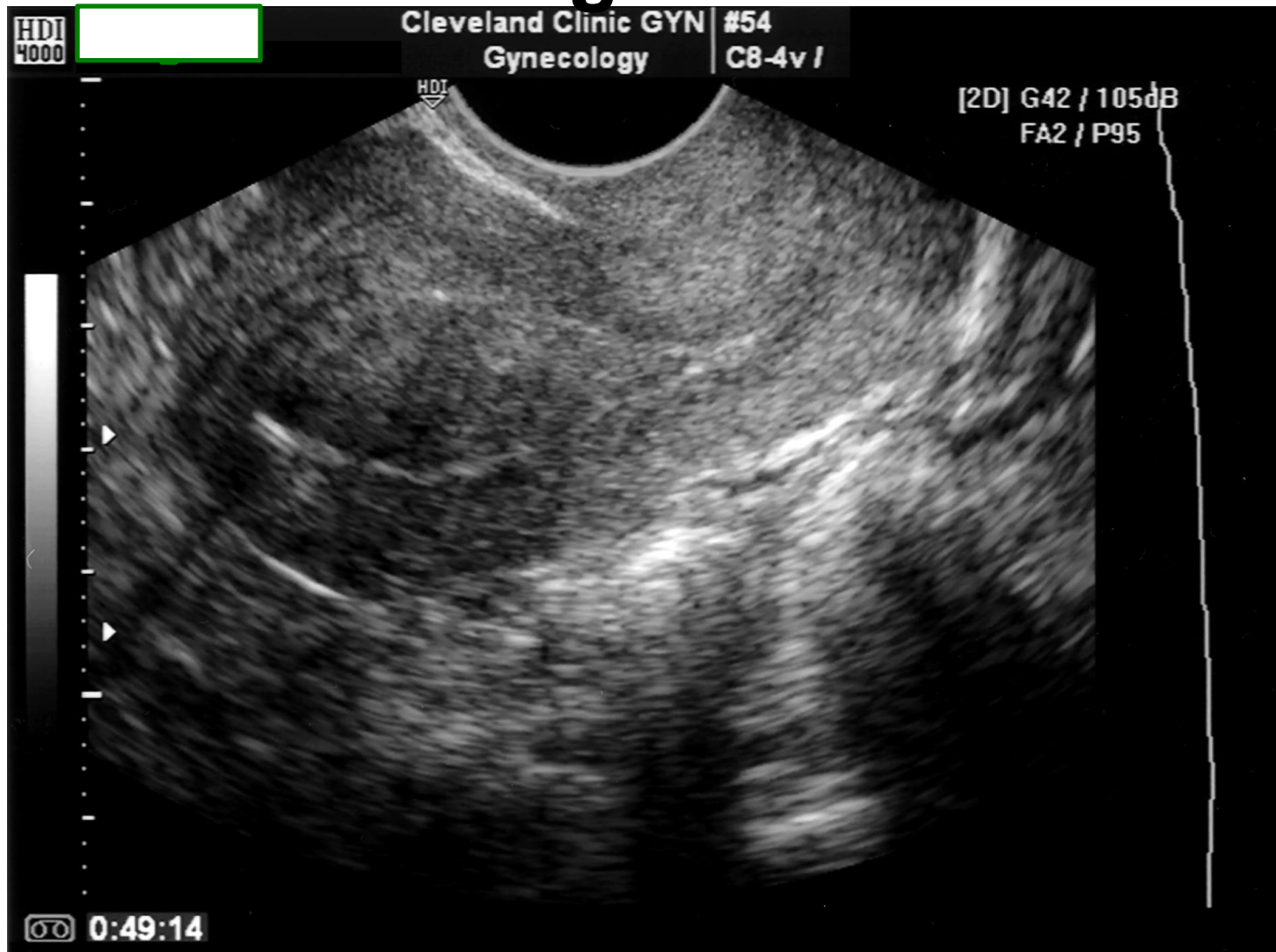


# Saline Infusion Sonography: SIS



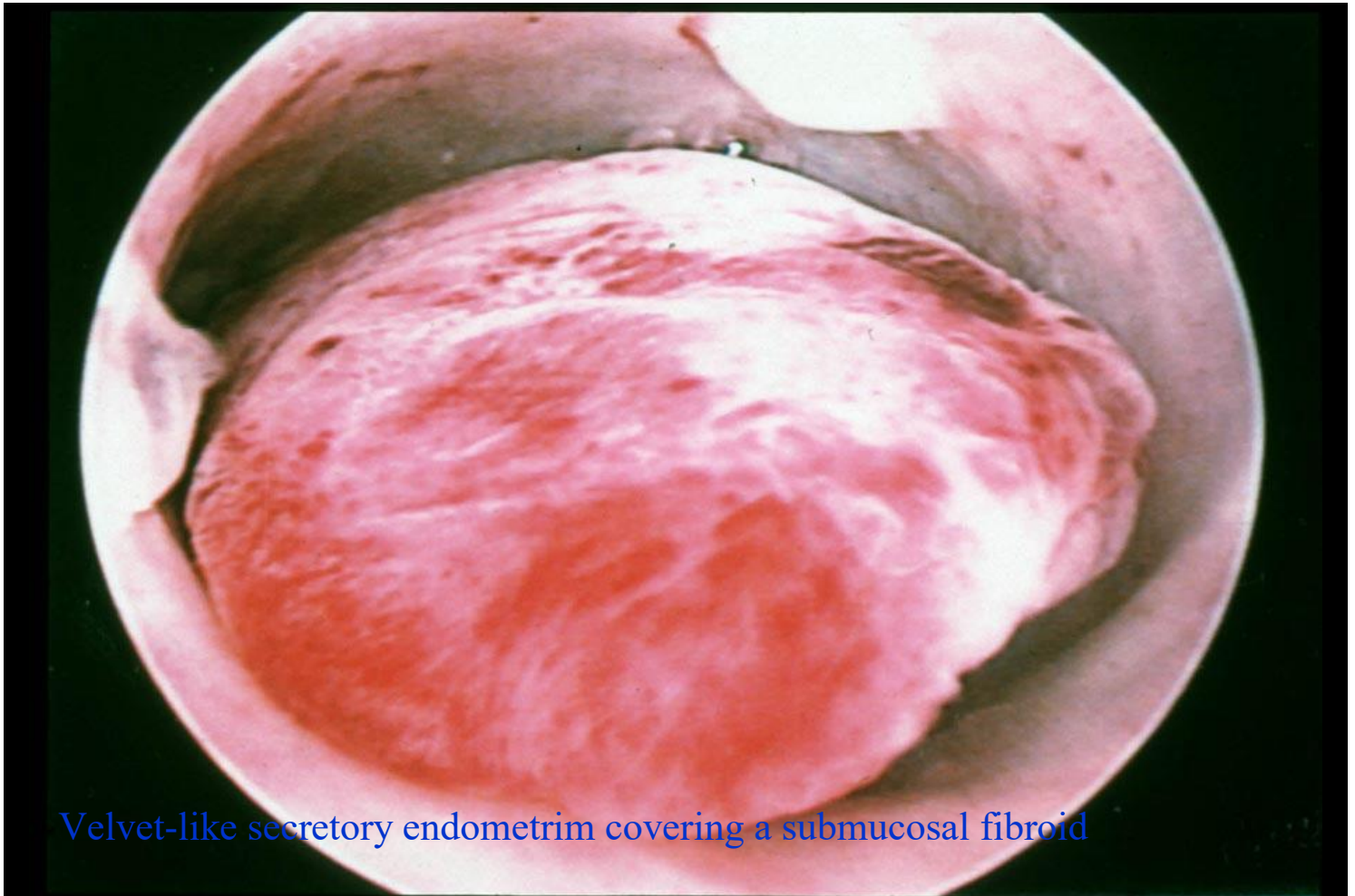


# Transvaginal Ultrasound





# Hysteroscopic View



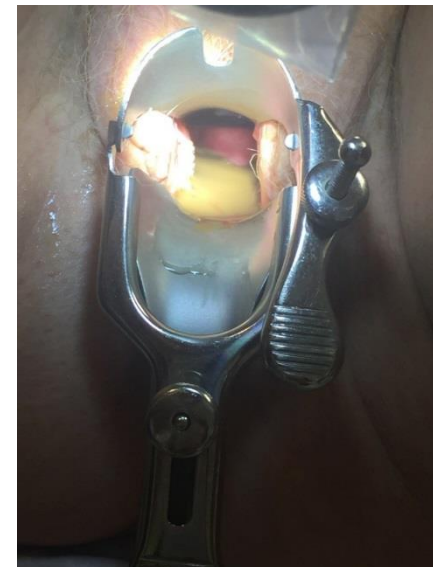
Velvet-like secretory endometrium covering a submucosal fibroid

# Indications for Office Hysteroscopy

- **Evaluation of abnormal uterine bleeding in reproductive years**
  - Follow up treatment of endometrial hyperplasia or endometrial cancer
  - Post coital bleeding evaluation
  - Evaluation of endocervix
- Evaluate postmenopausal bleeding
- Location of foreign bodies and IUD's
- Infertility evaluation
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# Contraindications of Office Hysteroscopy

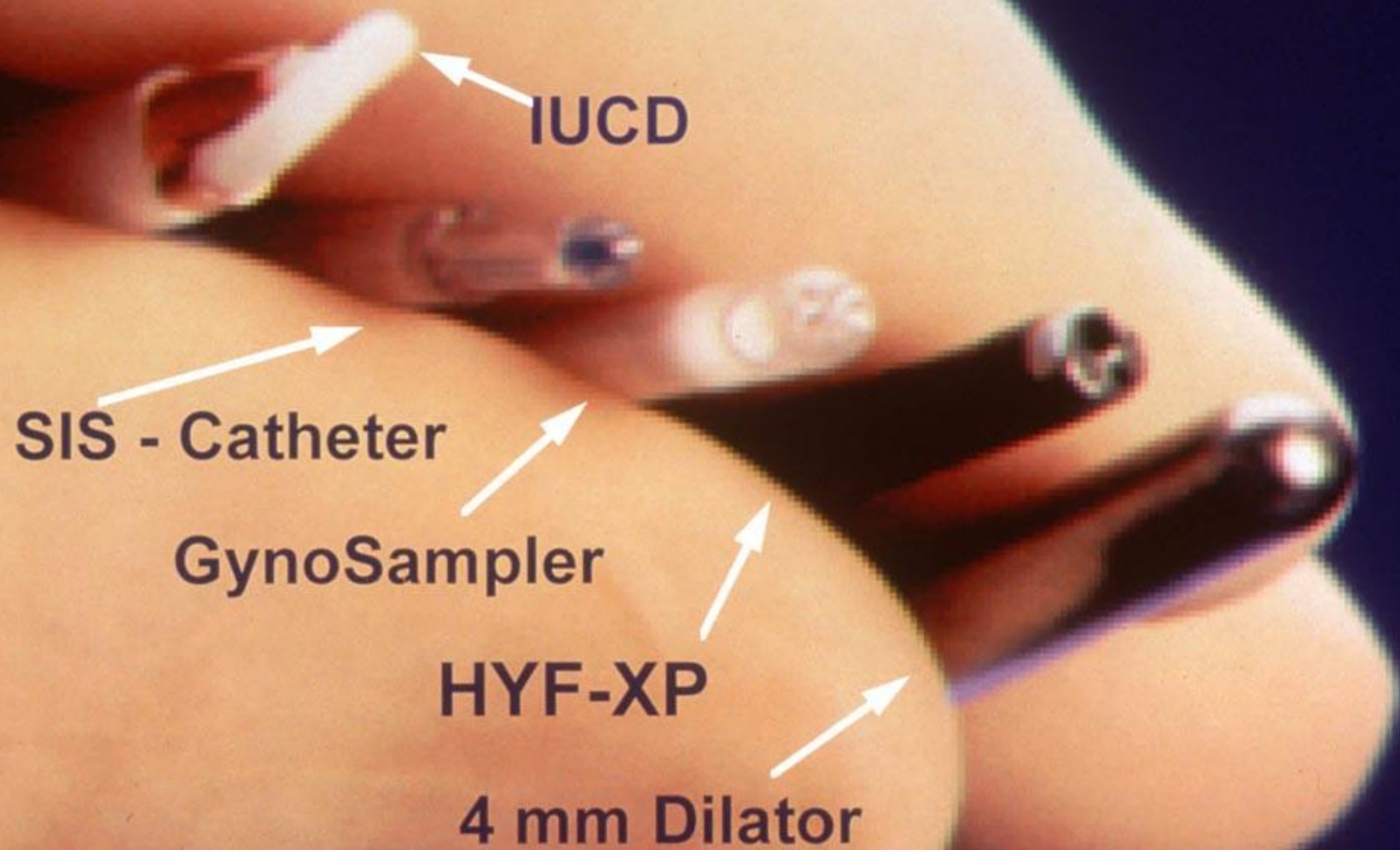
- **Absolute Contraindications**
  - **Cervical Cancer**
  - **Acute Pelvic Inflammatory Disease**
  - **Pyometria**
  - **Uncooperative Patient**
  - **Inadequate Operator Experience**
  - **Inadequate Instrumentation**
  - **Prodromal or active herpes outbreak**
  - **Viable pregnancy**



# **The Bottom-Line Benefits of Office Hysteroscopy**

- **Familiar and comfortable setting**
- **Saved time for pt and MD**
- **Saved money for women with large deductible insurance**
- **No requirement for general anesthesia**
- **Saved trip to OR if no significant pathology**
- **No pre-authorization needed**
- **Minimal discomfort**
- **Local anesthesia- but usually not needed**
- **Vaginoscopy possible**
- **Immediate visual affirmation for pt and MD**
- **See and treat possibility**
- **Pre op decision making**

# Intra-Uterine Devices



Flexible Office Hysteroscopy - finally - EZ & convenient



- **Diagnostic hysteroscopy easily performed in the office setting—although it requires skill**
- **Particularly useful in the evaluation of endocervical and endometrial pathology**
- **Complications (<1%) may include uterine perforation, infections, excessive bleeding, and those related to distending medium**



# Hysteroscopy System

- HandTower™ (reusable)

- Screen
- Battery, and Electronics
- Disinfected with antimicrobial wipes

- Cannula (disposable)

- LED Light Source at tip
- reusable

- Video Camera at tip

- Semi-rigid < 5 mm

- Supplied in sterile package, ready to use

- Three types of cannula and ancillary port for directed biopsies



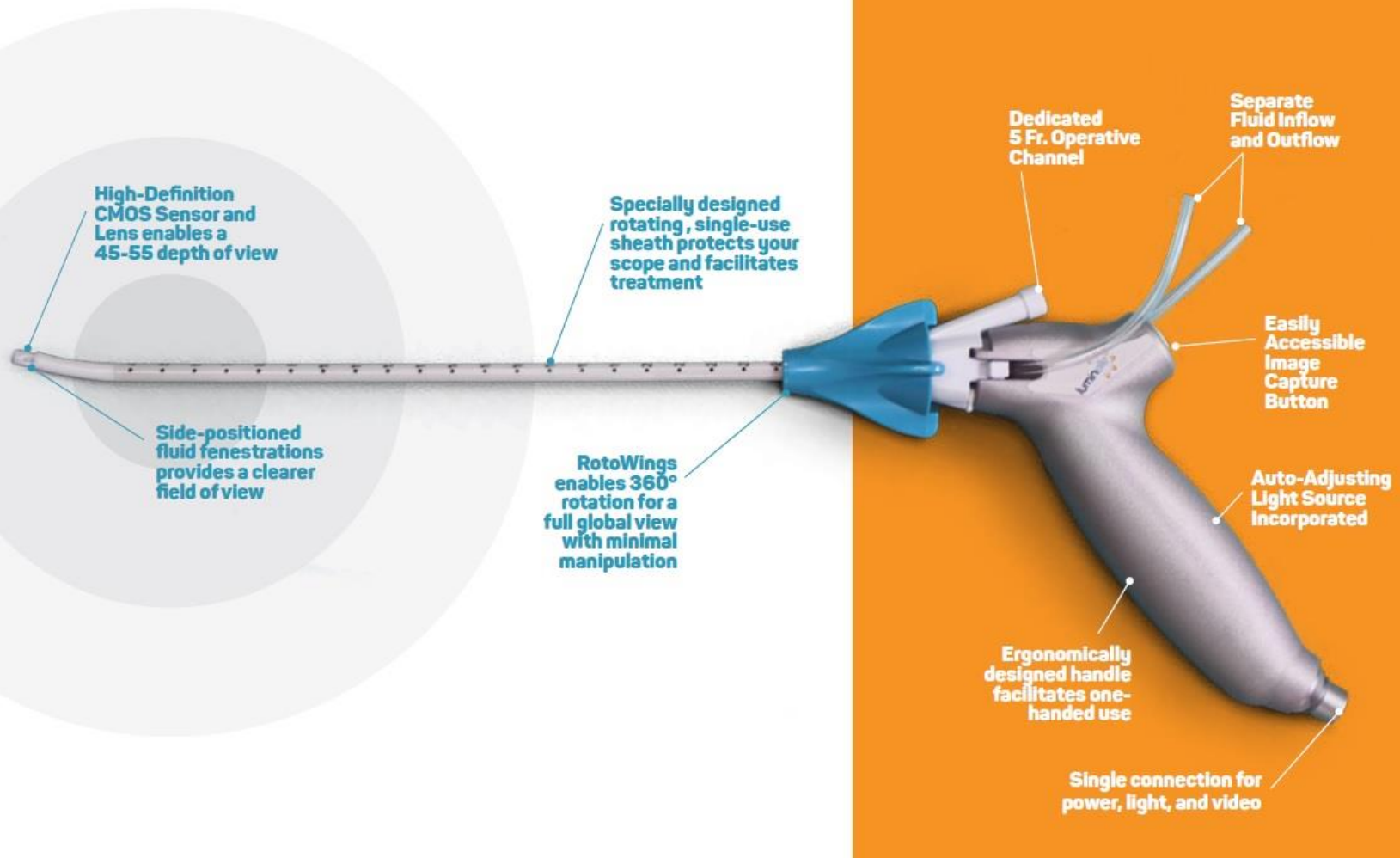
# Disposable hysteroscope with 5.5 French Working Channel

**Totally disposable**  
**Ancillary graspers**  
**Can take videos and pictures**  
**25 degree deflexion**  
**360 degree steerable**  
**tip-maneuverability**  
**Distal tip 4.2 mm**  
**Saline distention**

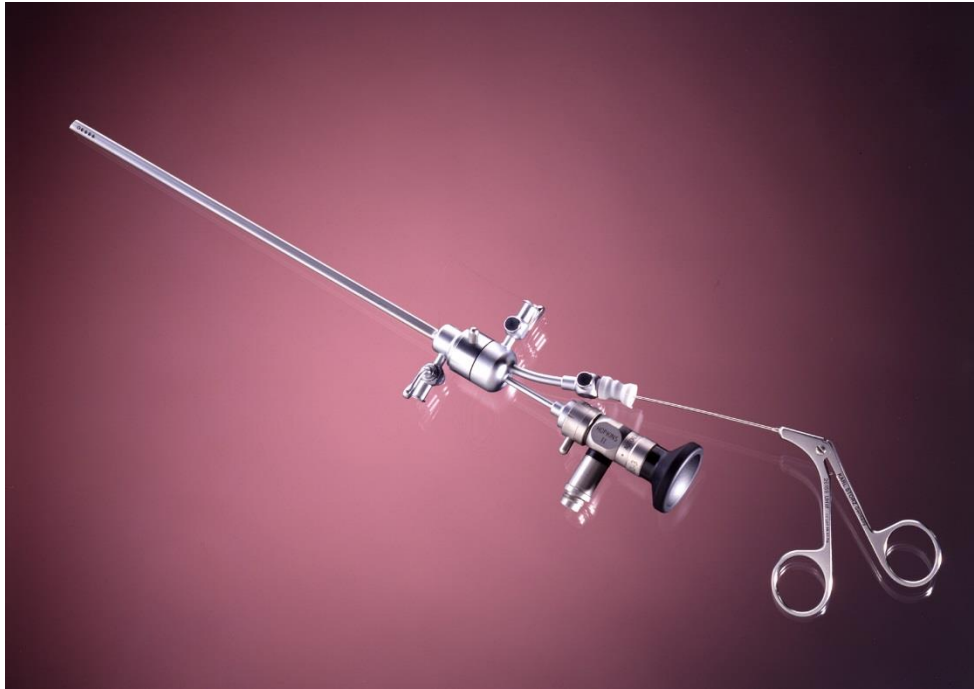


# Another Hysteroscope

UVISION 360°  
HYSTEROSCOPY



# Rigid Hysteroscopes



# What's Visible with Office Hysteroscopy?

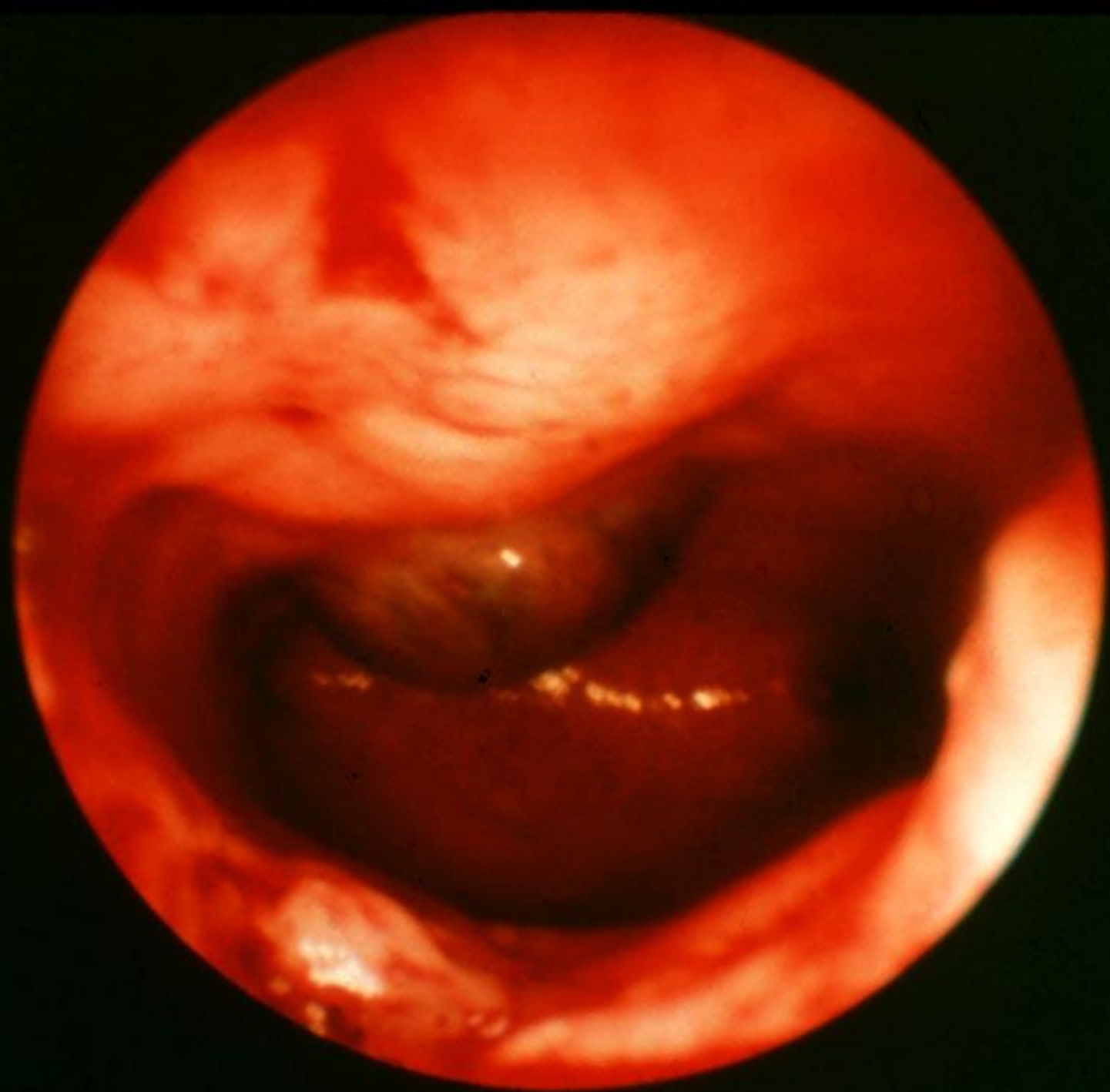


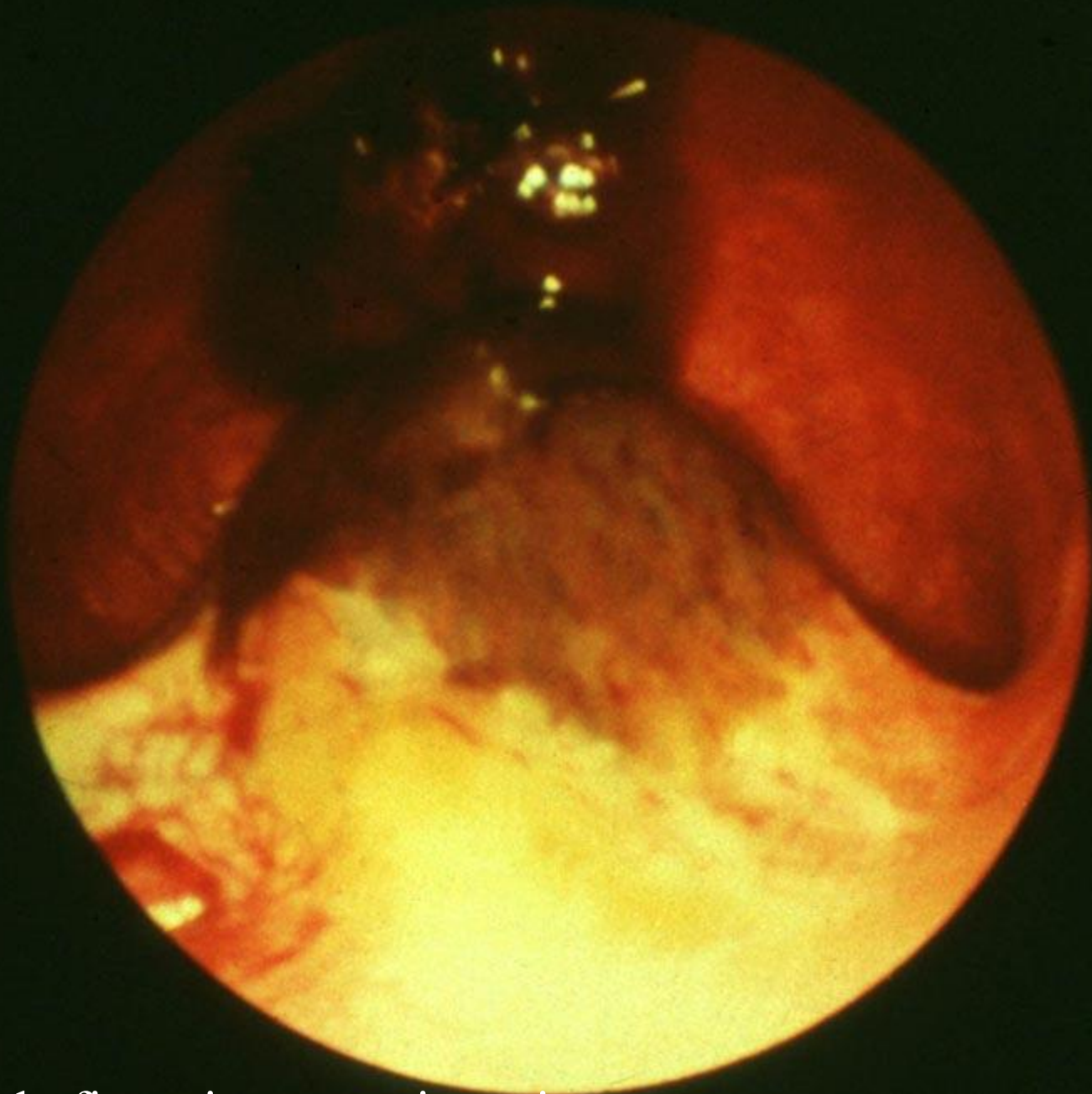
- Let's take a tour!!!!

# Japan Flag Sign

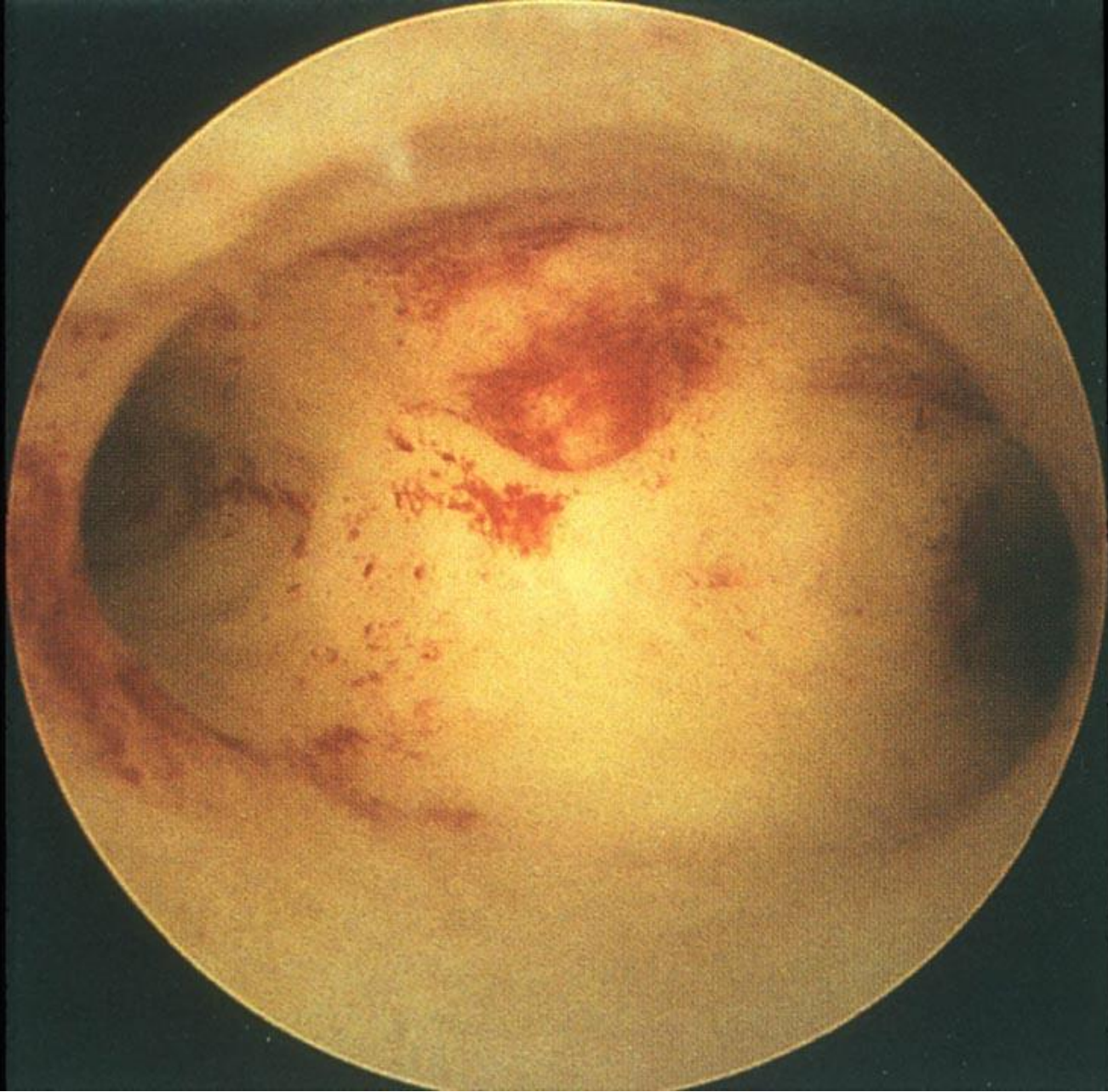






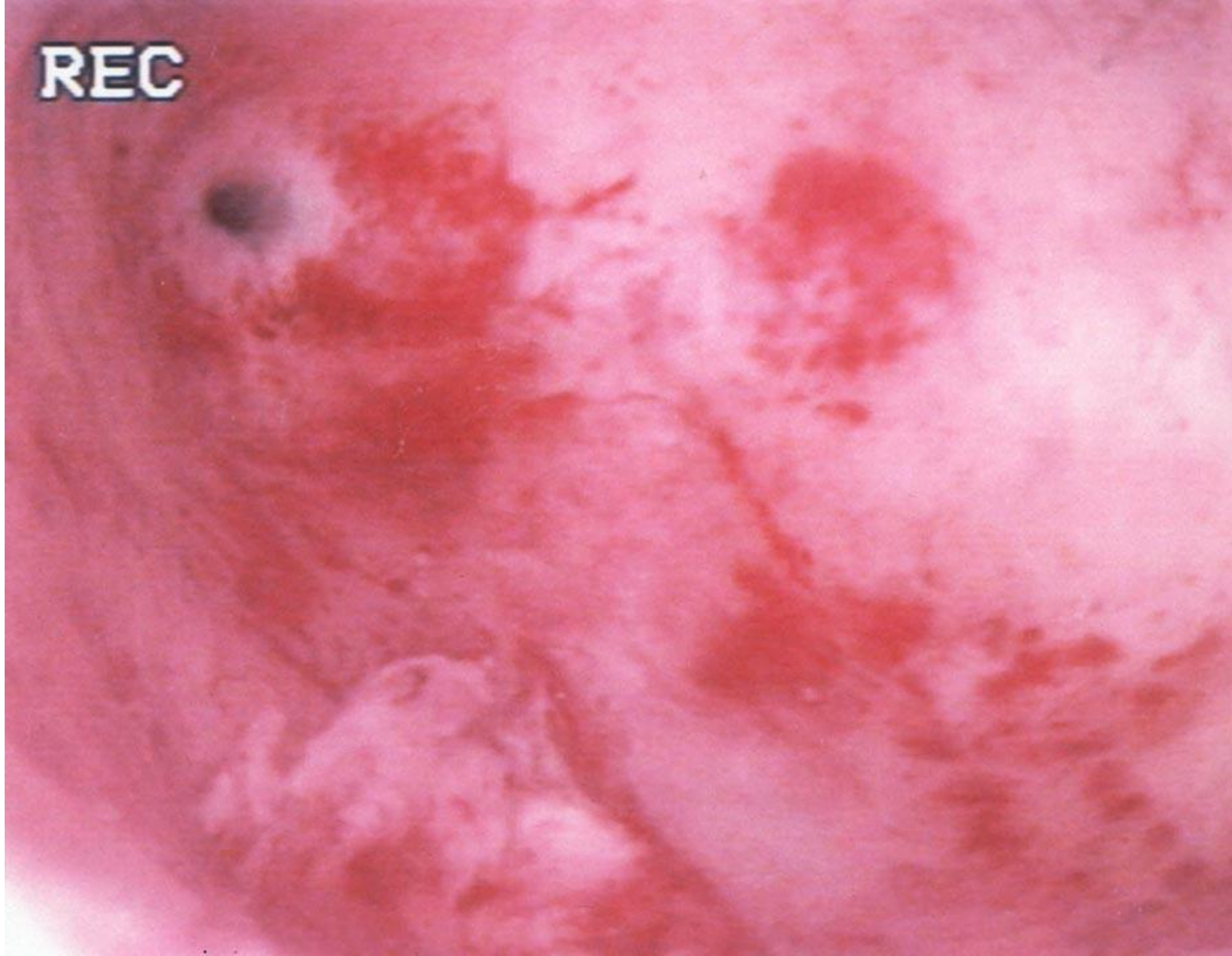


Early first trimester miscarriage





REC

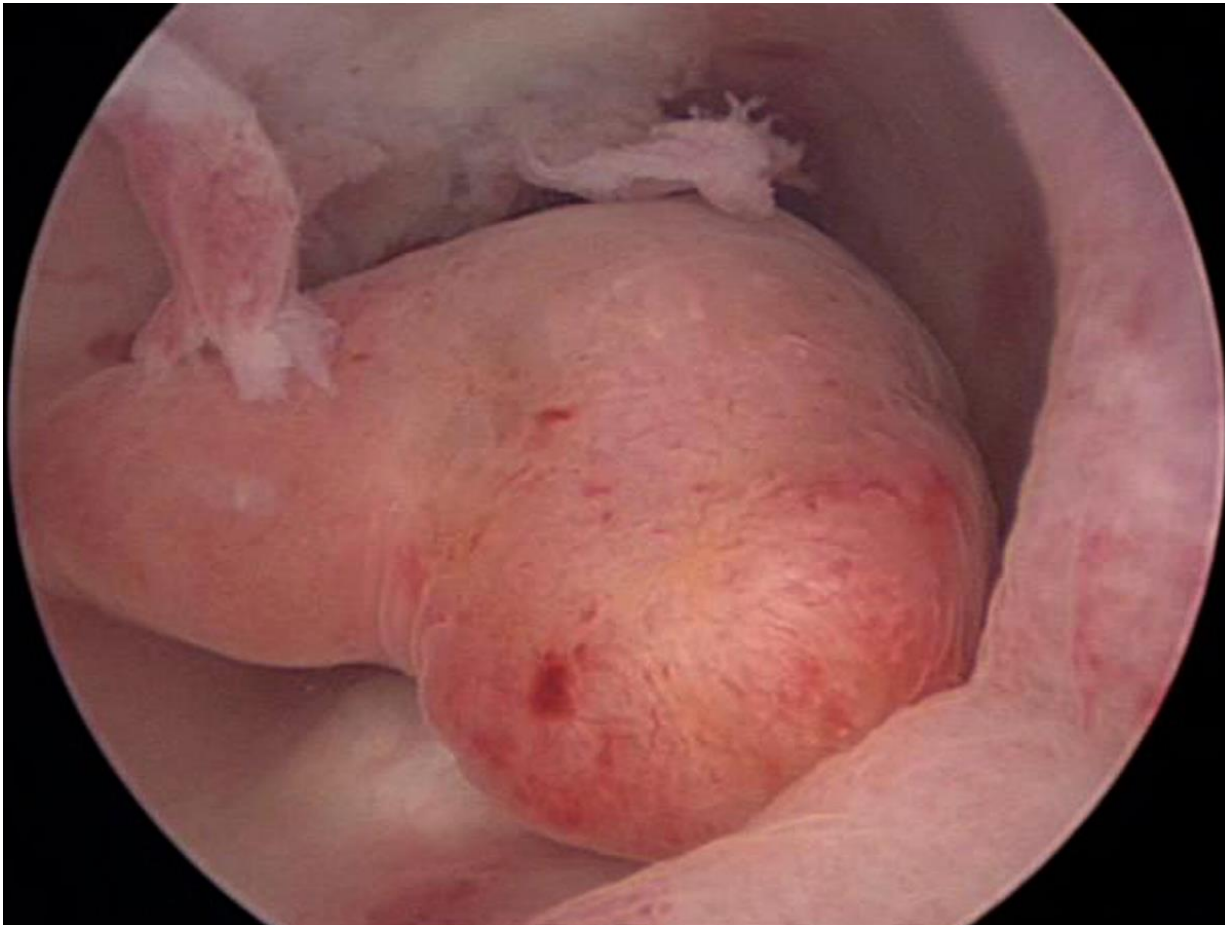


# Plica palmatae



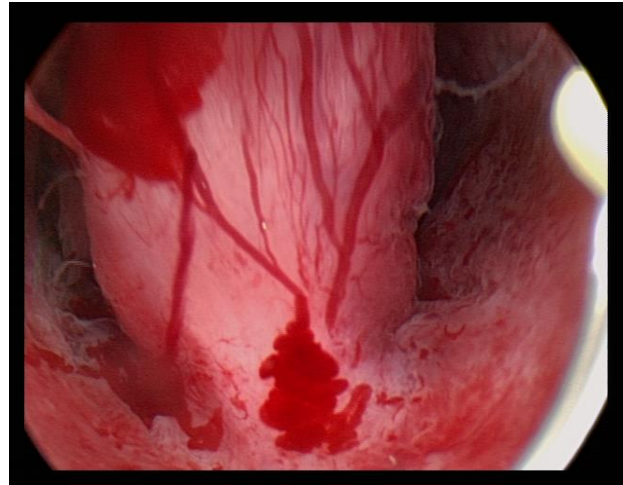
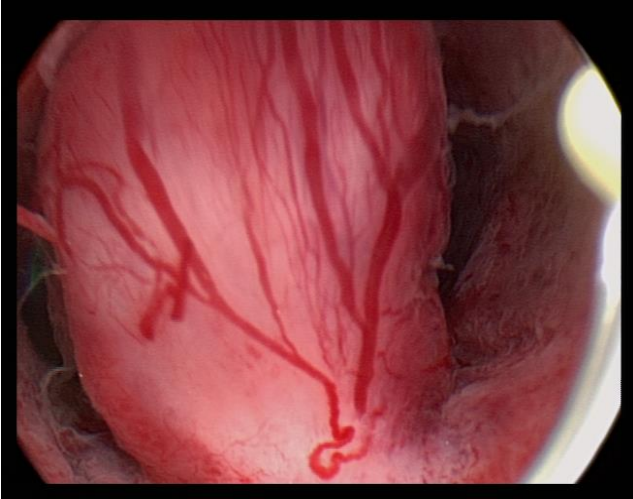


# Endometrial polyps

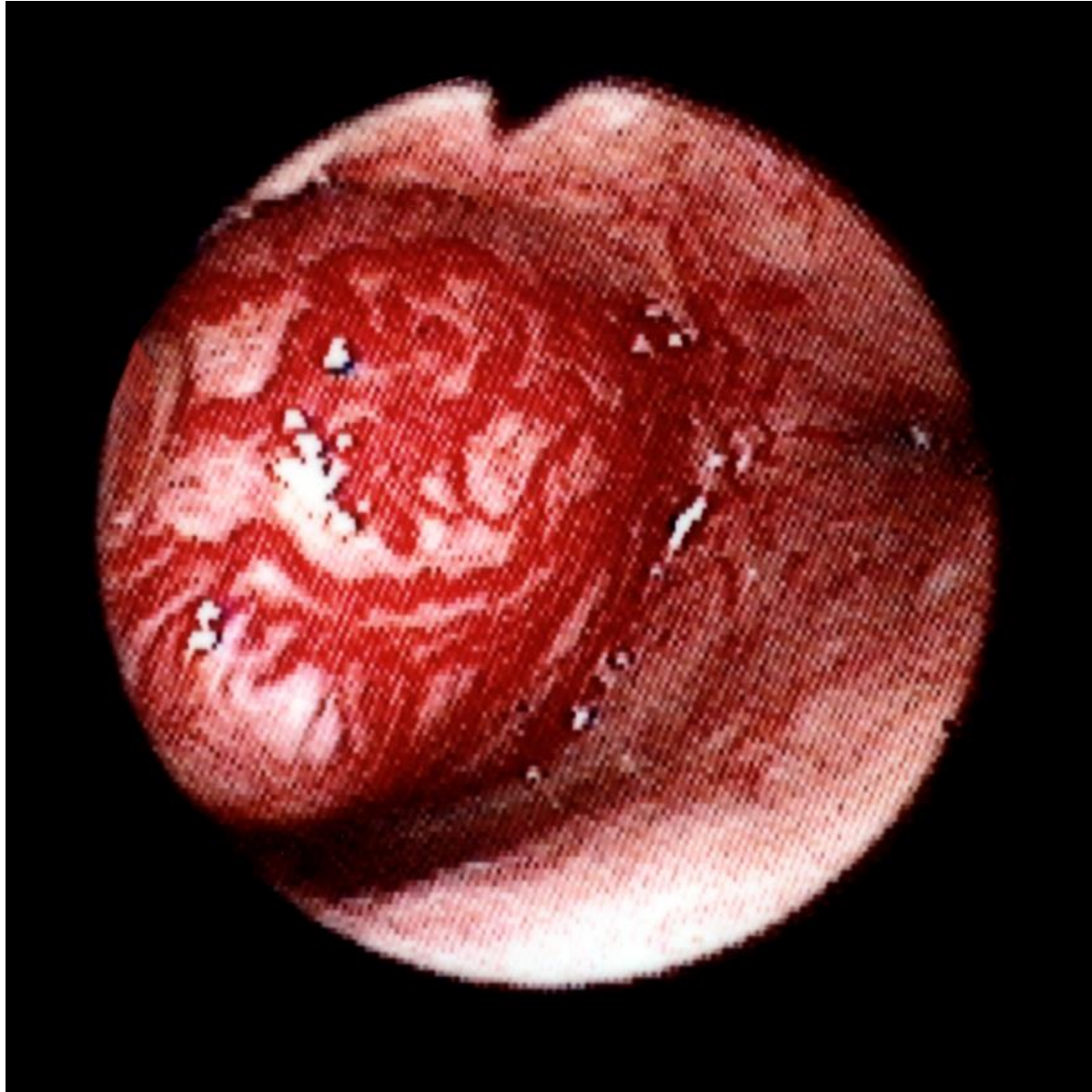




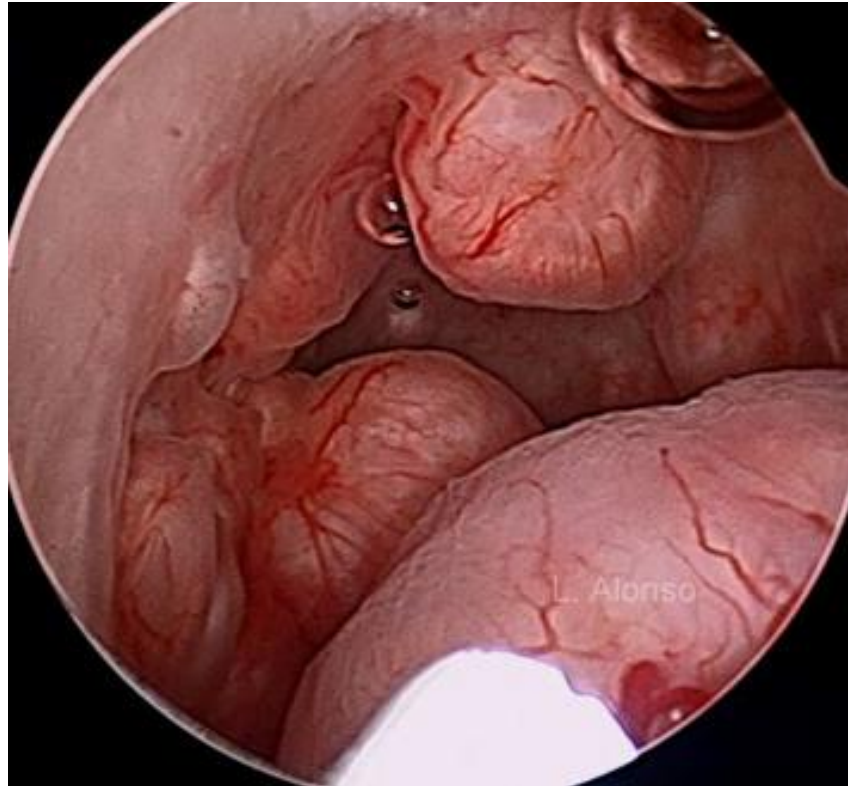
# Hemorrhagic Polyp



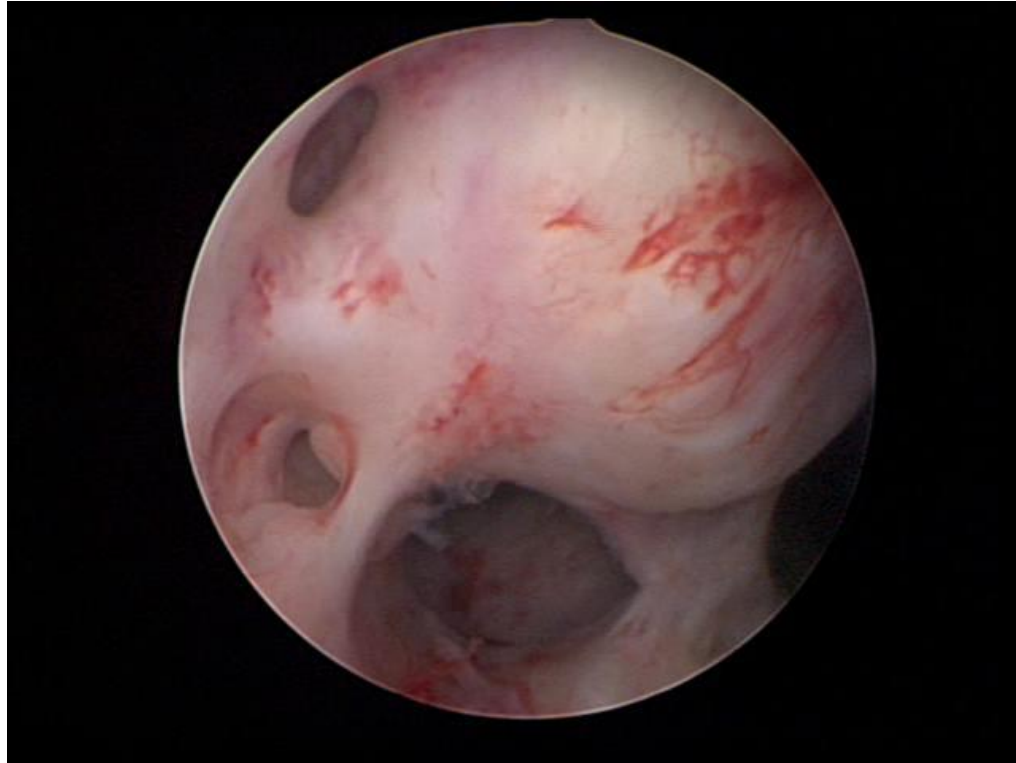
# Visualization Permits Surgical Planning



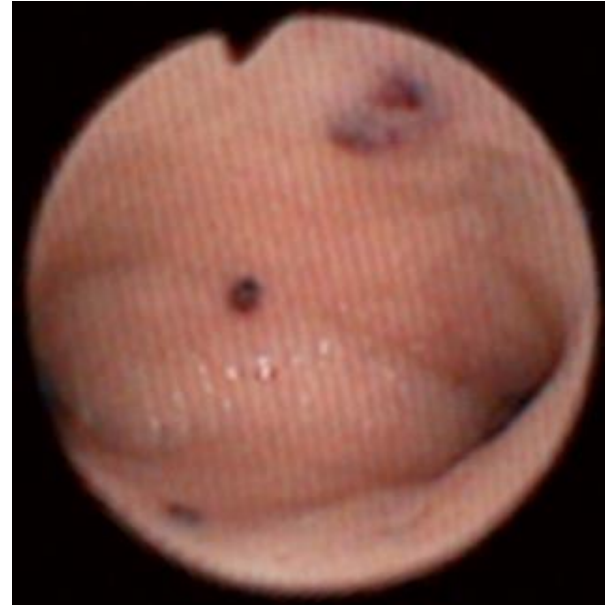
## Intracavitary Leiomyoma



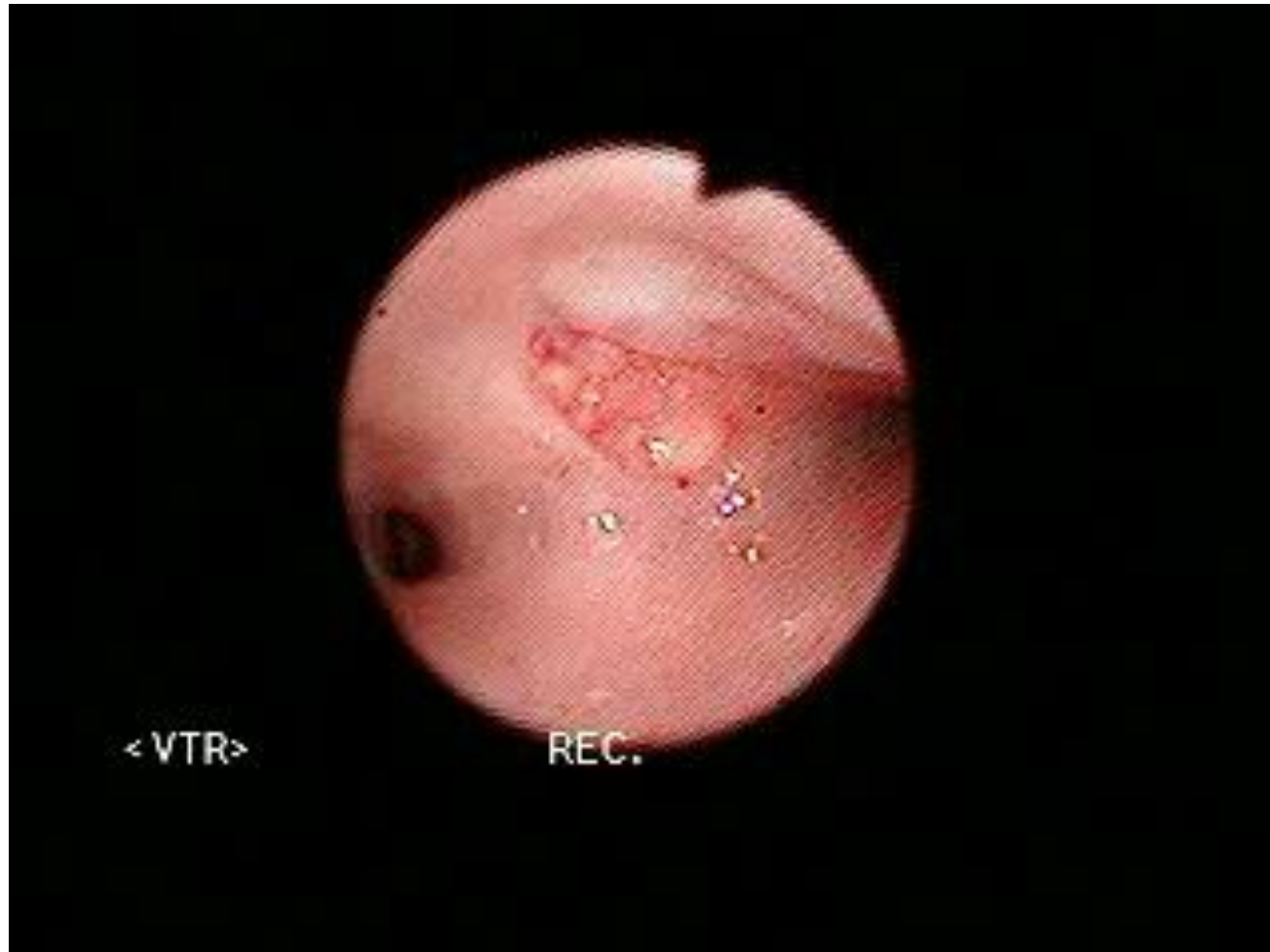
## Leiomyoma and Dense Adhesions



# Adenomyosis

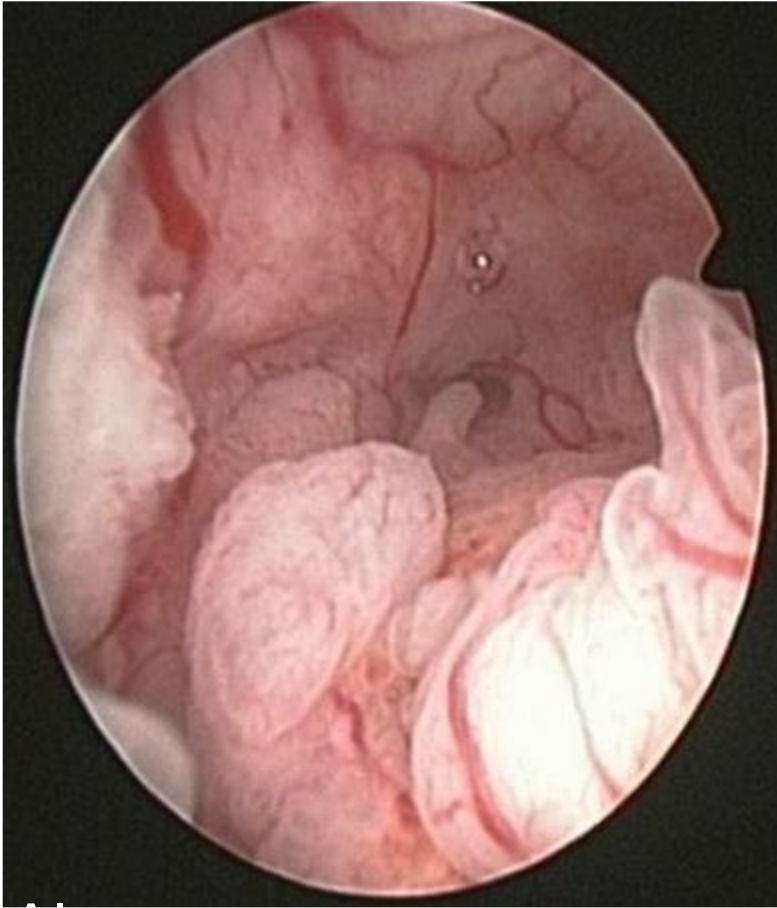


# Focal Endometrial Hyperplasia



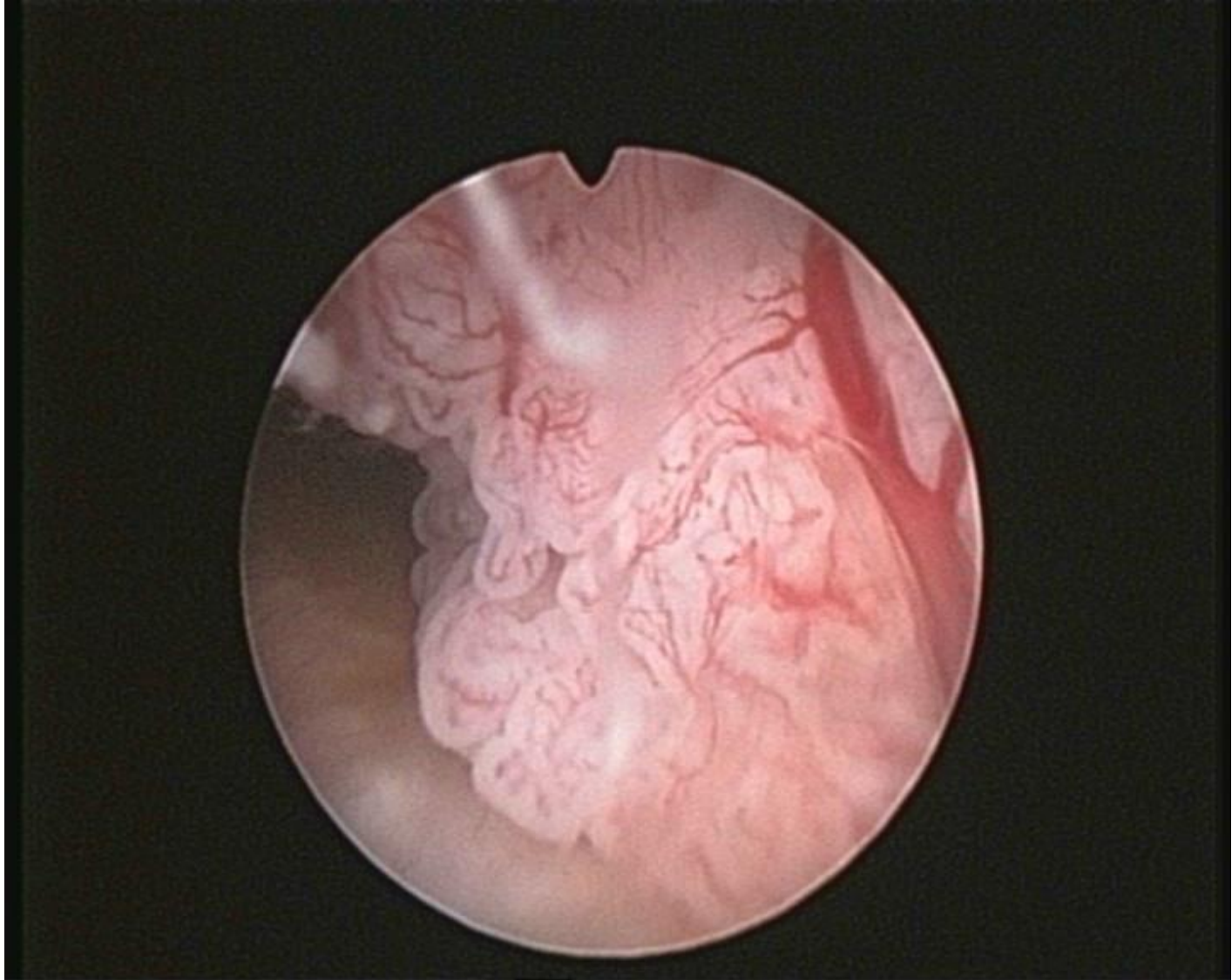


# Complex Endometrial Hyperplasia with Atypia

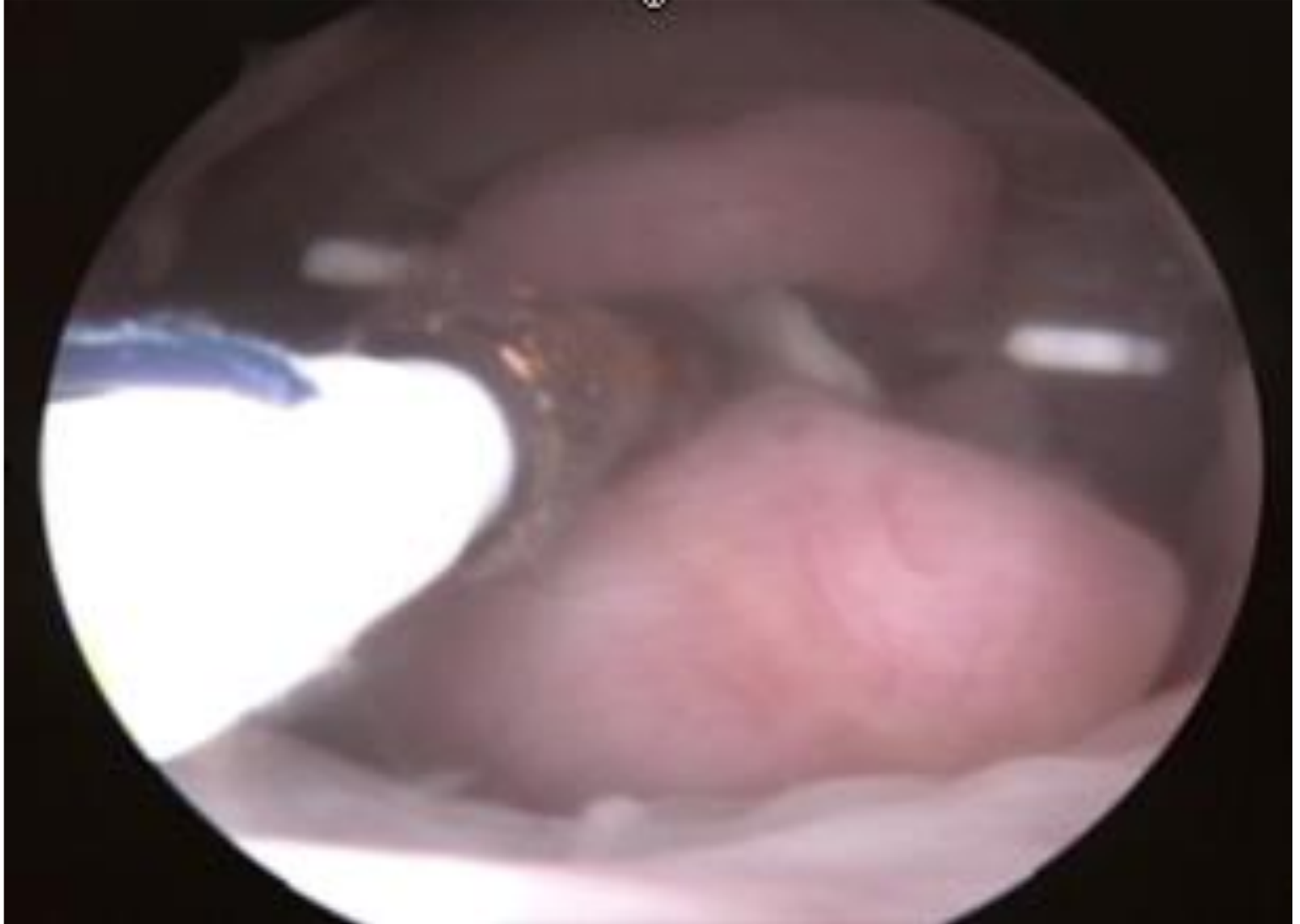




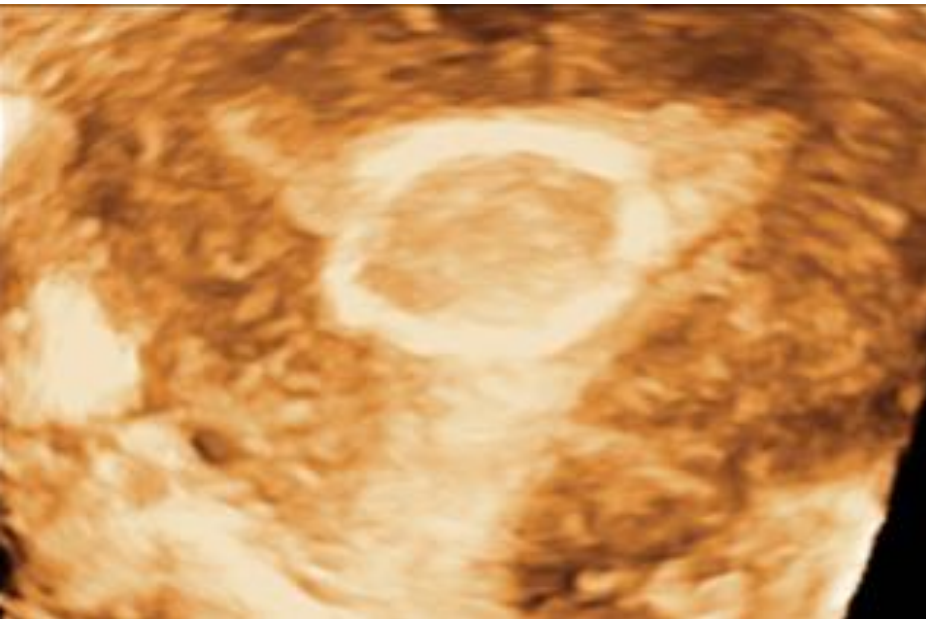
# Endometrial Cancer



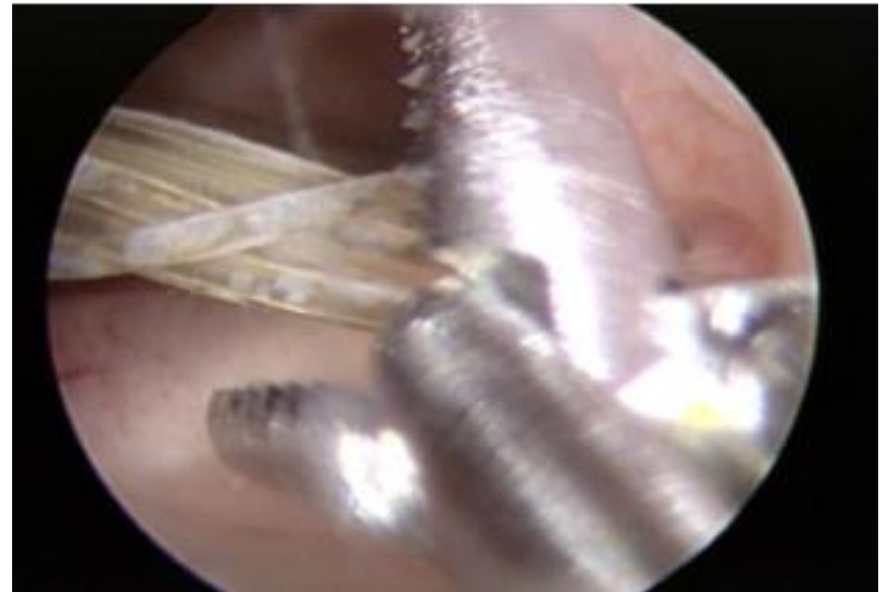
# Embedded IUD With Intracavitary Polyp



## **Circular IUD (Chinese IUD)**



## **Removal with Hysteroscopic Graspers**



# Hysteroscopic Implant Malpositioned



# Calcium deposit within Essure

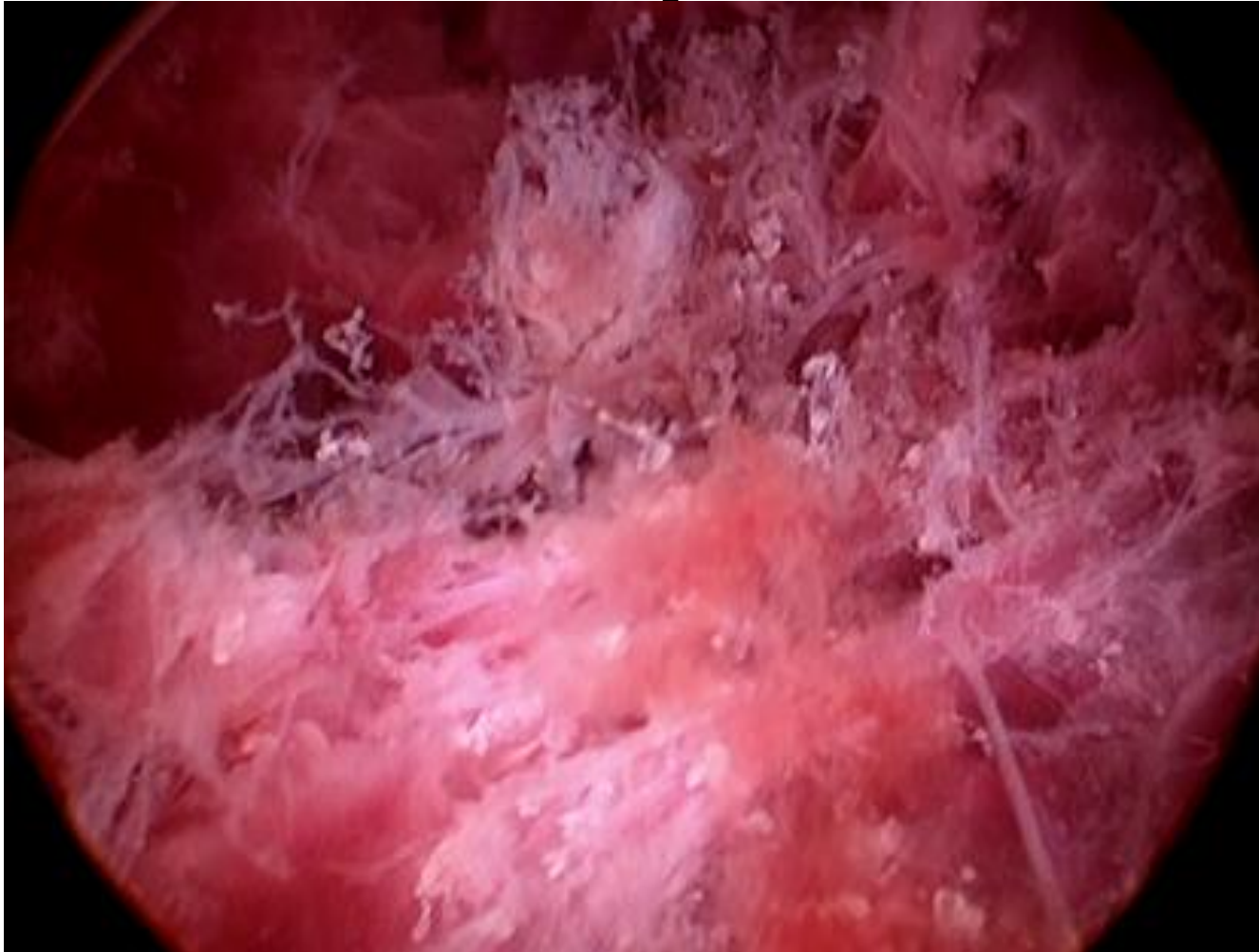






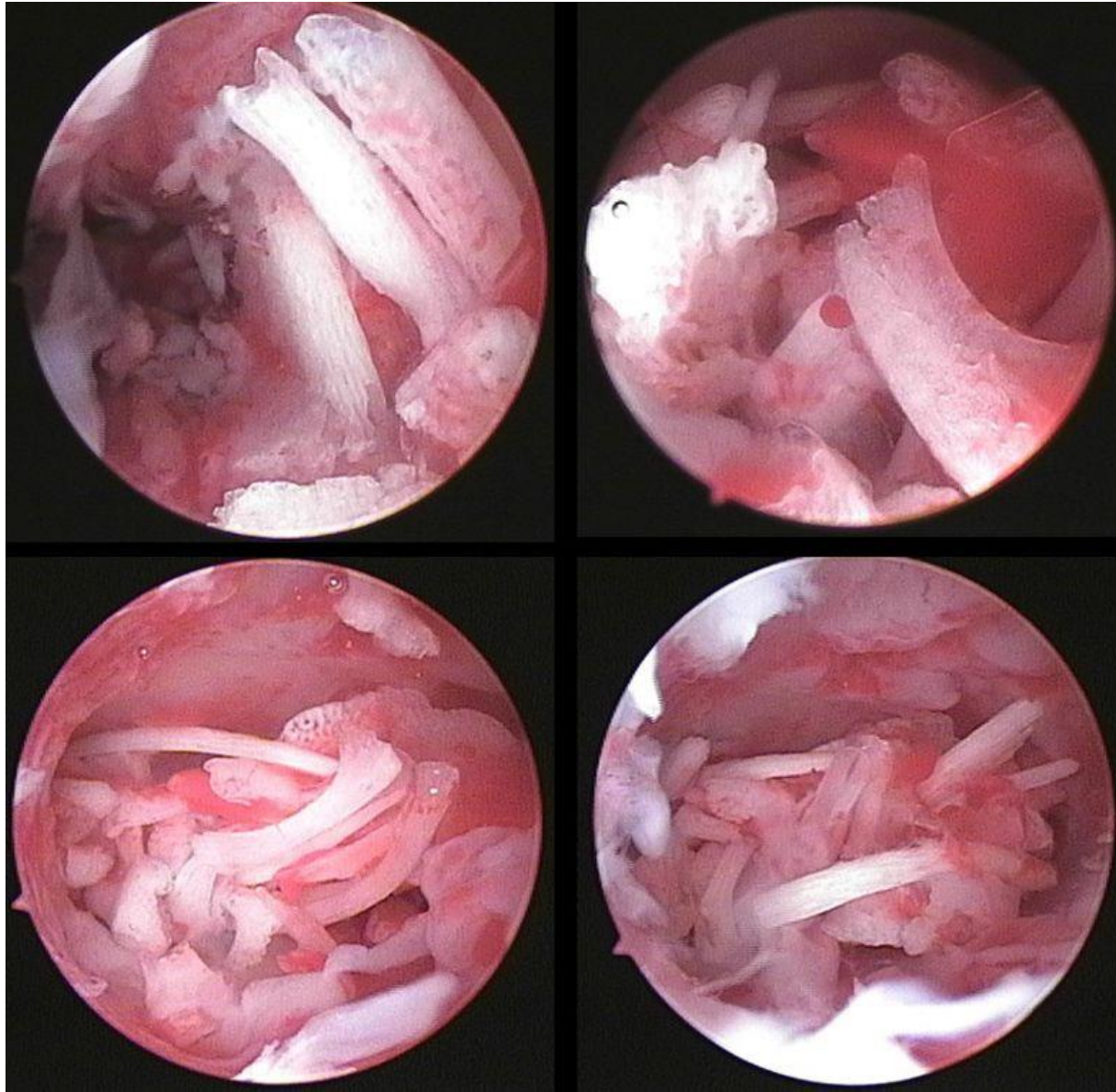
Can You Begin to Understand Why  
Your Hysteroscope is Your  
Stethoscope?

# ***Retained Products of Conception***





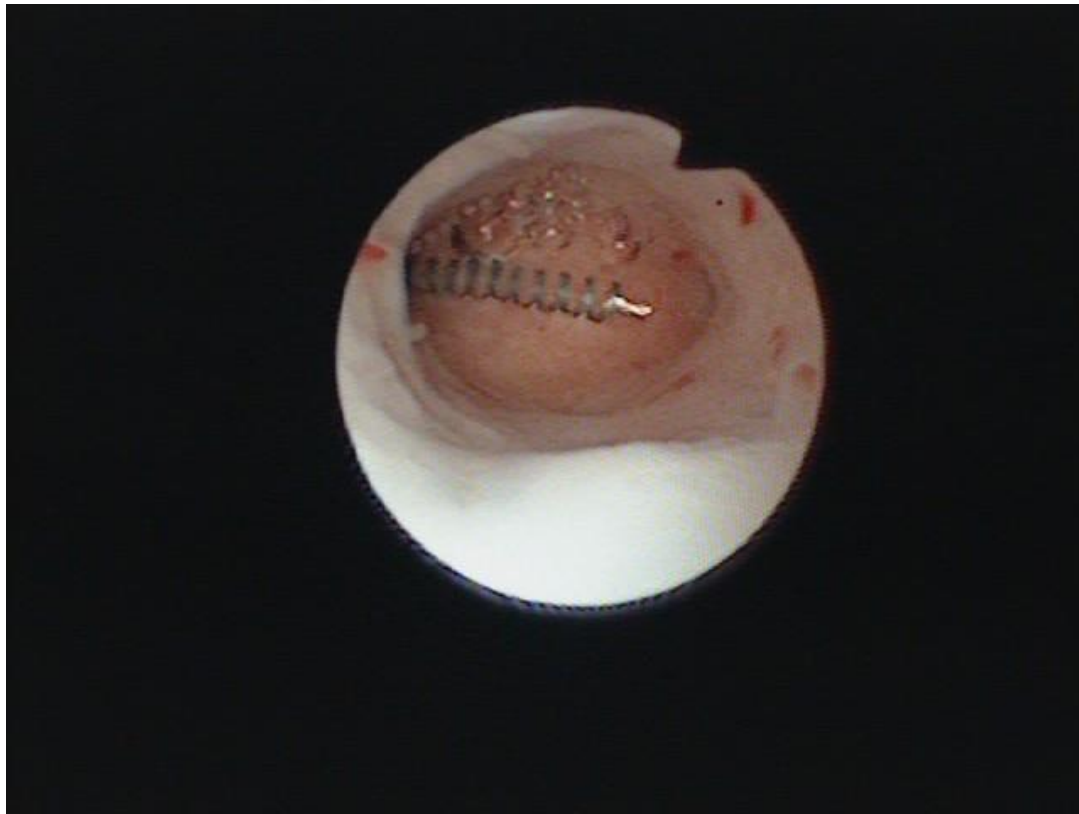
# Retained Fetal Bone



# Findings After Endometrial Ablation



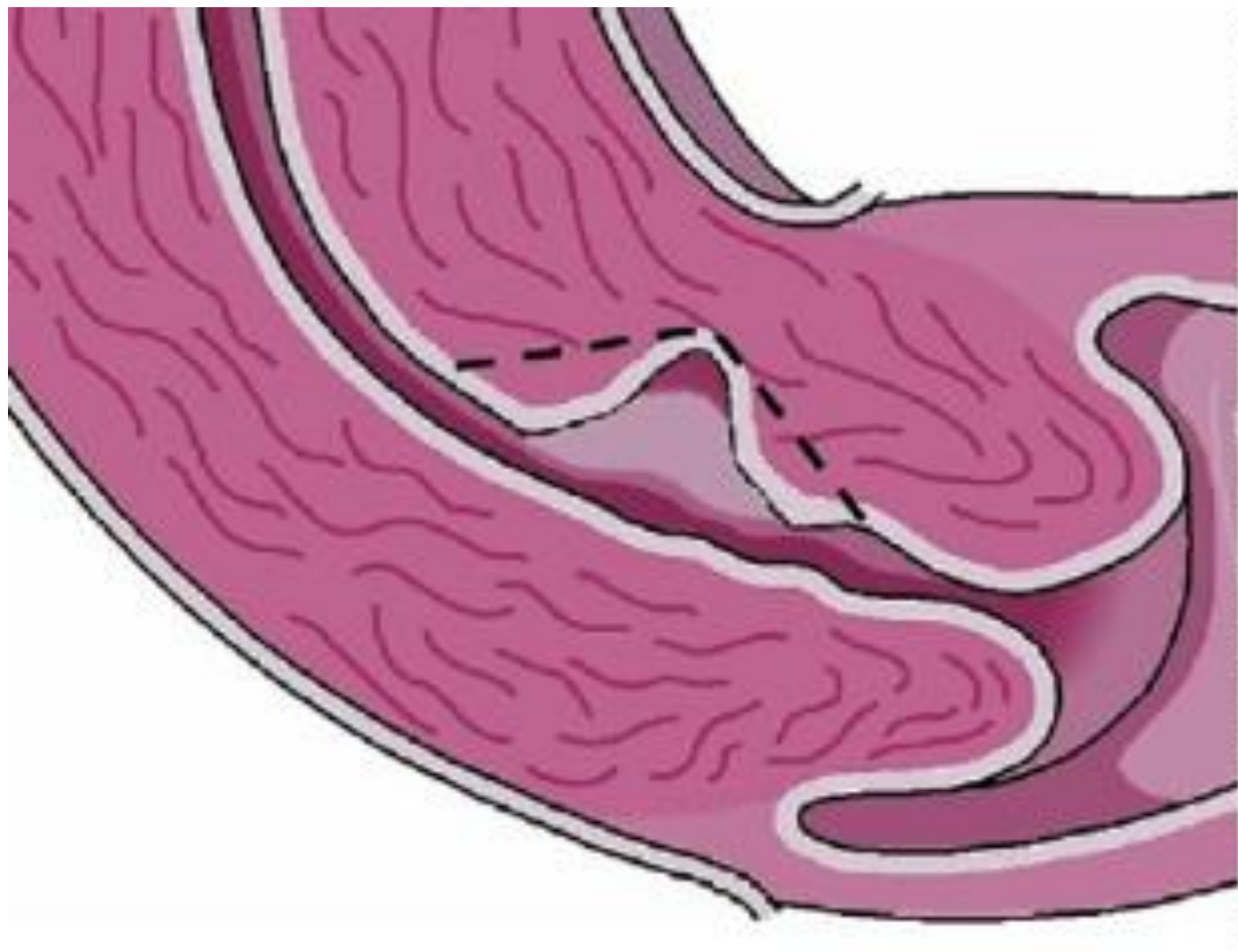
# Hysteroscopic Implant Malpositioned



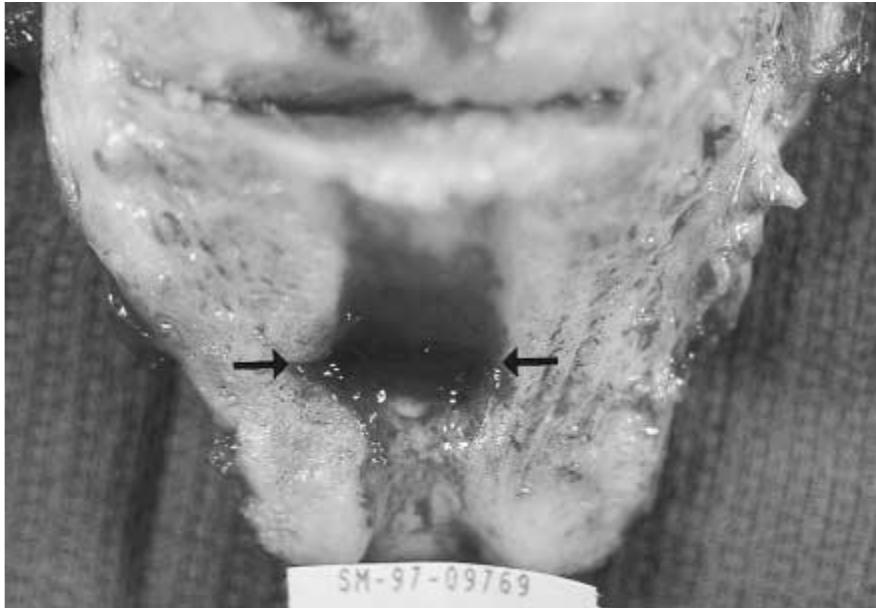


Can You Begin to  
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Your Hysteroscope is Your  
Stethoscope?



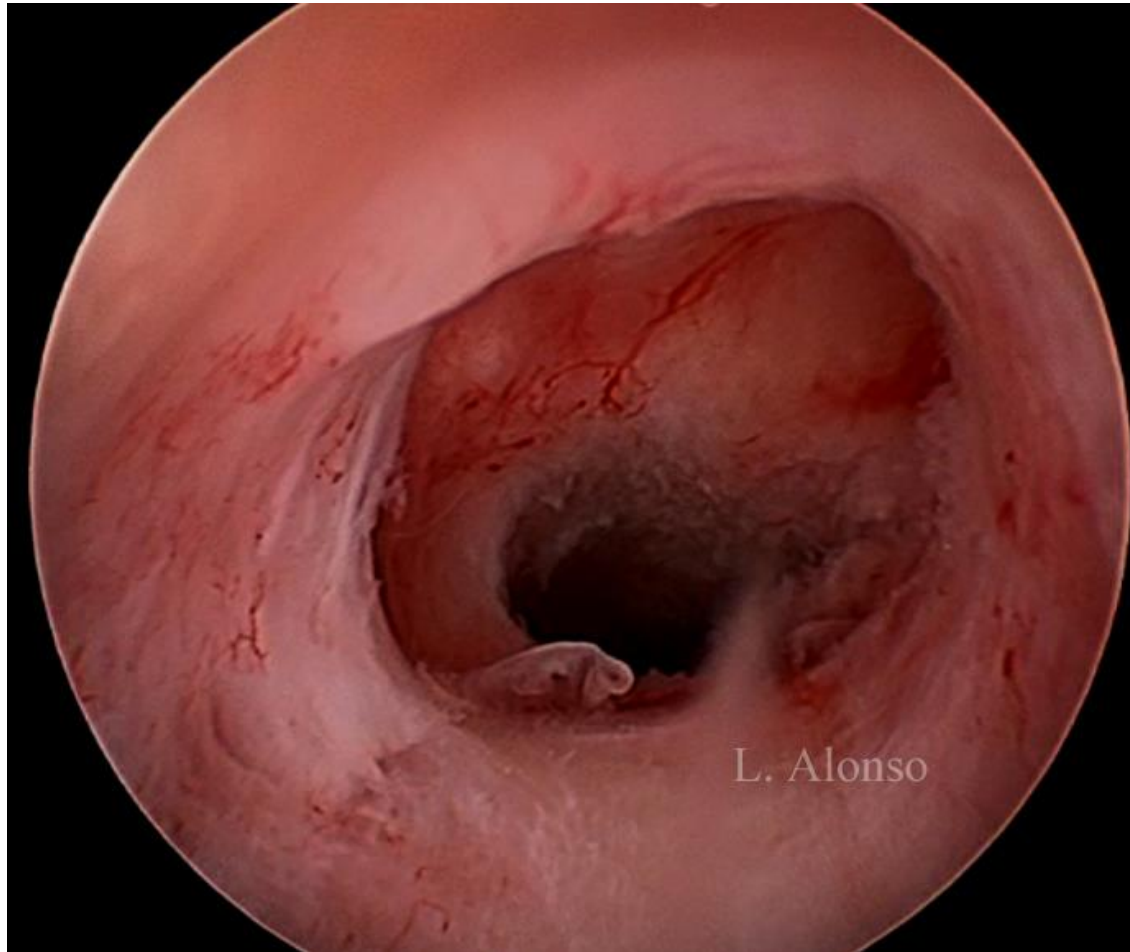


# Hysterectomy Specimen of C/S Scar



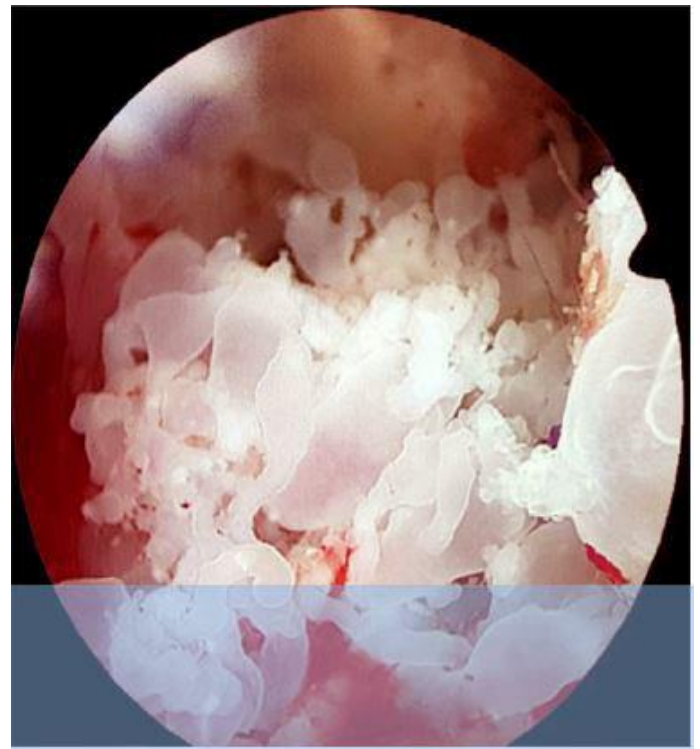
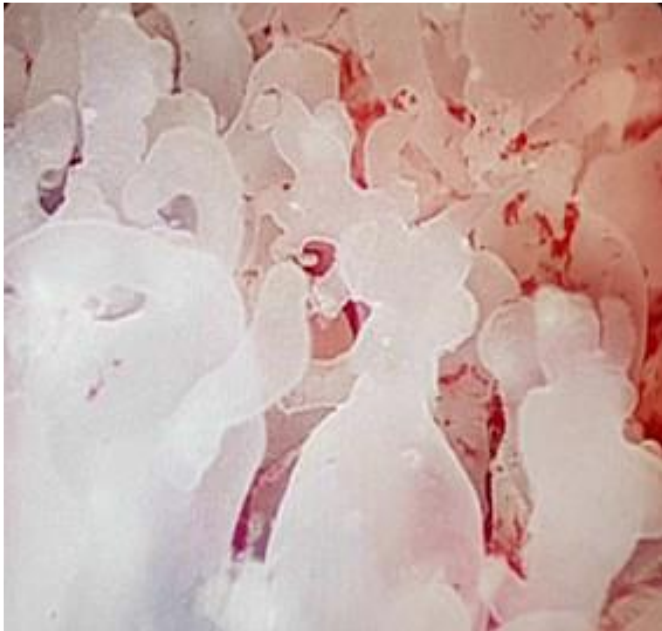


# Isthmocele



# Molar Pregnancy

## Hydropic Villi



# Cystic Hygroma: Fetoscopy



# Chronic Leukorrhea After C/Section



Courtesy of Alicia Ubeda  
Hernandez

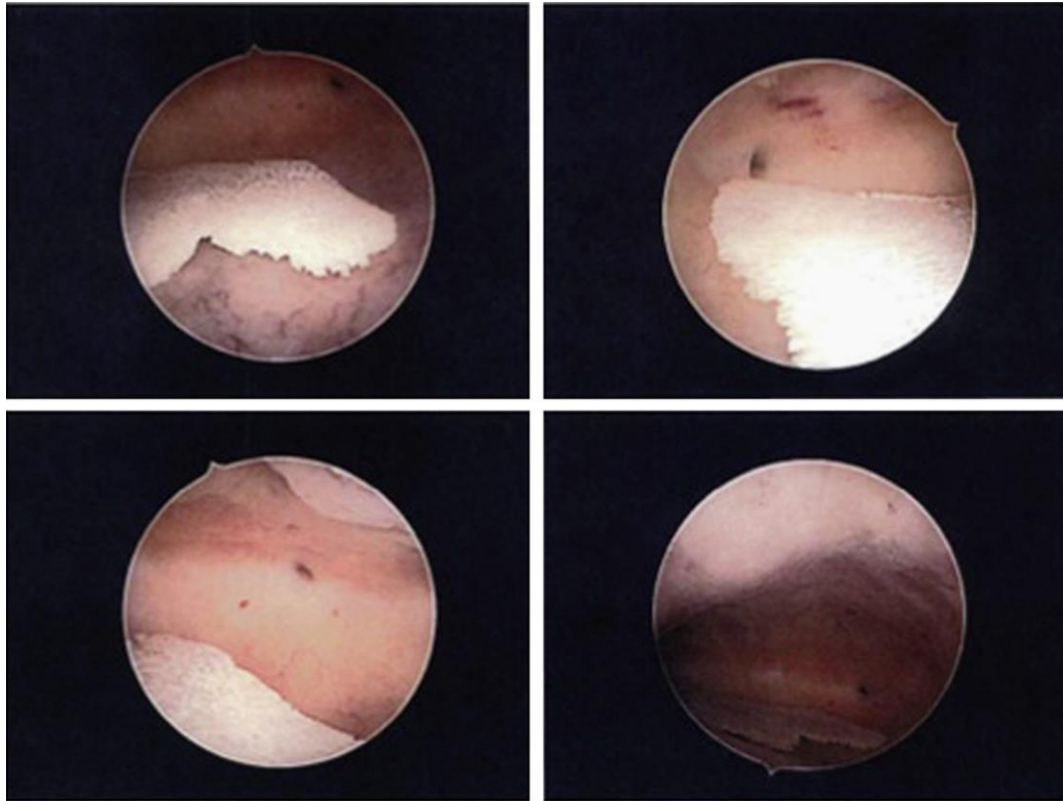


# What Do You See?



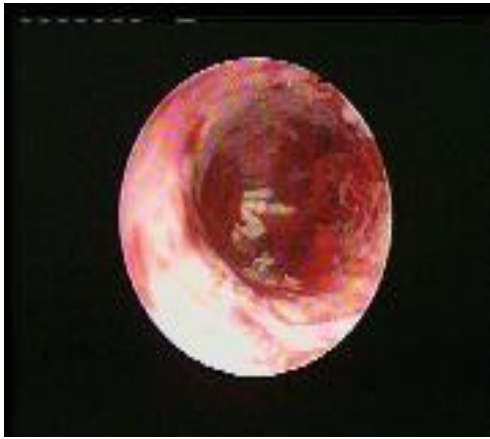
Courtesy of Alicia Ubeda  
Hernandez

# BONY OSSIFICATION

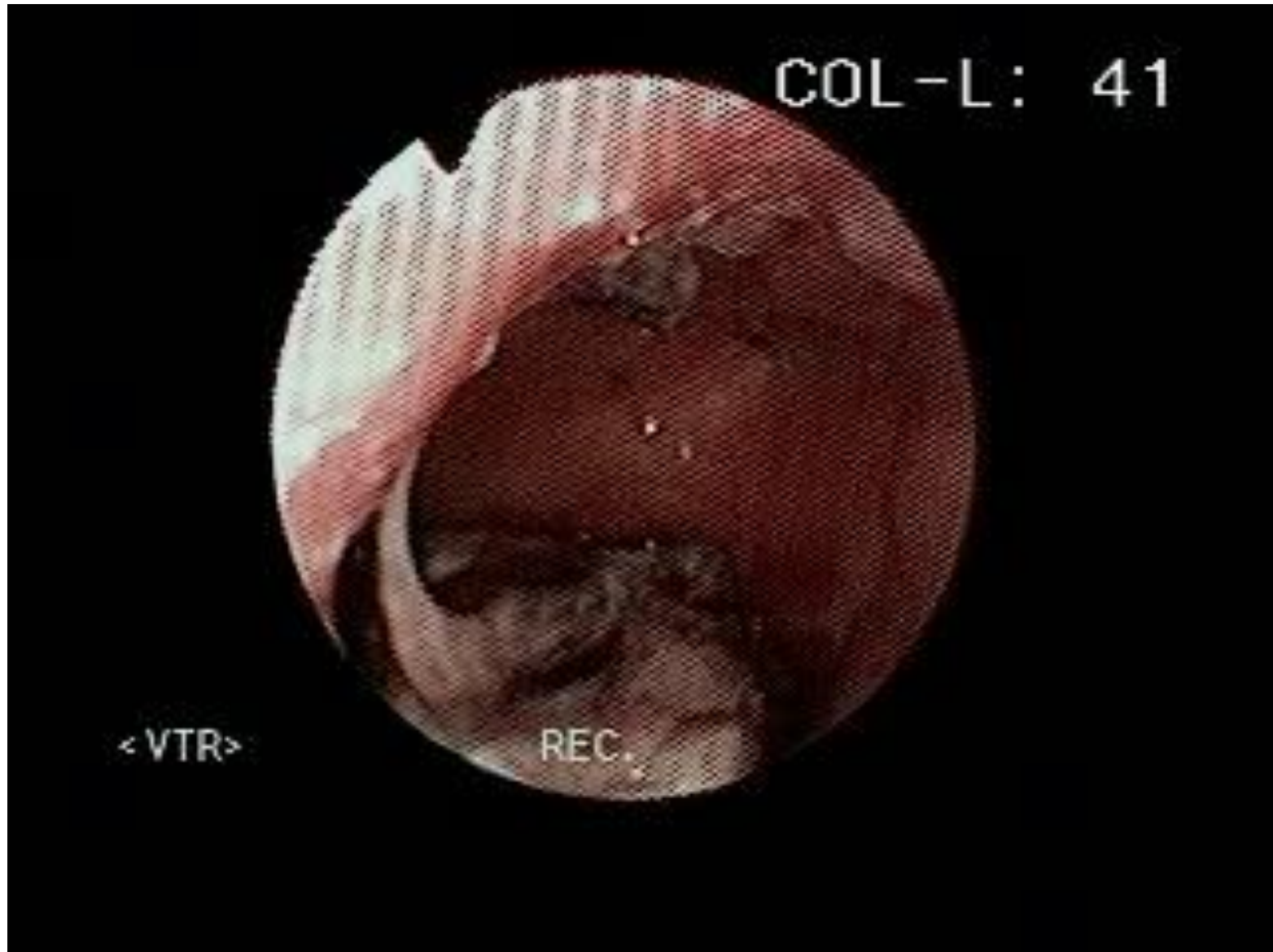




# Unusual Case of Persistent Abnormal Uterine Bleeding for 25 years!!!

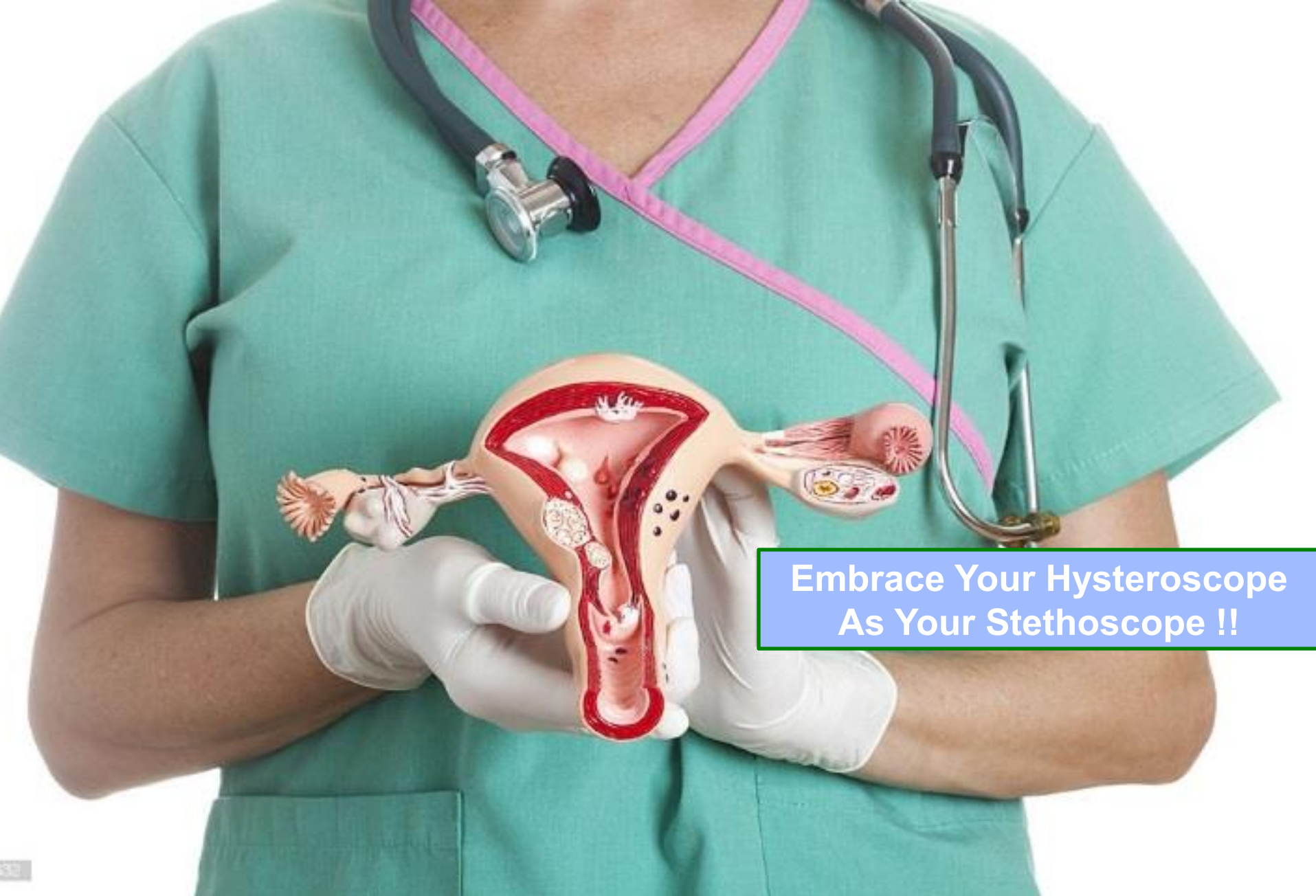


# Necrotic Leiomyoma Associated With Leukorrhea



# Post Uterine Fibroid Leukorrhea





**Embrace Your Hysteroscope  
As Your Stethoscope !!**



# Do You And Your Patient Need to Be In the OR?



# Pre-Procedural Check List

- **Eat before procedure**
- **Documentation**
- **Name, DOB,**
- **LMP**
- **Pregnancy test if not menopausal**
- **Recent pap (if not do it)**
- **Procedure indication**
  - **- Pre-procedural analgesia taken (type, dose, timing)**
- **Procedure documentation:**
  - **- Hysteroscope type and size**
  - **- Distension medium and volumes**
  - **- Findings and interventions**
  - **- Complications if any**
  - **- Patient tolerance**
  - **Image capture: Document key findings for medical record and patient discussion**



# Checklist



- ✓ **Schedule appropriately**
- ✓ **Explain Procedure/Informed consent**
- ✓ **Pregnancy testing**
- ✓ **Time Out**
- ✓ **Equipment Available**
- ✓ **Bimanual exam**
- ✓ **Speculum exam**
- ✓ **Document findings**

# Hysteroscope Options

Type	Specifications	Considerations
<b>Rigid hysteroscope</b>	2.9-4mm diameter; 0° or 30° viewing angle	Most common for office setting; 0° offers intuitive view
<b>Flexible hysteroscope</b>	3.1-4.9mm diameter	May ease navigation in difficult anatomy
<b>Disposable vs. reusable</b>	Both options available	Disposable for <u>low-volume</u> ; reusable cost-effective after ~50 procedures

**Key principle:** Smaller diameter hysteroscopes significantly reduce pain and vasovagal reactions. Mini-hysteroscopes ( $\leq 4\text{mm}$ ) are strongly recommended for office setting.

# **Instrument Size: Small is Better**

- **Hysteroscope diameter: Mini-hysteroscopes (2.9 mm-4 mm) recommended to minimize pain**
- **Impact: Smaller instruments significantly reduce both pain and risk of vasovagal reactions**

# Basic Set-up

- **Room Setup and Furniture**
- **Space requirements: Can be performed in standard exam room (no dedicated procedure room needed)**
- **Exam table: Adjustable height table with stirrups; ability to raise/lower enhances ergonomics**
- **Equipment cart: Mayo stand or mobile cart for instruments and equipment**
- **Privacy: Private, welcoming environment separate from typical OR settings**
- **Patient amenities: Space for patient to change; accessible restroom; comfortable recovery area**
- **Ventilation: Proper air filtration system to remove contaminants**

# Visualization System

- Camera and camera control unit: High-definition camera with adjustable settings
- Light source: Cold light source (LED or xenon); minimum 150-175 watts
- Light cable: Fiber optic cable connecting light source to hysteroscope
- Video monitor: High-definition display positioned for optimal ergonomics
- Recording capability: DVD/digital recording device for documentation and patient records

**Options: Systems can be mobile (cart-based) or fixed installation. Compact all-in-one units are available but separate components offer more flexibility.**

# Distension Media System

- **Preferred medium:**  
**Normal saline (0.9% NaCl)**
- **- Provides better visualization than CO<sub>2</sub>**
- **- Less postoperative pain**
- **- Safer (minimal embolism risk)**
- **Delivery system options:**
  - **- Simple setup: 1-L saline bag in pressure bag with manual pump (adequate for diagnostic procedures)**
  - **- Advanced: Automated fluid management system with pressure control and deficit monitoring**
- **Inflow/outflow tubing: Sterile disposable tubing sets**
- **Collection system: Basin or under-buttocks drape for outflow collection**
- **Monitoring: Method to measure inflow and outflow volumes (critical for safety)**



# Ancillary Equipment

- **Vaginal speculum: Various sizes (typically not needed with vaginoscopic approach)**
- **Tenaculum: Advise cervical stabilizer rather than tenaculum if needed**
- **Cervical dilators: Hegar or Pratt dilators in various sizes**
- **Local anesthesia supplies:**
  - **- Dental syringe with sealed anesthetic cartridges**
  - **- 1% lidocaine**
  - **- Spinal needles for paracervical/intracervical blocks**

# **Operative Instruments (for "See and Treat")**

- **Mechanical instruments:**
  - **- Grasping forceps (5Fr)**
  - **- Scissors (5Fr)**
  - **- Biopsy forceps**
- **Electrosurgical devices:**
  - **- Bipolar electrodes (preferred for safety with saline)**
- **Tissue removal systems: Miniaturized morcellators or suction/cutting devices**
- **Operative port seals: To maintain pressure when instruments are inserted through working channel**

# Emergency Equipment

- **Crash cart:**
  - **Standard resuscitation equipment**
- **Oxygen delivery system: Nasal cannula and face masks**
- **Table for reverse Trendelenburg**
- **Emergency medications:**
  - **Atropine (for vasovagal reactions)**
  - **Epinephrine**
  - **IV fluids**
- **Peppermint Oil to smell for nausea**
- **Spirits of ammonia for vasovagal**
- **Cold compress**
- **Legs elevated**

# **Low Complications Associated with Office Diagnostic Hysteroscopy**

- **Failures 1.2--3.8%**
- **Vasovagal reaction 0.19--0.97%**
- **Uterine perforation 0.1%**
- **Infection < 0.01%**
- **Symptomatic air/gas embolism <0.06%**

# Cost Considerations

- **Initial equipment investment:**  
**\$15,000-\$35,000**  
**depending on new vs. used equipment**
- **Break-even point:**  
**Typically, <50 office operative procedures due to improved reimbursement**
- **Reimbursement: RVUs for office operative hysteroscopy (CPT 58558) increased by 237% in 2017**
- **Volume considerations:**
  - **- Low volume: Disposable equipment may be more economical**
  - **- High volume: Reusable equipment offers better value**
- **Service agreements:**  
**Available from major suppliers for equipment protection, repair, and replacement**

# Evidence-Based Pain Management Strategies

## Pain Perception

- **Cervical manipulation and speculum insertion**
- **Passage through the internal cervical os**
- **Uterine distension**
- **Anxiety-induced pain amplification**

## Current Practice Patterns

- **Recent surveys reveal that only 34% of hysteroscopists routinely use pre-procedural or intra-procedural analgesia.**
- **Among those who do use analgesia:**
  - **67% use NSAIDs**
  - **12% use paracetamol**
  - **7% use opioids**
  - **75% do not routinely use misoprostol**

This low prevalence of routine analgesia use reflects the generally well-tolerated nature of the procedure, with most literature recommending analgesic use only in selected patients.



# Pharmacological Pain Management Options

## Non-Steroidal Anti-Inflammatory Drugs (NSAIDs)

- Provide oral NSAIDs 1 hour before the procedure
- Evidence: Most commonly used pre-procedural analgesia among practitioners who routinely use pain relief
- Patient information: Should be included in appointment letters with timing instructions

## Local Anesthesia

- Paracervical block: 8-11 mL of 1% lidocaine - most commonly used local technique (46.1% of practitioners who use local anesthesia)
- Intracervical block: Used by 15.4% of practitioners using local anesthesia
- Evidence: Meta-analysis shows local anesthesia significantly reduces pain - During procedure: Moderate effect (like going from 6/10 to 4.5/10) - After procedure: Small but meaningful effect (statistically significant)
- Does not reduce vasovagal episodes or procedure failure rates

# **Multiple RCTS for hysteroscopy show effectiveness**

## **Key Studies:**

- Iranian RCT (50 patients): Vaginal EPO (two 500mg capsules) 6-8 hours before hysteroscopy resulted in shorter cervical dilatation time (33.5 vs 75 seconds,  $p=0.003$ ) and greater cervical width (8mm vs 7mm first Hegar,  $p=0.002$ ) with no adverse effects
- Direct comparison trial: EPO (2000mg vaginal) vs misoprostol (200mcg vaginal) 2 hours before procedure - EPO group had LARGER first dilator size (7.30mm vs 5.25mm,  $p<0.001$ ) and significantly LOWER pain ( $p=0.027$ )
- Double-blind RCT (160 women): 1000mg vaginal EPO 6 hours before hysteroscopy resulted in larger average Hegar size compared to placebo

## **Route & Mechanism**

- **Vaginal only**
- **EPO contains 70% linoleic acid and 7-10% gamma-linolenic acid which is a precursor to prostaglandins E1 and E2 that help ripen the cervix**

# Benefits of Primrose Oil

- Easy to use, available, inexpensive, no serious adverse effects
- Significantly less pain than misoprostol
- No side effects like nausea, vomiting, cramping, or bleeding that misoprostol causes

# Non-Pharmacological Pain Management

- **Vaginoscopic "No-Touch" Technique**
- **Technique:** Hysteroscope inserted directly through the vagina and cervix without speculum or tenaculum
- **Evidence:** Meta-analysis shows significantly less pain both during (SMD -0.27) and 15 minutes after procedure (SMD -0.55)
- **Additional benefits:** Significantly quicker procedure time (SMD -0.25) and fewer vasovagal episodes (OR 0.35)
- **Recommendation:** Should be the preferred entry technique for office hysteroscopy

# **Psychological Interventions**

- **Pre-procedure counseling: Thorough explanation of procedure, expected duration, and discomfort level**
- **During procedure: Continuous verbal reassurance by the clinical team**
- **Music: 15.4% of practitioners using intra-procedural techniques employ music or patients ear-pods**
- **Virtual reality: Emerging evidence supports VR for anxiety and pain management**

# **Practical "Decalogue" for Pain Management**

## **Ten key principles for optimizing patient comfort during office hysteroscopy**

- 1. Provide comprehensive pre-procedure counseling and written information**
- 2. Recommend pre-procedural NSAIDs (1 hour before)**
- 3. Use vaginoscopic approach whenever possible**
- 4. Select smallest diameter hysteroscope appropriate for the procedure**
- 5. Provide continuous verbal reassurance throughout**
- 6. Maintain intrauterine pressure at 70-80 mmHg (avoid excessive pressure)**
- 7. Complete procedure as efficiently as possible (ideally <5 minutes for diagnostic)**
- 8. Offer local anesthesia for patients with high anxiety or known pain sensitivity**
- 9. Empower patients to stop the procedure if experiencing intolerable pain**
- 10. Have alternative pain management options available (including rescheduling with sedation)**



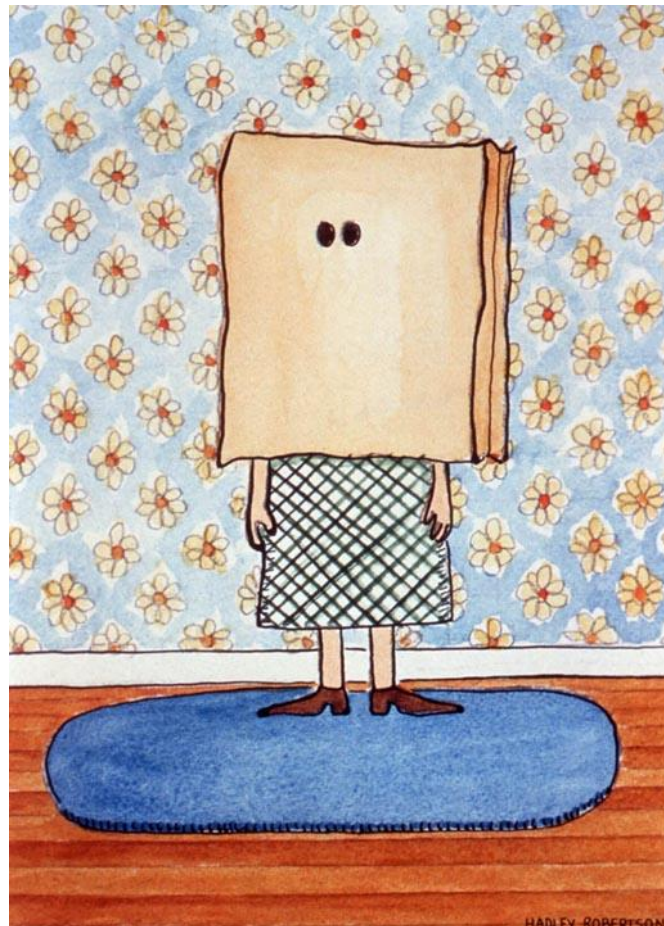
# Consider OR Setting For

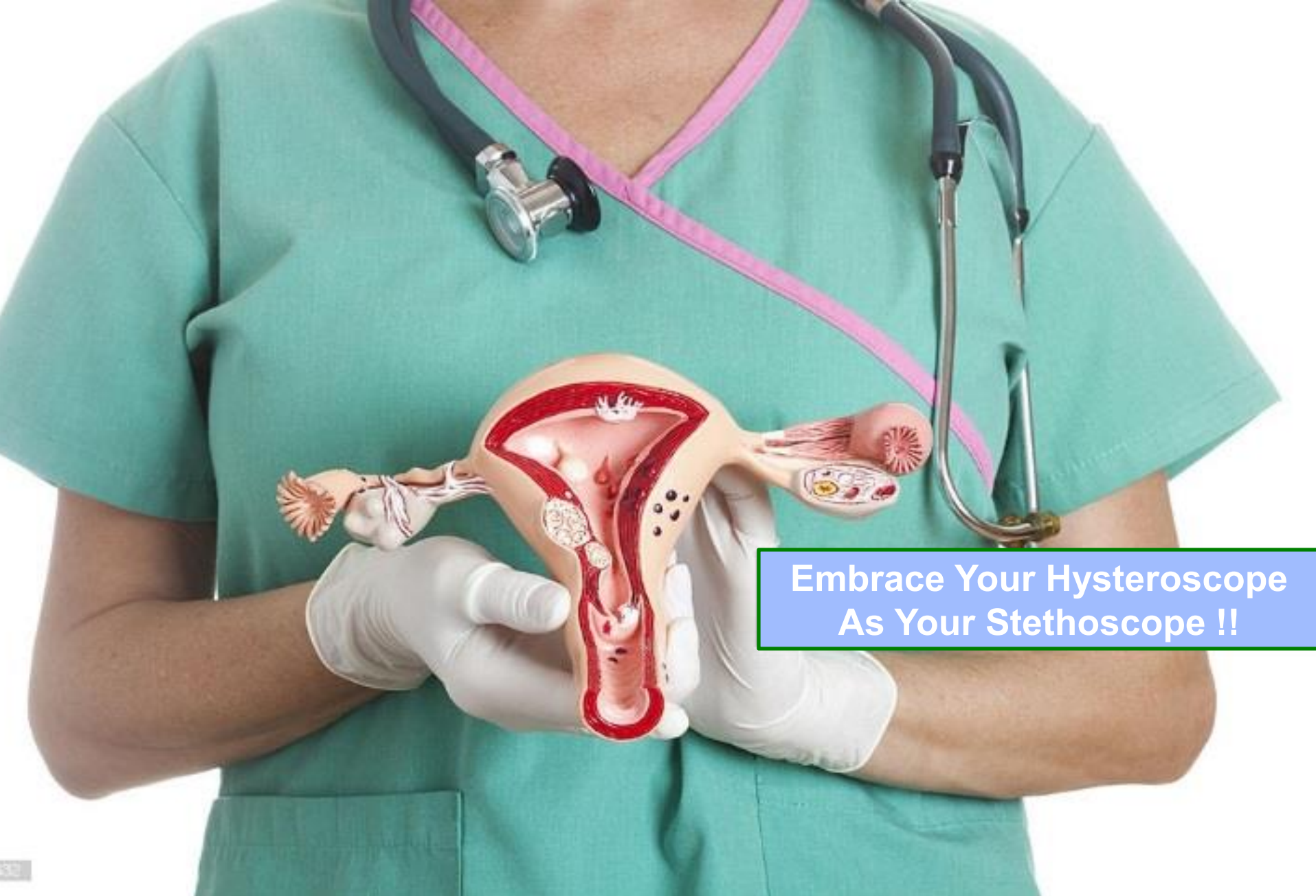
- Severe cervical stenosis
- Patients unable to tolerate positioning
- High anxiety despite counseling
- History of extreme pain with procedures
- Complex operative cases requiring extended time
- Patient request
- Previous pelvic/personal trauma

**It's not a failure to go to OR**

**The failure is not looking**

# Let's Stop Being In The Dark





**Embrace Your Hysteroscope  
As Your Stethoscope !!**

# If **YOU** Just Change One Thing

- **Offer hysteroscopy earlier**—before blind sampling or repeat imaging
- **Normalize it as office-based care**, not an OR-only procedure
- **Treat it as first-line evaluation**, not last resort
- **Teach it** deliberately so residents and fellows graduate comfortable and competent
- **Close the training gap**—not the evidence gap
- **Faster care, lower cost, higher patient satisfaction**

This is one of those moments  
where better care doesn't  
require new technology

**Just different habits**

# References

- **Orlando MS, Bradley LD. Implementation of Office Hysteroscopy for the Evaluation and Treatment of Intrauterine Pathology. Obstet Gynecol 2022;140(3):499-513.**
- **De Silva PM, Smith PP, Cooper NAM, Clark TJ. Outpatient hysteroscopy: (green-top guideline no. 59). BJOG 2024;131:e86-110.**
- **Buzzaccarini G, et al. Pain Management during Office Hysteroscopy: An Evidence-Based Approach. Medicina (Kaunas) 2022;58(8):1132.**
- **Jeong N, et al. Clinical practice in office hysteroscopy. Obstet Gynecol Sci 2025;68(3):175-185.**
- **Wright KN, Hamilton K, Kosturakis A. An Overview of Office Hysteroscopy. Curr Obstet Gynecol Rep 2024;13:88-96.**
- **Carugno J, et al. Pain management for in-office hysteroscopy. A practical decalogue for the operator. Best Pract Res Clin Obstet Gynaecol 2021;73:161-170.**



# References

- **Song D, Xiao Y, Read M, Roth W, Aosman A. A meta-analysis on the use of misoprostol for cervical preparation before hysteroscopy in non-pregnant women. Arch Gynecol Obstet 2016;293:1101-1110.**
- **Oppegaard KS, Lieng M, Berg A, et al. A comparison of oral and vaginal misoprostol for cervical ripening before operative hysteroscopy: a randomised controlled trial. BJOG 2010;117:1504-1511.**
- **Shahbazi S, Kazerooni M, Abbasi N. Evaluation of the effect of evening primrose oil on cervical preparation before operative hysteroscopy: A double-blind randomized clinical trial. J Family Reprod Health 2012;6(4):149-153.**
- **Valadan M, Kazemian A, Fakharian E, et al. Comparison of vaginal misoprostol and evening primrose oil for cervical ripening before operative hysteroscopy. Int J Gynecol Obstet 2011;113:47-49.**
- **Fathizadeh N, Akhavan Karbasi S, Chaman M, et al. Effect of evening primrose oil on cervical ripening prior to operative hysteroscopy. J Midwifery Reprod Health 2016;4(2):591-597.**



Thank You

