Gynecology Office Procedures: Maximizing Efficacy and Pain Control

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I have no disclosures

Objectives

- Utilize 2 evidence-based strategies for pain reduction during office gynecologic procedures
- Describe the steps for 2 common gynecologic procedures (so that you can do them in your practice successfully and painlessly)

A day in the office…

<table>
<thead>
<tr>
<th>Time</th>
<th>Visit</th>
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<tbody>
<tr>
<td>08:00 AM</td>
<td>Follow-up - pelvic pain</td>
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<tr>
<td>08:15 AM</td>
<td>Cervical polyp removal</td>
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<tr>
<td>08:45 AM</td>
<td>IUD removal</td>
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<tr>
<td>09:30 AM</td>
<td>Instrumental lining</td>
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<tr>
<td>10:00 AM</td>
<td>IUD insertion</td>
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<tr>
<td>10:30 AM</td>
<td>Etonogestrel implant insertion &amp; removal</td>
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<tr>
<td>10:45 AM</td>
<td>Manual saline aspiration</td>
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8AM – Follow-up - Pelvic pain

Innervation of the pelvis

- Sympathetic fibers (T10-L2) innervate the fundus
  - Enter uterosacral ligaments via inferior hypogastric plexus
  - Enter via nerves from ovarian plexuses at the cornua
- Parasympathetic fibers (S2-S4) innervate the lower uterine segment, cervix, and upper vagina
  - Primarily from the Frankenhauser plexus
  - Travel to the uterus and cervix via the cardinal ligaments

Additional innervation

- Myometrial innervation follows branches of the uterine artery
- Nerves extend through myometrium to endometrial-myometrial interface
- Basal third of the endometrium is innervated

Nociception is not the same as pain
Measuring pain
- Satisfaction
- Recommend to a friend
- Choose again
- % with severe pain
- Pain scales

Strategies for acute pain
MULTIMODAL PAIN MANAGEMENT
Definition:
Using more than 1 class of med or analgesic technique
Example:
Local anesthesia + NSAID + benzodiazepine + nonpharmacologic strategies

PREEMPTIVE ANALGESIA
Definition:
Intervention more effective PRIOR to tissue injury
Rationale:
Increased pain response to subsequent stimulation (“wind-up” or “hyperalgesia”)

Types of local anesthesia
- Paracervical injection
- Intrarectal injection
- Transurethral injection
- Intravesical
- Topical surface application

Comparison of local anesthetics

<table>
<thead>
<tr>
<th>Local anesthetic</th>
<th>Potency</th>
<th>Onset Duration</th>
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<tbody>
<tr>
<td>Bupivacaine</td>
<td>Strong</td>
<td>Moderate (up to 20 min) Long (3-6 hr)</td>
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<tr>
<td>Mepivacaine</td>
<td>Medium</td>
<td>Fast (4-7 min) Moderate (3 hr)</td>
</tr>
<tr>
<td>Lidocaine</td>
<td>Medium</td>
<td>Fast (4-7 min) Moderate (1-2 hr) (~3 hr with epi)</td>
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<tr>
<td>Chloroprocaine</td>
<td>Weaker</td>
<td>Fastest (30-60 min) Short (30-60 min)</td>
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</tbody>
</table>
Prevent local anesthetic toxicity

- Aspirate for blood prior to injection
- Monitor total dose
- Monitor patient symptoms. Stop after partial dose to check symptoms.
- Use larger volume of more dilute soln
- Inject multiple sites
- Prepare for toxic and allergic reactions

Lidocaine toxicity

- Respiratory arrest
- Coma
- Seizures
- Severe cramps
- Vascular problems
- Dizziness, dizziness
- Numbness of tongue
- Severity of systemic toxicity

Pain and the pelvic exam

- 11-40% of women report pain or discomfort during pelvic exam
- 10-80% of women report fear, embarrassment, or anxiety during pelvic exam
- 3.2 is mean pain score for discomfort with pelvic exam
- 17% of women reported a pain score of 6-10/10 with pelvic exam

Risk factors for higher pain scores:
- Age < 25
- Presence of 1+ mental health issues
- History of sexual abuse
- Negative emotional contact with provider

Non-pharmacologic pain management

- Patient control participation in decisions
- Heat
- Counseling techniques
- Positive suggestion, guided imagery
- Music
- Acupuncture
- Hypnosis
- “Vocal local”
Cervical Polyp Removal

- If you aren't currently doing this, you should! Can remove cervical polyps and small (<2cm) endometrial polyps.

- **Equipment:**
  1. Ring forceps.
  2. Silver nitrate sticks.
  3. Optional: allis clamp.

- Typically well tolerated without anesthesia.

Polyp Removal

- Clean with betadine.
- If polyp on a stalk, grasp as high as possible with ring forceps and begin to twist in one direction. When meet resistance, twist the other way. Do not pull. Continue twisting process until polyp has been removed. Cauterize base with silver nitrate (helps kill remaining cells).
- If polyp not on a stalk: Unlikely that ring forceps will grasp it. Try allis clamp to "chomp it off." Cauterize base with silver nitrate.
- Send to pathology.
8:45AM – IUD Removal

- No training necessary!
- Equipment:
  - Ring forceps.
  - Cytology brush.

Complications: Very rare. String can break off or IUD embedded; you won’t be able to remove it. Occasionally, it hurts to remove (usually not).

9:00 AM Endometrial biopsy (EMB)
Pain with endometrial biopsy

Predictors of increased pain:
- Nulliparity
- Post-menopausal status
- Dysmenorrhea

Half of women describe EMB as moderately or severely painful.

Dogan E et al. Obstet Gynecol, 2004

Endometrial biopsy steps

1. Preparation for EMB
2. Removal of speculum
3. Speculum placement
4. Cleaning the cervix
5. Tenaculum placement
6. Performing EMB
7. Removal of instruments
8. Post-procedure

Premedication with misoprostol

Studies evaluating pre-medication with misoprostol:
- Crane JM et al (2009): no difference in pain compared to placebo
- Telli E et al (2014): no difference in pain compared to rectal NSAID and placebo
- Perrone et al (2002): more pain in women who received misoprostol

More unpleasant side effects reported among women who received misoprostol.

1. Preparation for EMB
2. Removal of speculum
3. Speculum placement
4. Cleaning the cervix
5. Tenaculum placement
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The necessity of using tenaculum for endometrial sampling procedure with pipelle: a randomized control study.

Kucukgoz Gulec U et al. Arch Gynecol Obstet, 2014
Intrauterine anesthesia

- Systematic review of 23 studies
- All use flexible catheter
- 2-3 min pre-procedure
- Generally 5mL of 1-2% lidocaine (50-100mg)

Author (year) | Add’t med | Pain scores (Intervention vs. placebo) | Significant difference?
--- | --- | --- | ---
Trolice (2000) |  | 4.7 vs. 9.9 | yes
Dogan (2004) | -/+ NSAID | 5.9/4.6 vs. 7.1 | Yes only with lidocaine
Güney (2006) | +miso | 4.9 vs. 6.2 (premeno) 6.7 vs. 6.2 (postmeno) | Yes but only for premenopausal women
Hui (2006) |  | 2.3 vs. 4.2 | yes
Api (2010) | -/+ NSAID | 3.8 vs. 6.5 | Yes, not superior to NSAID alone
Rattanachaiyonont (2005) |  | 2.3 vs. 4.7 | yes
Kosus (2014) |  | 1.0 vs. 3.0 | yes

Intrauterine anesthesia: 2% lidocaine

- Good evidence to support use for EMB
- Most consistent effect seen at 100-200mg of lidocaine
- Studies have demonstrated intrauterine anesthesia equivalent to paracervical block for EMB

Summary:

- Pain management for EMB
- Do NOT routinely give misoprostol prior to EMB
- Try to perform EMB without tenaculum
- Consider intrauterine anesthesia or paracervical block if patient at risk for increased pain
A Rational Approach to EMB

Further evaluation mandatory if: Persistent AUB after negative EMB and/or 3-6 months of medical therapy.

Endometrial Biopsy: STEPS

1. BME to check size, position of uterus
2. Clean cervix with betadine
3. Attempt passing pipelle without using tenaculum. Place pipelle just inside os, she bears down while you push. If it “pops” through the internal os, get your sample as noted below. If it doesn’t pass, you’ll need tenaculum.
4. Always give lidocaine at tenaculum site if you use a tenaculum.
5. Tenaculum: 1 cm wide bite, slowly close.
6. Pull firmly back on tenaculum as you push pipelle through os. Tenaculum should move about 2 cm.

Endometrial Biopsy Supplies

- NSAID
- EMB pipelle
- 1% lidocaine
- Tenaculum
- Fox swabs
- Silver nitrate

7. Administer intrauterine anesthesia, if desired (as described previously)
8. Once pipelle passes or “pops” through the internal os, push it gently up to fundus and then back it away from fundus by about 1 cm. Do not push hard against the fundus. Do not repeatedly touch the fundus. Touching fundus = painful.
9. Obtain suction by pulling the stylet all the way back
10. Move the pipelle up and down within the uterus (below the fundus) while twisting.
11. Carefully plunge specimen into specimen cup without touching the pipelle to the formalin or sides of cup.
12. Check specimen adequacy by shaking formalin and looking for tissue pieces.
13. If adequate and uterus gritty: done. If not gritty or inadequate: do another pass.
Help her with breathing.

- Close to 10:
  - Help her count
  - A time frame

- If need to do another pass, ask permission

- If she can’t tolerate, STOP

If trouble passing pipelle, use different vectors of traction on the tenaculum (up, down, right, left).

- If still can’t pass it and she can tolerate, consider paracervical block

- Can also try os finder, small dilators or ultrasound guidance.

- If known to be anxious or if attempt and fail, give ativan for next attempt (if pt willing).

- If unable to enter endometrium cavity, give misoprostol or other premedication

9:30 AM
IUD insertion
Pain with IUD insertion

Predictors of increased pain:
- Nulliparity
- Remote from last delivery
- Age > 30 years
- Dysmenorrhea

IUD insertion associated with mild to moderate pain


IUD insertion steps

1. Preparation for IUD insertion
2. Speculum placement
3. Cleaning the cervix
4. Tenaculum placement
5. Sounding uterine cavity
6. Inserting the IUD
7. Removal of instruments
8. Post procedure

Premedication with NSAIDs

- Ibuprofen
- Naproxen
- Ketorolac (IM)


Premedication with misoprostol

- Pain score higher in misoprostol group during and after IUD insertion
- Cramping more likely with misoprostol (OR 2.64, 95% CI 1.46-4.76)
- In one trial of nulliparous women, women given misoprostol were less likely to report moderate or severe pain
- In another trial, misoprostol group less likely to recommend treatment

Lopez LM et al. Cochrane Systematic Reviews, 2015

Tenaculum Placement

Compared to placebo:
- 2% lidocaine gel (topical): no difference in pain
- 1% lidocaine injection: lower pain
- Other formulations: lower pain
  - EMLA cream (2.5% lidocaine & 2.5% prilocaine)
  - 4% lidocaine gel
  - 10% lidocaine spray
  - 2% lidocaine gel placed vaginally

Insertion of IUD with local anesthesia

1. Topical lidocaine gel
   - No difference in pain with IUD insertion (N=3 studies)

2. Intracervical lidocaine gel or block
   - No difference in pain with IUD insertion (N=3 studies)

3. Paracervical block
   - No difference in pain with IUD insertion (N=2 studies)

Summary: Pain management for IUD insertion

"No prophylactic pharmacologic intervention has been adequately evaluated to support its routine use for reduction of pain during or after IUD insertion."

For patients at greater risk of pain, can consider:
- Premedication with PO naproxen or IM ketorolac
- Paracervical block with 1% lidocaine
  - Including administration at tenaculum site
LARC Insertion and Removal Series

Innovating Education in Reproductive Health

http://innovating-education.org/course/larc-insertion-series/

IUD Insertion: Cu-IUC vs LNG-IUS

- Both require tenaculum
- Sounding recommended before insertion
- Prefer EMB pipelle
- Levonorgestrel IUS can be placed without sterile gloves
- Copper IUC has to be loaded steriley

IUC Insertion Supplies

- IUD
- Speculum
- Betadine swabs
- 1% lidocaine for 12:00 tenaculum site
- EMB pipelle (to sound)
- Tenaculum
- Scissors to cut strings
- Sterile gloves to load Cu-IUC

1. Prepare

- Get all supplies set up (don’t forget scissors, don’t open the IUD yet)
- Prepare the patient:
  - BME to check uterine position and size
  - Betadine to cervix
  - 1% lidocaine at 12:00 anterior cervix
  - Tenaculum: 1 cm wide bite, slowly close. YES, you must use a tenaculum! Tenaculum straightens out the endometrial canal. Without it, increased chance of perforation or of placing IUD below the fundus.
2. Sound the uterus

- Prefer EMB pipelle
- Why sound?
  1. Measure depth of the uterus
     Check its position (retro, mid, anteflexed)
  2. Most important: to ensure that the IUD will pass through the cervix

Initial steps the same for all IUDs

Copper IUD insertion

3. Load the Cu-IUC

1. Fully peel back package so IUD is sitting on top.
2. Put on sterile gloves.
3. Place the white plunger rod in the clear insertion tube—use care not to plunge the IUD out the top of the tube!
4. Push ends of the arms of the T downward into the insertion tube. Hold the white plunger in place while you do this.

4. Advance IUD into Uterus

- Gently advance the loaded IUD into the uterine cavity.
- STOP when the blue depth-gauge comes in contact with the cervix or when you reach fundus (light resistance is felt)
5. Release Arms of Cu-IUC
- Hold the tenaculum and white plunger rod stationary, while partially withdrawing the insertion tube.
- This releases the arm.

Arms are down when inside inserter. Withdrawing tube while holding inserter still allows arms to pop up and out. Unlike Mirena, this is done at fundus because arms swing lateral and up.

6. Gently push insertion tube to position IUD at fundus
- Gently push the insertion tube up until you feel a slight resistance.
- Hold the white plunger rod stationary.
- This step ensures placement high in the uterus.

7. Withdraw Inserter
- Gently and slowly withdraw the inserter tube and white insertion rod from the cervical canal until strings can be seen protruding from the cervical opening.
- Carefully trim strings to 3 cm using long scissors.

Levonorgestrel IUS insertion
1. Pull on the nylon strings until the arms of the IUD are inside the insertion tube.

2. Position the flange to the length as measured by the sound.

3. Insert the IUD and tube until the flange is 1-2 cm from cervical os.

4. Release IUD arms by pulling back on the blue tab to the white marker. Count to 10 to allow arms to fully extend. Initially, arms are straight up and then open laterally. Need space for this to occur, which is why you need to be 1-2 cm below the fundus.
5. Push the IUD to the fundus (flange at the os.

The device has “memory” and if it has been inside the inserter too long, the arms tend to stay upright instead of bending laterally. Counting to 10 gives time for them to bend laterally and stay that way (prevents inadvertent removal of device as you withdraw inserter).

6. Release the IUD by pulling the blue tab all the way back

7. Withdraw inserter and cut strings to 3cm with long scissors

10:00AM – ETG Implant Insertion & Removal
Steps to Implant Insertion

1. Position patient, with her non-dominant arm flexed at the elbow.
2. Identify the insertion site (8-10 cm above the medial epicondyle of the humerus).
3. Clean the area with betadine.
4. Anesthetize the insertion area with 1% lidocaine.
5. Stretch the skin around the insertion site with thumb and index finger.
6. Puncture the skin with the tip of the needle slightly angled less than 30°.
7. Lower the applicator to a horizontal position. While lifting the skin with the tip of the applicator, slide the needle to its full length.
8. Move the slider fully back until it stops. The implant is now in its final subdermal position.
9. Palpate implant to verify the presence immediately after insertion.
10. Place bandage over the insertion site. Have the woman palpate the implant.
11. Apply a pressure bandage with sterile gauze to minimize bruising.

Implant Removal Supplies

- Betadine swabs
- Local anesthetic
- Scalpel
- Sterile gloves
- Mosquito clamps
- Steri-strips
- Bandage
- Gauze for arm
**Implant Localization**

- If unable to palpate the implant prior to removal, do not attempt removal.
- Localize with ultrasound or MRI.
- Consider referral to local expert for removal.
- Attempt removal only after localization and depth have been confirmed by ultrasound/MRI.
- Nexplanon is radiopaque and can be located by x-ray or computed tomographic scan, but Nexplanon can.

**Implant Removal**

- Rule out allergies, anesthetize the arm (i.e. with 0.5 to 1 cc 1% lidocaine) at the site where the incision will be made (near the tip of the implant that is closest to the elbow).
- Strive to inject the local anesthetic under the implant to keep the implant close to the skin surface.

**Uterine Aspiration**

- Safe way of removing uterine contents.
- Can be used for endometrial biopsy, early pregnancy loss, abortion, and management of septic abortion.
- Highly effective.
- Can be done in outpatient / ED setting.
- There is generally no need to do sharp curettage after.
**Insertion of IUD with local anesthesia**

- Mody SK et al (2012): no significant difference in pain score with insertion or post-procedure
- Cirik DA et al (2013): significant difference in median pain scores at IUD insertion and post-procedure

**Uterine Aspiration Supplies**

- Betadine
- Local anesthetic
- Dilators
- Manual uterine aspiration equipment
- Ultrasound (optional)

**First-Trimester Uterine Aspiration**

**Steps of uterine aspiration**

1. Prepare the patient - informed consent, enhance comfort, dorsal lithotomy, bimanual exam
2. Prepare the aspirator (see next slide)
3. Prepare the cervix
4. Perform the paracervical block
5. Dilate the cervix
6. Insert the cannula (size of cannula approximately number of weeks gestation)
7. Suction uterine contents
8. Perform any concurrent procedures (namely IUD insertion)
9. Check for products of conception
Preparing the aspirator

Step One: Prepare the Aspirator
- Position the plunger all the way inside the cylinder.
- Have collar stop in place with tabs in the cylinder holes.
- Push valve buttons down and forward until they lock (1).
- Pull plunger back until arms snap outward and catch on cylinder base (2).

Summary
- Strive to do more procedures in the office!
- Challenge yourself to make office procedures painless!
- Consider:
  - Non-pharmacologic approaches
  - Additional procedural strategies
  - Patient comfort
  - Instructions and technique for intrauterine, para- and intra-cervical blocks
- 0 very happy, no pain