Long-Acting Reversible Contraception UPDATE 2024

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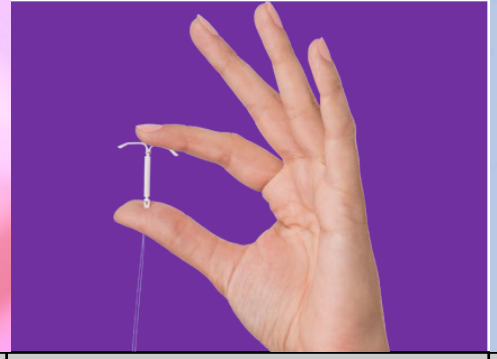
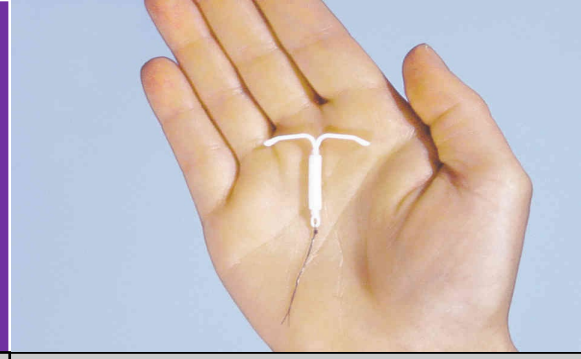
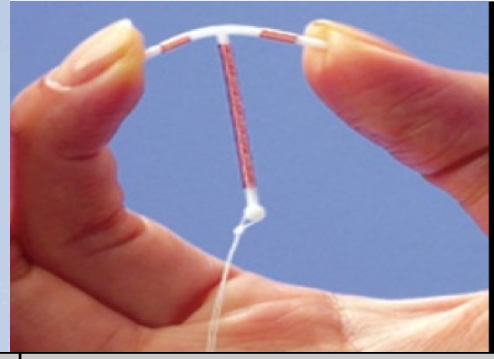
Disclosures

- We have an investigator-initiated grant from Organon on the impact of policy change on contraceptive access
- I lead an expert panel on Complicated Implant removals in Oct 2023 for Organon
- I am on the ACOG Contraceptive Equity Expert Group, am the ACOG District VII Contraceptive Access Committee Chair, Am and ABOG certifying examiner, I travel to meetings on stipends for these positions
- We may discuss off-label use of devices or medication

Learning Objectives

At the end of the presentation, learners should be able to:

1. Name the LARC types and common side effect profiles
2. Discuss management of common IUD complications
3. Discuss management of common IUD side effects
4. Discuss management of common Implant side effects

				
Trade Name/ Generic	**SKYLA** (13.5mg LNG-IUD)	**KYLEENA** (19.5 mg LNG-IUD)	**MIRENA/LILETTA** (52mg LNG-IUD)	**PARAGARD** (Copper T380A IUD)
Size	**28x30mm**	**28x30mm**	32x32mm	32x36mm
FDA-approved use	3 years	5 years	8 years	10 years
	>99% effective			
Daily hormone release	Initially releases 14mcg/day levonorgestrel → 5mcg/day (3 yrs)	Initially releases 17.5mcg/day levonorgestrel → 7.4mcg/day (5 yrs)	Initially releases 20mcg/day levonorgestrel → 10mcg/day (5 yrs)	No hormone
Mechanism of action	Thickens cervical mucus Thins endometrial lining Impairs sperm function Incomplete ovulation suppression (0-55%)			Impairs sperm function Change in ovum transport speed

Etonogestrel Contraceptive Implant: Nexplanon ®

- >99% effective (3-5 years)
  - Current FDA approval 3 yrs
  - Application submitted for 5 yrs
- 68 mg etonogestrel with 40 mcg/day
- MOA: ovulation inhibition & cervical mucus thickening
- Limited data in women >130% ideal body weight

Side effects of LNG-IUD

	Mirena/ Liletta (52mg)	Kyleena (19.5mg)	Skyla (13.5mg)
Bleeding pattern for first 3-6 months	Unpredictable with frequent light bleeding	Increased amount of bleeding and irregular spotting	Increased amount of bleeding and irregular spotting
Common bleeding pattern	Dramatically decreases bleeding; 80% reduction at 3 months and 90% at 6 months	Irregular bleeding decreases; typically cyclic menses with lighter flow	Irregular bleeding decreases; typically cyclic menses with lighter flow
% Amenorrheic	1 year: 20% 3 years: 40%	1 year: 12% 5 years: 23%	1 year: 6% 3 years: 12%
Other side effects	• Pain/cramping • Vulvovaginitis • Benign ovarian cysts	• Headache • Acne • Breast discomfort	

Which IUD to use?

	LNG-IUD	Copper IUD
Efficacy	>99%	>99%
Duration	3-8 years	10-12 years
Mean MBL	5ml	50-80ml
Irregular bleeding	First 3-6 months	Uncommon
Amenorrhea	20% at 1 year	NO – can cause heavier bleeding and longer menses
Return to Fertility	Rapid	Rapid
Use as EC	No*	Yes
Inhibits ovulation	Yes – 30%	NO

*52mg LNG IUD under study/early reports + for EC

IUD counseling

- Very few medical contraindications
- Bleeding pattern changes
- Cramping – increased with copper IUD > LNG IUD
- Requires provider for insertion/removal
  - ***Pain with insertion***
- **Uterine Perforation:** up to 1/1000
- **Expulsion:** 2-10%
- **Ectopic Pregnancy:** decreased *risk*, increased *proportion*
- **Infection:** <1% risk; ONLY up to 20 days post-insertion increased

ACOG Committee Opinion No 672 (2016, reaffirmed 2018)

Pain at IUD insertion

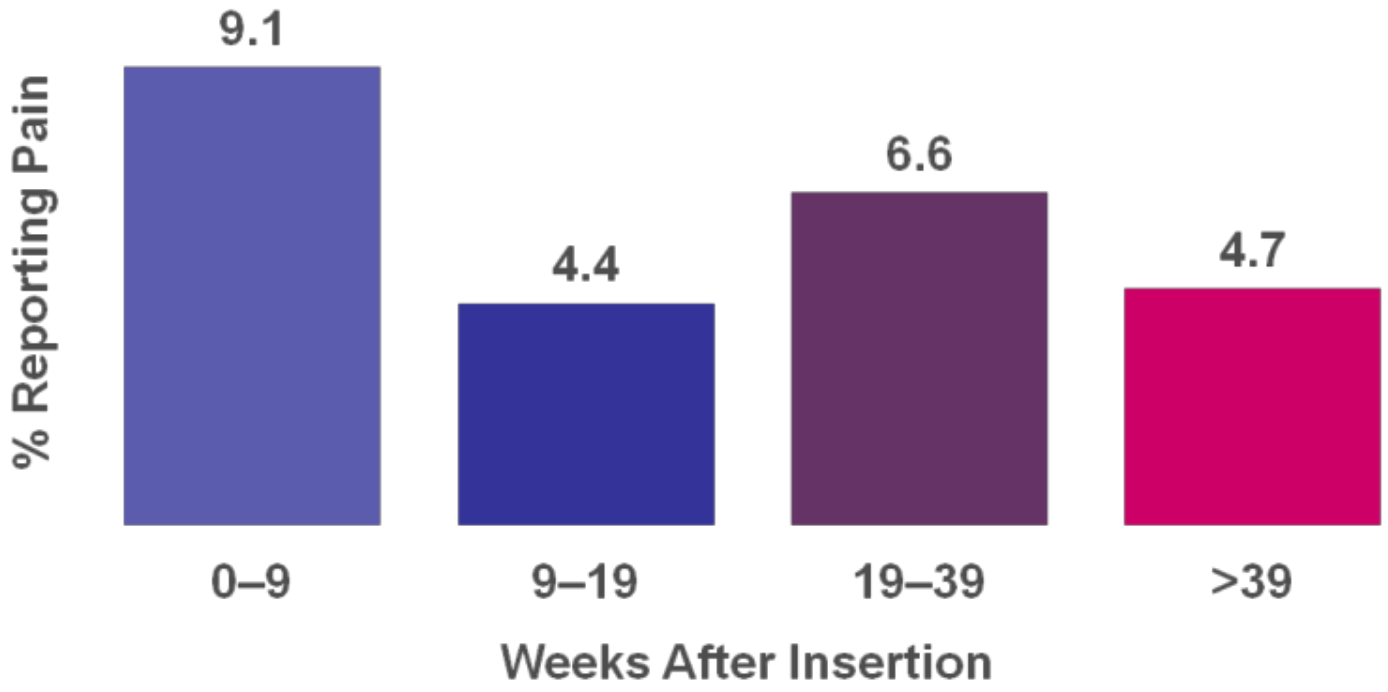
- Cramping/Pain common at IUD insertion
- No clear treatment to improve cramping
- Naproxen 500mg may improve insertion-related pain
- Lidocaine at tenaculum site may improve pain with tenaculum
- Some may benefit from paracervical block, but inconsistent results
- NO evidence for routine use of misoprostol with insertion

social media and other medical professionals are calling OBGYNS out for this

Management of Cramping

- Mild: common in 1st 3-6 months after insertion
  - Ibuprofen 800mg PO every 8 hours
  - Naproxen 500mg PO x 1 then 250mg q6-8h
  - Start 24-48hrs before menses and continue through cycle
  - Supportive measures – heating pad, hot bath
- Severe or prolonged:
  - Examine for partial expulsion, perforation, pregnancy, or PID
  - Remove IUD if severe cramping is unrelated to menses or unacceptable to patient
  - If copper IUD, offer switch to LNG IUD
  - If large LNG IUD, consider switch to smaller

Pain Decreases with Time After Insertion



% reporting severe pain in study of ~2,000 users after insertion of Copper T IUD

Hubacher D et al. Contraception. 2009.

Managing Heavy Bleeding with the Copper T IUD

- Menstrual blood loss may increase by 25-55%
- Heavy bleeding may lessen over time - worse in 1st year of use
- If heavy bleeding lasts >6 months or recurs:
  - Evaluate for partial expulsion, pregnancy, infection, fibroids, precancer/cancer of cervix or endometrium
  - Treat anemia +/- consult with clinician to eval for removal, as indicated
  - Prescribe NSAIDs
- If bleeding cannot be managed or is unacceptable to patient, consider removal/replacement with LNG IUD

ARHP website. 2004. Jensen and Creinin, Clinical Guide to Contraception, 2020.

Bleeding with LNG IUD

- Menstrual irregularities common LNG IUD
  - Initial increase in bleeding days in first 3-6 months of use[1]
  - Usually followed by decrease in bleeding days & irregular bleeding patterns[1]
  - 20-55% *amenorrhea* by the end of first year (52mg LNG IUD)[2,3]
  - Generally, not a safety concern
  - Up to 23% of users will discontinue within 3 years due to bleeding[3]
- Discontinuation for bleeding lower for LNG IUD than Copper-T IUD
- Evaluate PID, partial expulsion especially if heavy bleeding + cramping

[1] Maldonado et al., 2020; [2] Sergison et al., 2019; [3] Costescu et al., 2022

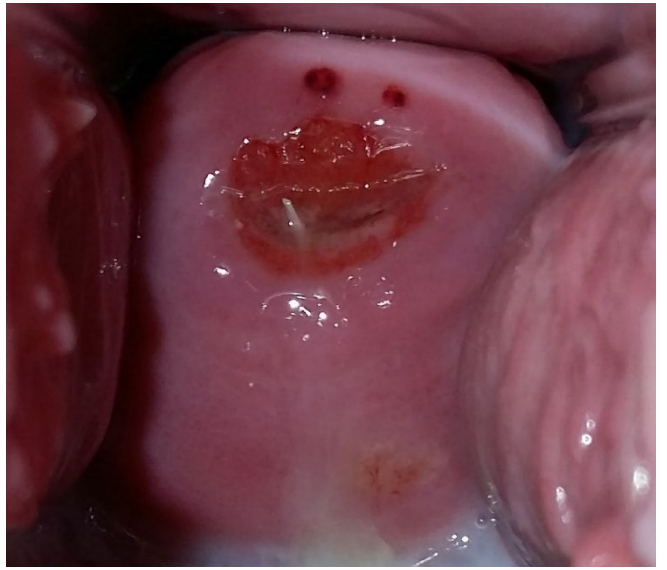
IUD String Check.. To do or not to do…

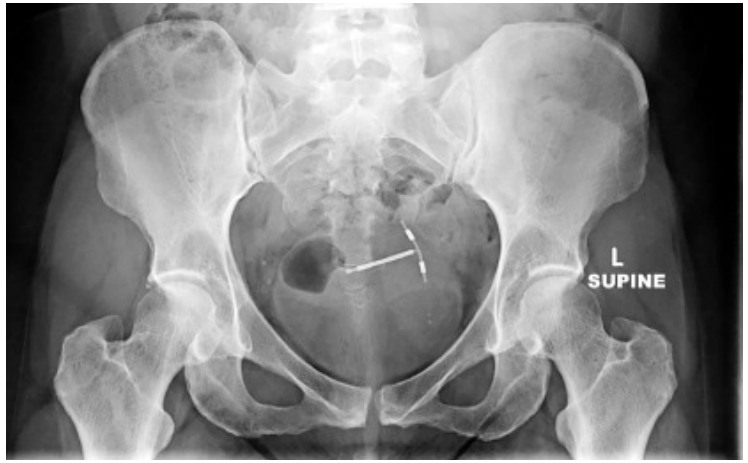
- Not **routinely** needed
- If placed IPP, recommend confirming location/position
- Better to counsel on signs/symptoms of expulsion or other complications
  - Risk of unnoticed expulsion ~0.1% (maybe higher IPP)

- IUD surveillance is a billable visit
- Remind patients to have string “check” at routine visits
- Visit can be scheduled for satisfaction check (3 mo vs 6 wks)

Missing threads

- Most common reason = strings in cervical canal
  - Uncommon: pregnancy, perforation, expulsion (1.2%)
- Attempt to pull down with cytobrush
- In unsuccessful, attempt to localize IUD with U/S
  - Check and document PREGNANCY TEST
  - Provide backup method until IUD located
  - If intrauterine, may keep if pt desires
- If not identified on USG→pelvic and abdominal x-ray
  - If intra-abdominal, refer for surgical removal
  - If not seen on x-ray, presume expulsion
- If expulsion has occurred, may replace
  - 30% chance of recurrence
  - Consider USG guided insertion





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Management of Perforation at Insertion

Many perforations are asymptomatic

If perforation occurs and recognized at time of insertion:

- If occurs with sounding, do not place device
- Remove device if deployed
- Provide alternative contraception
- Monitor for excessive bleeding
- Follow up as appropriate
- Can insert another device after 2-6 weeks
  - Consider Abx
  - Consider USG guidance

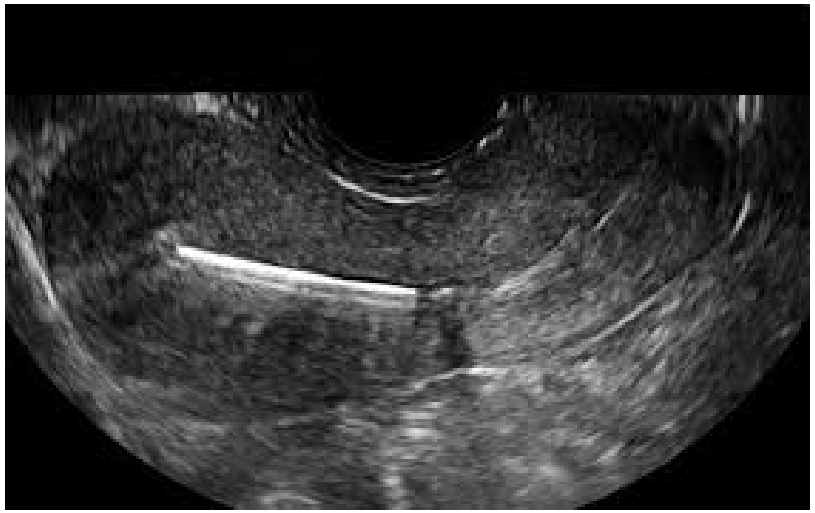
Jensen and Creinen, Speroff and Darney's Clinical Guide to Contraception, 6th edition, 2020.

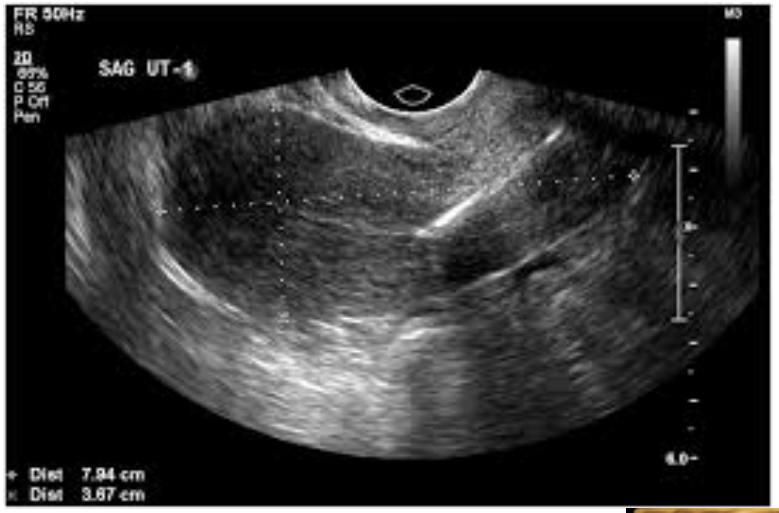
Expulsions

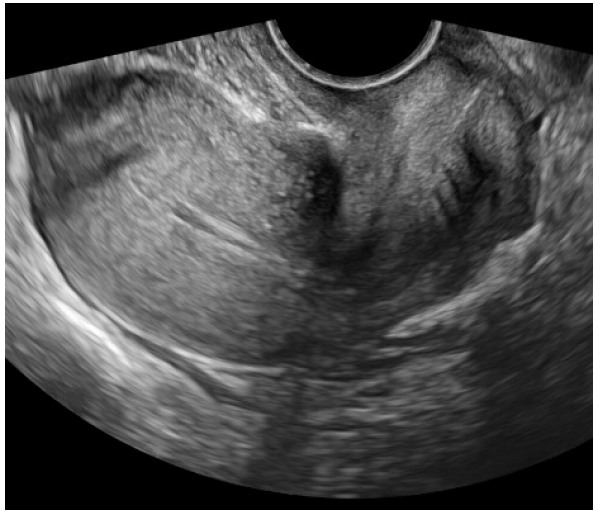
- Partial or unnoticed expulsion may present as irregular bleeding and/or pregnancy
    - If IUD palpated or seen at os, should be removed
- Risk of expulsion related to:
    - Provider's skill at fundal placement
    - Age and parity of woman
    - Time since insertion
    - Timing of insertion (immediate postplacental, post-abortion 2nd tri)
    - If postplacental, vaginal > post-cesarean section

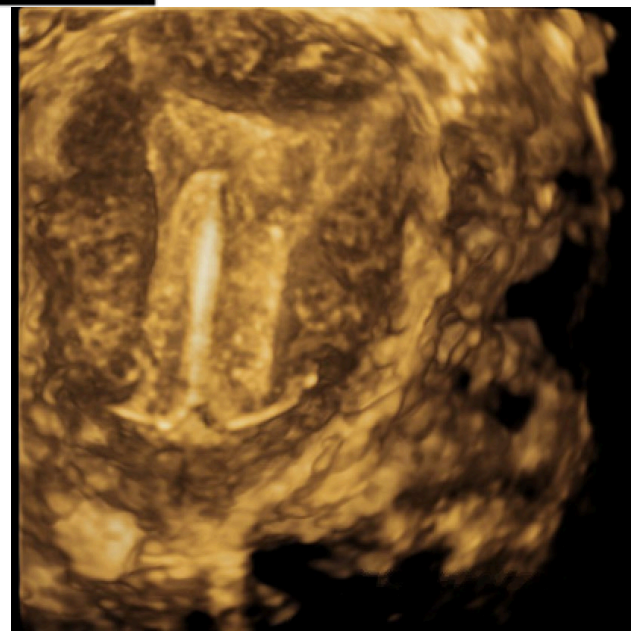
WHO. 2009.; CDC *MMWR*. 2016

Malpositioned IUDs



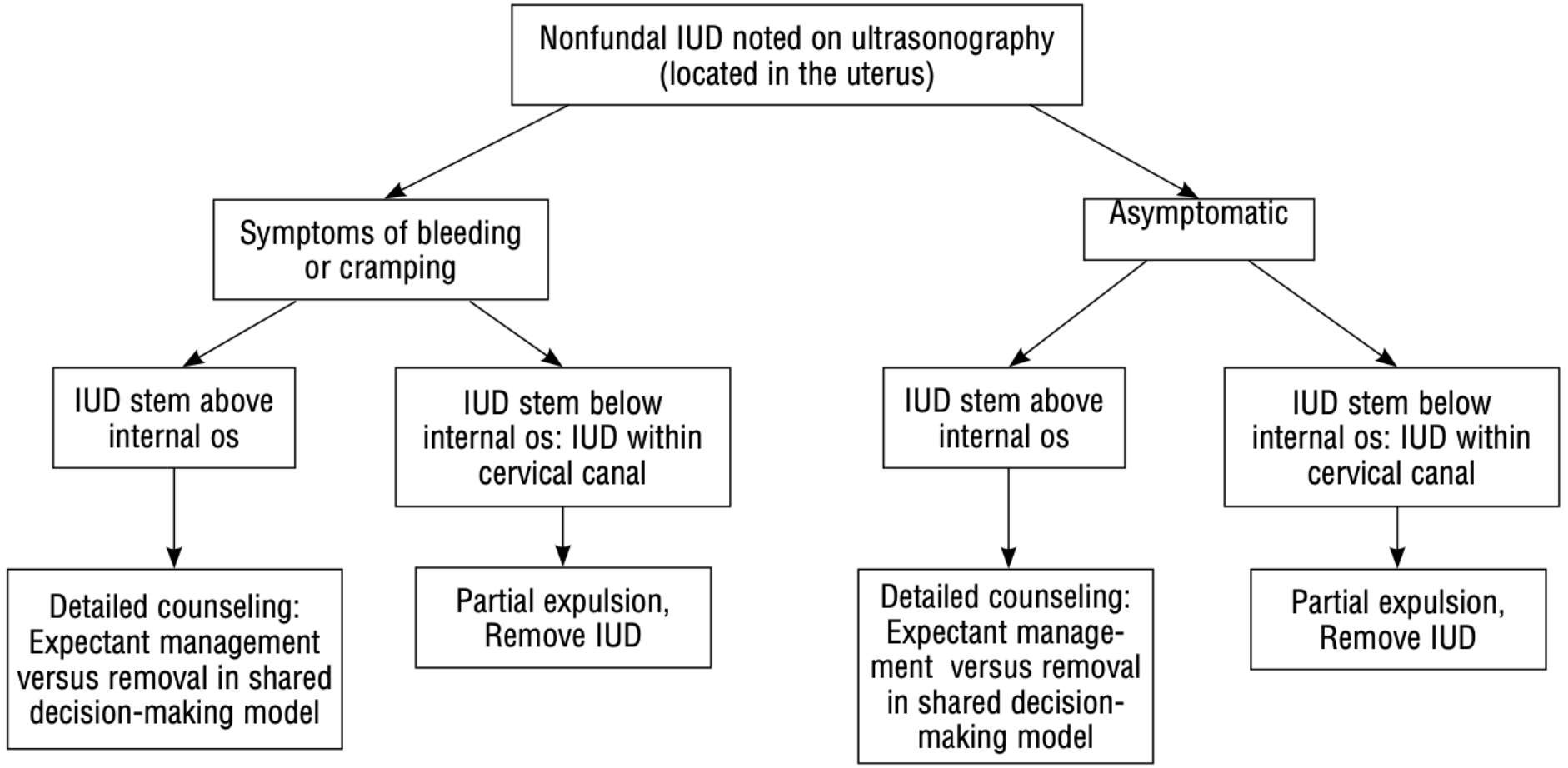






10% of IUDs incidentally found to be malpositioned

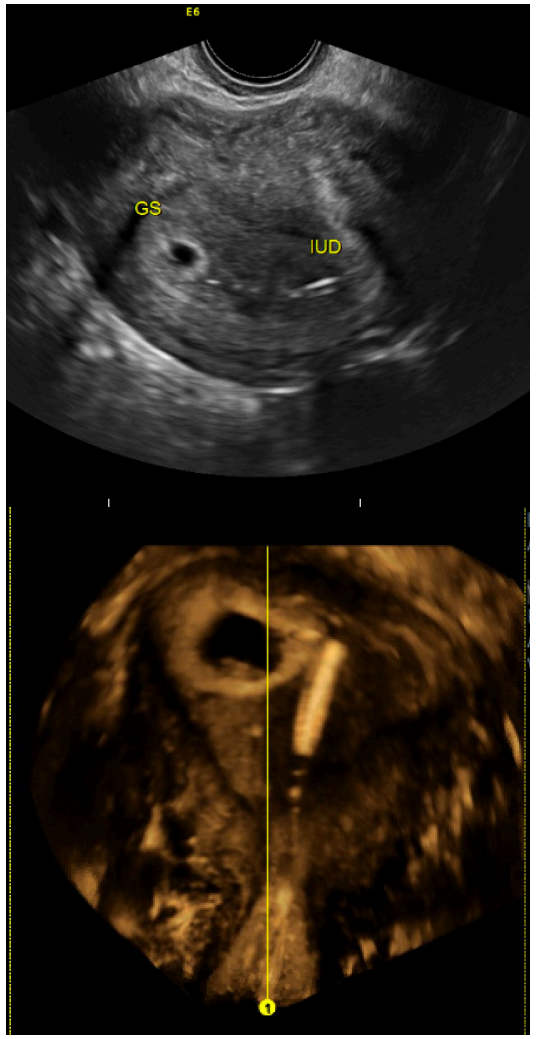
Non-fundal IUDs



ACOG Committee Opinion No 672 (2016, reaffirmed 2018)

IUD complication- Pregnancy

- R/O ectopic pregnancy
  - ultrasound
- Guidance (if you feel comfortable and after patient centered counseling) :
  - Pull IUD if strings are visible or easily retrievable from cervix
    - Increased risk of miscarriage at time of removal
    - Increased risk of spontaneous miscarriage, infection, abruption, PTB if left in place – ACOG recommends removal even if pt desires pregnancy



US 5 week gestation

3-D US 7 week gestation

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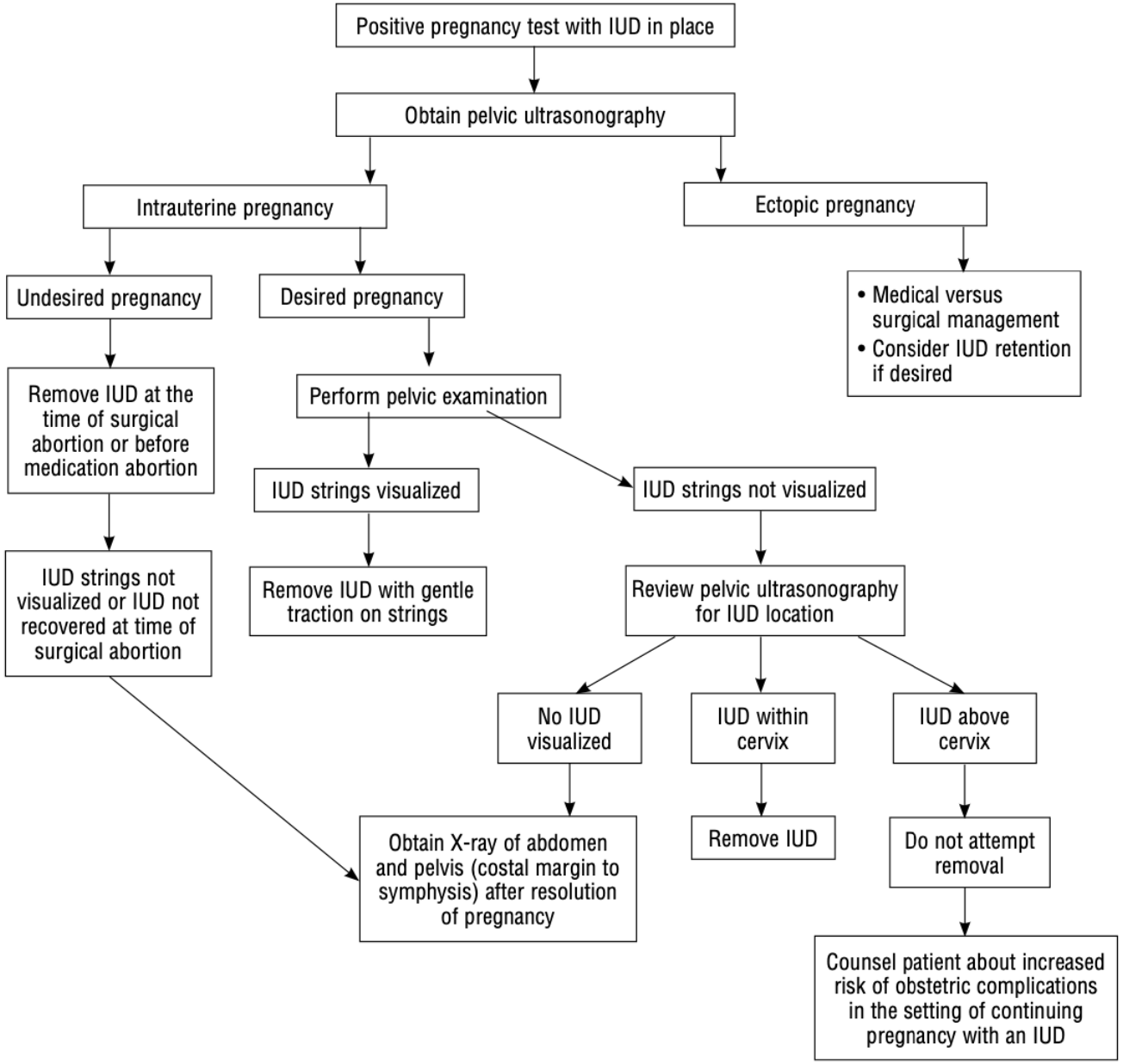
ACOG Algorithm for Positive Pregnancy Test with IUD in Situ



ACOG Committee Opinion No 672 (2016, reaffirmed 2018)

Management of STIs

Testing for STI at time of placement per CDC guidelines

No need for routine antibiotic prophylaxis at insertion

- Low risk of PID overall (0.2-0.5%)

Do not place if ***known*** cervicitis, chlamydia, gonorrhea!

- Increased risk PID (highest risk in first 20 days)

If STI diagnosed post-placement

- Treat per CDC guidelines
- Removal **not** necessary

• Counsel patient about prevention of STI transmission

CDC, Selected Practice Recommendations for Contraceptive Use. 2016; Hatcher et al., Contraceptive Technology, 21st ed., 2018.

- Contraceptive implant

Implant side effects

• Unfavorable bleeding	20-30%
• Headache	15.5%
• Acne	12%
• Weight increase*	11.8%
• Breast pain	10.2%
• Emotional lability	5.8%
• Abdominal pain	5.2%

*After adjusting for confounders, no difference in weight gain for implant vs. copper IUD users

Hatcher et al., Contraceptive Technology, 21st edition, 2018.

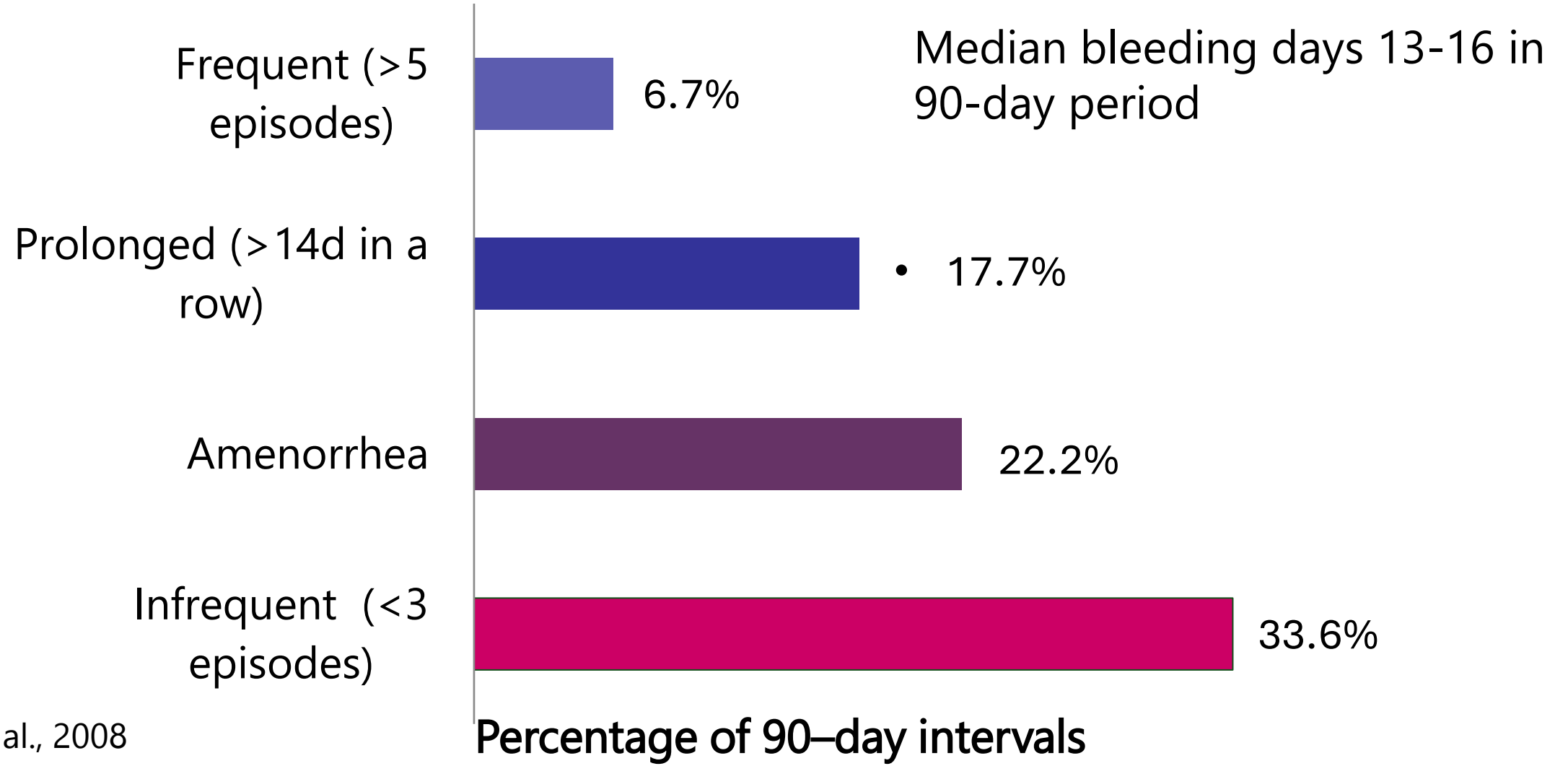
Discontinuation Rates

Bleeding irregularities *	10.4%	*(98/942)*
Weight gain	2.3%	*(22/942)*
Emotional lability	2.3%	*(22/942)*
Headache	1.6%	*(15/942)*
Acne	1.3%	*(12/942)*
Depression	1.0%	*(9/942)*

* includes frequent, heavy, prolonged, spotting and other patterns of bleeding irregularity

Blumenthal 2008

Bleeding Patterns with Implant
First 2 Years



Mansour et al., 2008

Treatment for bleeding with implant

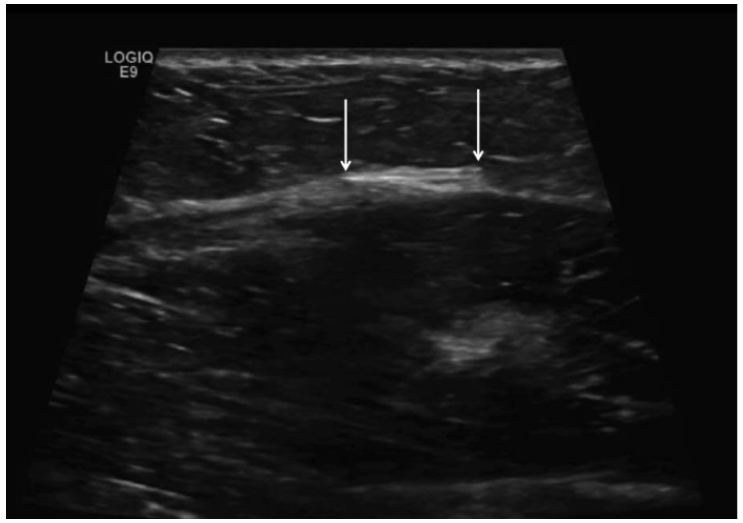
- Evaluate for treatable cause such as STI/PID, uterine fibroid/polyp
- If patient desires to trial treatment:
- Trial of NSAIDs for 5-7 days **OR**
- If able to use estrogen-containing methods:
- Combined COCs
- Estrogen (consider conjugated equine estrogen 0.625 mg PO daily or estradiol 0.5mg PO daily) up to 4 times daily for 10-20 days
- Doxycycline 100mg BID X 7 days
- Bleeding likely to resume after medication is stopped
- A patient may extend use of NSAIDs or COCs if desired
- If bleeding is unacceptable to patient at anytime, counsel on alternate methods and provide referral for removal

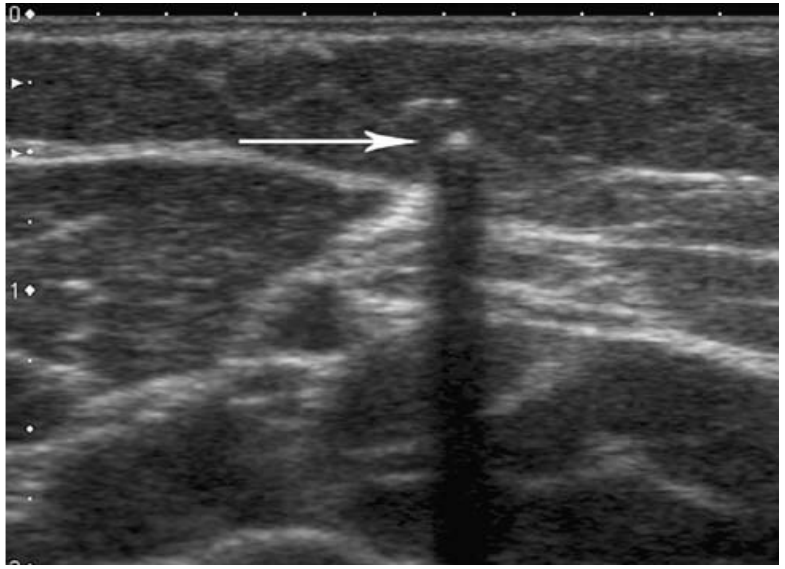
- Non-palpable or deep implant

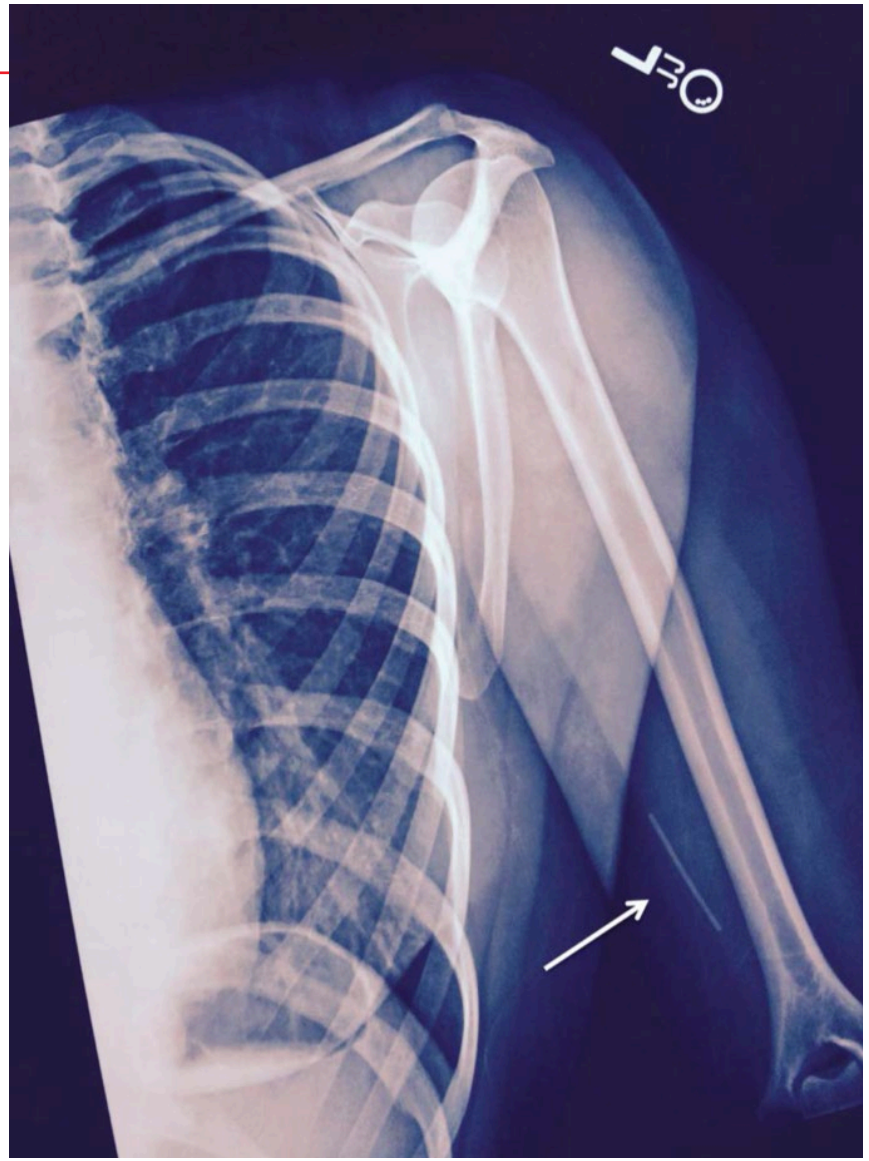
Non-palpable contraceptive implant

- Exclude pregnancy
  - Provide backup contraception
  - Evaluate for EC need
- Refer for US or X-ray
  - X-ray only if Nexplanon
  - US requires > 10mHz transducer
- Measure serum etonogestrel level if not visualized on imaging
  - Needs to be sent to company
- Do Not attempt removal until implant localized

Visualizing a deep Implant







ACOG Algorithm for Non-Palpable Implant

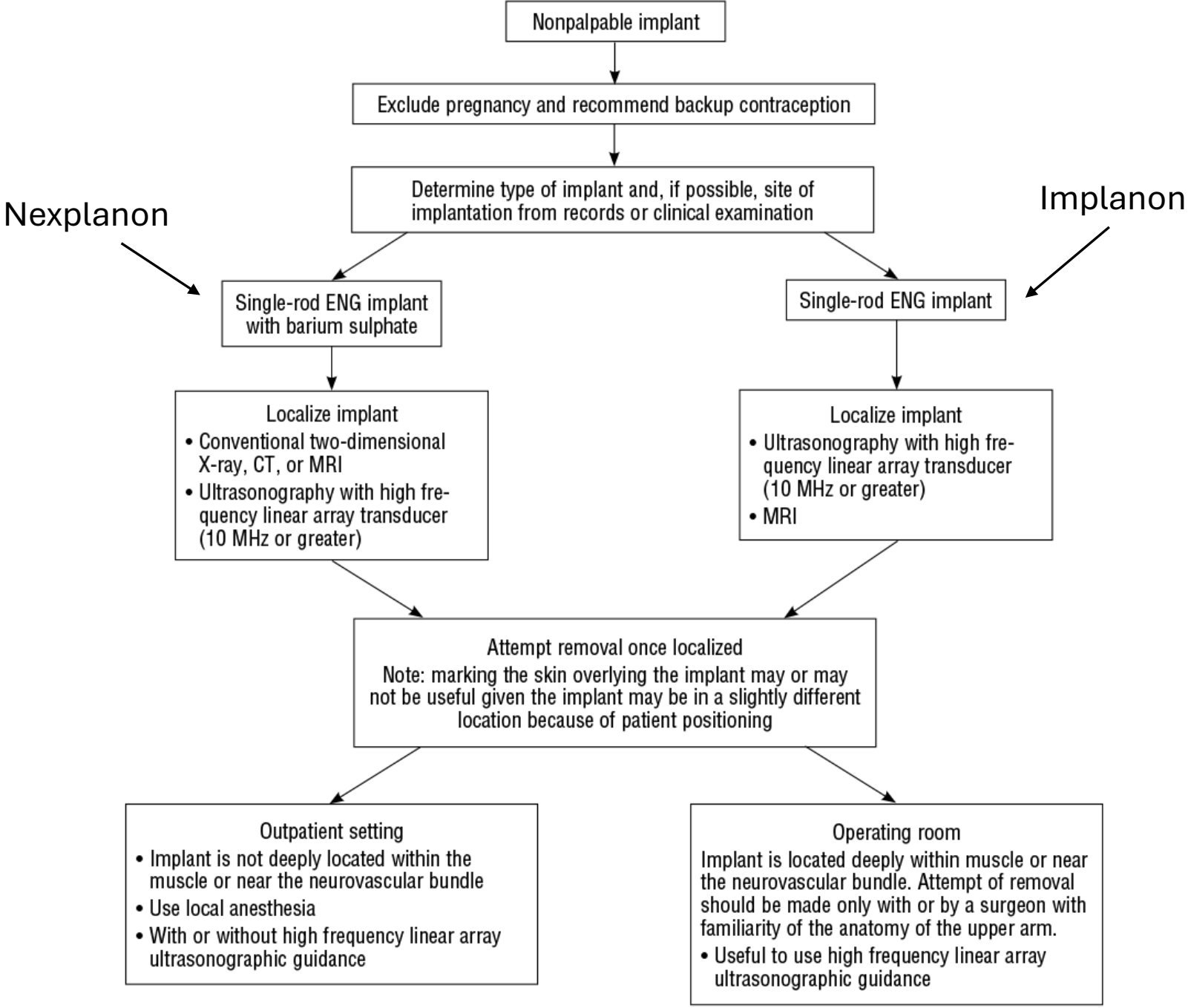


Figure 5. Management of nonpalpable implant. Abbreviations: CT, computed tomography; ENG, etonogestrel; MRI, magnetic resonance imaging. ⇦

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Summary – IUDs

- IUDs are safe and effective with few serious complications
- Pain on insertion can be managed and should be addressed
- IUD heavy bleeding (Cu+) and cramping (Cu+ or LNG) can be managed with NSAIDs
    - Ensure no other serious complication or expulsion
- Most common cause of missing strings is displacement in cervical canal, but need to consider malposition, perforation, expulsion, when in doubt USG
- For positive pregnancy test with IUD:
    - Rule out ectopic pregnancy
    - Localize IUD
    - Recommend/refer for IUD removal if strings easily visible
- Treatment of infection usually can occur with IUD in situ

Summary – Issues with Contraceptive implant

- Contraceptive implant is the most effective method and overall well-tolerated
- Bleeding irregularities are most common complaint
    - May persist overtime even after 6 months of use
    - Early bleeding pattern predicts later (un)favorable bleeding patterns
        - If initially unfavorable bleeding pattern, ~50% chance of improvement in next 90 days
- Treatment for bleeding can be offered, but bleeding likely to return after tx
    - NSAIDs
    - Doxy
    - COCs or estrogen if candidate for hormonal methods
- Refer for implant removal at anytime if patient desires to discontinue
- If implant not palpable, localize with US or X-ray before referral/removal

Questions?

Thank you Megan Cohen, MD, MPH for the use of many of these slides

References

- ACOG Committee Opinion No 672 (2016, reaffirmed 2018))
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