Preventing and Managing IUD Complications

Michael Policar, MD, MPH
Clinical Professor of Ob, Gyn, RS
UCSF School of Medicine
michael.policar@ucsf.edu
Disclosures

Michael Policar

- Litigation consultant (Bayer)
Same Day IUD Placement
More Visits → Fewer Patients Receiving Method of Choice

National Clinical Training Center for Family Planning

online survey of APRNs (n=390)

Source: National Clinical Training Center: Findings from a National APRN LARC Survey. Presented at the National Family Planning and Reproductive Health Association Meeting April 19, 2016
Provider Misconceptions

- “GC and CT screening test results are necessary”
  - Routine screening not indicated
  - If indicated, can be done at time of placement
- “IUDs can be placed only with menses”
  - Anytime, if reasonably certain that not pregnant
- “Adolescents or women with multiple sexual partners are not candidates for IUD”
  - Refuted by CDC MEC and SPR
Office Practice Logistics

• “Placement adds too much time to a scheduled visit”
  – Adds no more than 5-10 minutes if each exam room is well stocked and the staff is prepared
• “Placement only at scheduled placement visits”
  – Any clinic visit is a potential placement visit
    • Well woman visit
    • Post-partum visits
    • Pregnancy test visits
    • Emergency contraception visit
    • Other concerns or complaints
Payment Barriers

• “IUD can be placed only after delivery from a PBM”
  – Keep extra insertion kits in the office
  – Replenish with the kit delivered from PBM

• “Method counseling and placement cannot be billed on the same date of service”
  – It definitely can be done...see ACOG and UCSF “Beyond the Pill” billing guides
# Choosing Which IUD

<table>
<thead>
<tr>
<th>Brand Name</th>
<th>Skyla®</th>
<th>Kyleena®</th>
<th>Mirena®</th>
<th>Liletta®</th>
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<tbody>
<tr>
<td>LNG content (mg in reservoir)</td>
<td>13.5</td>
<td>19.5</td>
<td>52</td>
<td>52</td>
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<tr>
<td>Release rate (mcg/24 hrs) -- at end of life</td>
<td>14</td>
<td>17.5</td>
<td>20</td>
<td>19.5</td>
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<tr>
<td></td>
<td>5</td>
<td>7.4</td>
<td>+/- 10</td>
<td>17, 14.8, 12.9, 11.3, 9.8</td>
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<tr>
<td>Max duration, years</td>
<td>3</td>
<td>5</td>
<td>5 (7*)</td>
<td>4 (7*)</td>
</tr>
<tr>
<td>T-frame, mm</td>
<td>28 x 30</td>
<td>28 x 30</td>
<td>32 x 32</td>
<td>32 x 32</td>
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<tr>
<td>Insertion tube diameter</td>
<td>3.80</td>
<td>3.80</td>
<td>4.40</td>
<td>4.80</td>
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<tr>
<td>String color</td>
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<td>Blue</td>
<td>Brown</td>
<td>Blue</td>
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<tr>
<td>Silver ring</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
</tr>
</tbody>
</table>

* Evidence based, but not yet FDA approved
Difficult IUD Placements
Kristin 29 year old G₀
Seen for a LNg IUD Placement

- On DMPA for the last 3 years
- LEEP for CIN 3 at age 25; negative cytology since
- Tenaculum applied, but the clinician is unable to pass a metal sound

What would you recommend?
Tenaculum Technique

1. Change the amount of traction
2. Apply traction in different direction
3. Gently hold the sound at the internal os and then wait --to allow the os to yield
4. Change the curvature of the sound (if metal)
5. Apply light pressure at various angles 360º and positions with the sound looking for an opening
   - Approach more anteriorly or posteriorly
6. Use os finder device
Os Finder Device

Cervical Os Finders (Disposable Box/25)
Cervical Os Finder Set (Reusable Set of 3)
7. Use a thinner sound (endometrial sampler)
8. Reposition the tenaculum
9. Try a shorter wider speculum (Moore-Graves)
10. Place paracervical or intracervical block
11. Dilate with small metal or plastic dilator
12. If unsuccessful, return after misoprostol 200 mg per vagina 10 hrs and 4 hrs prior to placement
Passed Through with Sound
...but not the Inserter!

1. Choke up on the inserter handle
2. Sterile lubricant on tip
3. Leave the (small) sound in the canal and come alongside the sound with the inserter
Sarah 30 year old G₃P₃
BMI 41

- Sarah is in the office for a Cu IUD placement
- Attempts to place the tenaculum are unsuccessful as the cervix keeps slipping out of view
The Elusive Cervix

- Significant uterine flexion causes cervix to be anterior or posterior
- Close partially; retract slightly; redirect
- Extreme retroversion of uterus can cause cervix to be lodged behind symphysis pubis
- Exert more pressure on posterior fornix to manipulate it into view

Obesity: Bimanual Exam

• It may be difficult or impossible to palpate the uterus or ovaries
• Place the abdominal hand UNDER the panniculus to decrease amount of adipose tissue between the hand and the uterus
• Pelvic sonogram if sounding difficult
Obesity: Have Appropriate Instruments in the Room

- Specula of varying sizes
- Ensure adequate lighting
- Tongue blades or retractors or ring forceps
  - Use closed ring forceps or tongue blade to gently push vaginal walls to the side to improve visibility
Obesity: The Right Speculum

- Too narrow—will not allow for good visualization
- Increase *width rather than length*
  - Avoid a long speculum
  - It can firmly splint the cervix in place
  - Does not allow adequate cervical mobility to straighten the canal with a tenaculum
Open the speculum blades at the base as well as the tip.
Optimize Position

• Position Sarah as far down on the exam table as possible to allow maneuvering of the speculum once in place

• Hips over the edge of the exam table drops her pelvis and cervix forward and makes visualization easier
Optimize Position

Raise her buttocks...

• Have her place her hands in a fist under her own buttocks

• Lower the head of the table

• Place a lift under her buttocks
Mary 18 Year Old G₀ P₀
“I Am So Afraid to Have This Done!”

• Will this hurt?
Outpatient Procedure Pain Relief Principles And Application

- Verbicaine
- Slow technique
- Oral sedation
- Tenaculum site local anesthetic
- Paracervical and intracervical block
- Controversies
  - Pre-insertion NSAIDs
  - Pre-insertion misoprostol
Verbicaine

- Keep her talking!
- Calm, soothing vocal tone
- Slow, easy pace

- Utilize whatever works for the patient **ASK**
  - Breathing techniques
  - Mindful mediation
  - Guided imagery
Distraction
Pain Reduction: Tenaculum

- Only click to first or second ratchet
- Close the tenaculum very, very slowly
- Close the ratchet *silently*
- Take a bite no larger than you need
- 1cc local anesthetic to tenaculum site
- Have patient cough (...hold onto the speculum)
- Don’t move the tenaculum inadvertently
- During sounding and IUD placement, don’t hook your fingers through the rings
Pain Reduction: Uterine Sound

- Touch the fundus once
  - Repeated tapping is unnecessarily uncomfortable
- Move slowly and intentionally
  - Moving too quickly increases discomfort
- If metal; bend sound to mimic uterine flexion
- Hold it like a pencil or dart; use wrist action
- Brace fingertips on speculum to achieve control of force while advancing the sound
Uterine Sound: *S-l-o-w Progression*

- Through the internal os
- *Pause once you have passed through the internal os*
- Slow intentional progression to the fundus
Non-Steroidal Anti-inflammatory Drugs

Cochrane review, 2015

- Tramadol and naproxen had some effect on reducing IUD placement pain in specific groups
- Lidocaine 2% gel, misoprostol, and most NSAIDs did not help reduce pain

• Conventional wisdom
  • Rx naproxen sodium 550 mg or Ibuprofen 800 mg
  • Helps mainly with post-placement cramping

Management of Complications
Betsy 17 year old G₀

• While having her LNg IUD placed, Betsy says “Is this going to take much longer? I really need to go to the bathroom”

• What’s going on here??
• She recalls after the fact that she had a fainting spell after her HPV immunization
• She had told her PCP about this problem...heart auscultation and an ECG were normal
Vasovagal Response, Episode Or Attack
AKA: Non-cardiogenic Syncope

• Mechanism
  – Starts with peripheral vasodilation
  – Bradycardia + drop in B/P

• More likely with
  • Pain with cervical manipulation
  • Previous episodes of vaso-vagal fainting
  • Dehydration or NPO

Presyncopal Symptoms

- Weakness/light-headedness
- Visual blurring/tunnel vision
- Nausea
- Feeling warm or cold
- Sudden need to go to the bathroom
- Tinnitus

Presyncopal Signs

• Facial pallor (distinct green hue)
• Yawning
• Pupillary dilatation
• Nervousness
• Diaphoresis
• Slurred or confused speech

Vasovagal Prevention

• Good hydration (electrolyte/ sports drink)
• Eat before placement
• Prophylactically contract muscles if known history

How to Abort a Vasovagal

• Isometric contractions of the extremities
• Intense gripping of the arm, hand, leg and foot muscles
• No need to bring the legs together or change position—just tense the muscles
• These contractions push blood back into the center of the body
• ....and abort the reflex
Jennifer 39 year old G₂ P₂
“What Was That Pain?”

- 6 wk post-partum visit (NSVD)...wants copper IUD
- Lactating, no longer bleeding
- Exam: 8-9 week size uterus; firm, non-tender
- During sounding, moderate resistance at the internal os...then sounded to 14 cm.
- She complained of pain only during the initial part of the sounding procedure
- What would you do at this point?
Uterine Perforation

• More likely to occur in relation to
  – Posterior uterine position
  – Post-partum placement, esp. in lactating women
  – Skill/experience of provider
• Typical location is midline at uterine fundus...if so, perforation often is asymptomatic, benign
• Suspect if sounding is much deeper than expected or if ↑ resistance followed by none at fundus
• Can be confirmed by real-time office ultrasound
Management of Uterine Perforation

- If *before* deployment of IUD, stop procedure
- If *during* placement of IUD, remove IUD
- Monitor for 30 min for excessive bleeding, pain
- Provide alternative method of contraception
- Can place another device after next menses
Prevention of Uterine Perforation

- Careful assessment of uterine position
- Exert adequate traction with the tenaculum to straighten the axis of the cervical canal
- Careful hand positioning when using the sound and the inserter
- Consider using a plastic sound
- Avoid excessive force during sounding and placement
- Do not use the white stabilizing rod as a plunger during placement of a copper IUD
Prevention of Uterine Perforation

• Place cervical block and dilate cervix if resistance is encountered

• Don’t use inserter to sound; open IUD package only after sounding is completed
Missing IUD String...Possibilities

1. IUD in-situ
   - String coiled in canal or endometrial cavity
   - String short, broken, or severed

2. Unnoticed expulsion

3. Intrauterine pregnancy
Missing String...Possibilities

Malpositioning of the IUD, following perforation

4. *Embedment* into the myometrium

5. *Translocation* into the abdomen or pelvis

• The perforation is not the problem; the abnormal position of the IUD is!
Missing String: In situ Placement

• Desires retention
  – Leave in place for remainder of IUD lifespan
  – Option: annual pelvic ultrasound *in lieu* of string check

• Desires removal
  – Attempt extraction as office procedure
**Missing String: Expulsion**

- Unnoticed expulsion may present with pregnancy
- Partial expulsion may present with
  - Pelvic pain, cramps, intermenstrual bleeding
  - IUD string longer than previously
Missing String: Expulsion

- Occurs in 2-10% IUD insertions within first year
- Risk of expulsion related to
  - Provider’s skill at fundal placement
  - Age, parity, uterine configuration
  - Time since insertion (↑ within 6 mos)
  - Timing of insertion (menses, postpartum, post-abortion)
Missing String: Pregnancy With IUD

• Determine site of pregnancy (IUP or ectopic)
• If termination planned, await TAB to avoid triggering spontaneous abortion (SAB)
• If continuing IUP and strings are not visible, do not attempt removal
  – Increase surveillance for SAB, pre-term birth
  – No greater risk of birth defects, since IUD is outside of the amniotic sac
• Translocation
  – Since copper IUD may cause more adhesions, must extract promptly via laparoscopy
  – LNG-IUS is less reactive, but most experts recommend laparoscopic removal
Embedment

- Diagnosed on imaging (3-D ultrasound or pelvic CT) or failed attempt at extraction
- Remove when diagnosed, as embedment may progress to translocation
- Advanced imaging is critical, as it is used to direct treatment to hysteroscopy, laparoscopy, or laparotomy
Why Do CT or 3-D Ultrasound?

A: Hysteroscopy
B: Laparotomy
C: Laparoscopy
D₁: Laparoscopy
D₂: Hysteroscopy
Missing String: With Office Ultrasound

- No IUD string in canal
- Pregnancy test negative
- Office ultrasound (UTZ)

Desires removal

- Extract + guidance
  - Extracted
  - Embedded
    - 3D-UTZ or CT with contrast

Desires retention

- Leave In Situ
  - Not found
  - Translocated
    - Hysteroscopy
    - Laparoscopy
      - Present
        - "Formal" UTZ
          - Absent
          - Expelled
        - Embedded?
          - Present
            - 3D-UTZ or CT with contrast
          - Absent
Missing String: No Office Ultrasound

- No IUD string in canal
- Pregnancy test negative

Desires removal

- Attempt extraction
  - Extracted
  - Embedded
    - 3D-UTZ or CT with contrast
    - Hysteroscopic or laparoscopic extraction

Desires retention

- Desires retention
  - Ultrasound
    - In Situ
    - Absent
  - KUB
    - Absent
    - Present

OR

- Absent
  - KUB
    - Absent
    - Present
  - Ultrasound
    - In Situ
    - Absent
    - Expelled
    - Translocated

Translocated

Expelled

In Situ
Extraction of IUD in-situ

1. Consent for uterine instrumentation procedure
2. Bimanual exam
3. Probe for strings in cervical canal
4. Apply tenaculum
5. Administer cervical block
6. Choose extraction device
   - Patterson alligator forceps
   - Emmett Thread Retriever
   - Ring IUD: crochet hook or 4-6 mm suction curette
Emmett Thread Retriever
Thread Retriever
Fulcrum 1 cm from the tip of the device

Opened and closed completely within the uterine cavity

No cervical dilation necessary

Extraction of IUD in-situ

7. Intrauterine exploration for a T-shaped IUD
   − Real-time ultrasound guidance may help
   − Gently open/ close/quarter turn forceps at progressive depths until “purchase” of stem or arm

8. Maneuver hook along anterior, then posterior, uterine wall from fundus to canal

9. If embedment suspected, consider evaluation with 3-D ultrasound or pelvic CT with contrast
   − Extract via operative hysteroscopy or laparoscopy
Additional measures, as indicated

• Pain management
  – Cervical block + oral NSAIDs for pain
  – Conscious sedation

• Cervical dilation
  – Osmotic dilator
  – Rigid dilators
  – Misoprostol *may* facilitate IUD extraction
IUD Removal in Menopausal Women

- Strings seen: remove
- No strings visible...weigh risks
  - Hazards of continuation (post-menopausal bleeding, ? pelvic actinomycosis)
  - Hazards of removal (pain, perforation)
- Tail-less IUD (e.g., Chinese stainless steel coil ring) should not be removed unless she requests it
Thank you!

Questions??
References

References


• Darney PD. Etonogestrel contraceptive implant [www.uptodate.com](http://www.uptodate.com)

• Dean G, Goldberg AB. Management of problems related to intrauterine contraception. [www.uptodate.com](http://www.uptodate.com)

References


References


• Hagemann, C., Heinemann, K., Moehner, S., Reed, S., Unwanted pregnancies among women using intrauterine devices: final results from the Euras-IUD 5-Year Study. *Contraception*, 94(4), 416.


References

References


• NEXPLANON® (etonogestrel implant) Full prescribing information. Merck Revised: 07/2014

References


References


References


References: Counseling

- ACOG Committee Opinion: Motivational Interviewing: A Tool for behavior Change; 423; Jan 2009.
References: Counseling


- Madden T, et al. Structured contraceptive counseling provided by the Contraceptive CHOICE Project. *Contraception. 2013 August; 88*(2);243-249.
References: Counseling

References: Counseling