Intrauterine Devices 101

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Disclosures and credits

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After this session attendees should be able to

1. Discuss the IUDs available on the U.S. market and their characteristic differences
2. Identify appropriate resources to determine if a patient is an appropriate IUD candidate
3. Describe proper IUD insertion technique
4. Discuss the management of common IUD problems or concerns.
In the audience…

- Administrators
- Clinicians
- Inserted IUDs in the past
- Current providers
- Other
### ACHA Pap/STI Survey 2015

<table>
<thead>
<tr>
<th>Service</th>
<th>Prescription</th>
<th>Dispensation</th>
<th>Administration/Insertion</th>
<th>Refer to outside Provider</th>
</tr>
</thead>
<tbody>
<tr>
<td>Contraceptive Patch</td>
<td>86.7% (124)</td>
<td>30.7% (35)</td>
<td>7.1% (6)</td>
<td>33.7% (28)</td>
</tr>
<tr>
<td></td>
<td>N = 143</td>
<td>N = 114</td>
<td>N = 85</td>
<td>N = 83</td>
</tr>
<tr>
<td>Contraceptive Ring</td>
<td>95.8% (138)</td>
<td>54.2% (65)</td>
<td>27.1% (23)</td>
<td>30.0% (24)</td>
</tr>
<tr>
<td></td>
<td>N = 144</td>
<td>N = 120</td>
<td>N = 85</td>
<td>N = 80</td>
</tr>
<tr>
<td>Depo Provera</td>
<td>94.2% (130)</td>
<td>63.8% (74)</td>
<td>93.1% (121)</td>
<td>34.2% (26)</td>
</tr>
<tr>
<td></td>
<td>N = 138</td>
<td>N = 116</td>
<td>N = 130</td>
<td>N = 76</td>
</tr>
<tr>
<td>Implant (Implanon or Nexplanon)</td>
<td>46.2% (55)</td>
<td>30.9% (34)</td>
<td>44.3% (54)</td>
<td>86.6% (103)</td>
</tr>
<tr>
<td></td>
<td>N = 119</td>
<td>N = 110</td>
<td>N = 122</td>
<td>N = 119</td>
</tr>
<tr>
<td>Oral contraceptives</td>
<td>97.2% (138)</td>
<td>69.8% (90)</td>
<td>20.7% (18)</td>
<td>28.6% (22)</td>
</tr>
<tr>
<td></td>
<td>N = 142</td>
<td>N = 129</td>
<td>N = 87</td>
<td>N = 77</td>
</tr>
<tr>
<td>Intrauterine device (Copper)</td>
<td>40.7% (46)</td>
<td>26.6% (29)</td>
<td>39.3% (46)</td>
<td>88.7% (110)</td>
</tr>
<tr>
<td></td>
<td>N = 113</td>
<td>N = 109</td>
<td>N = 117</td>
<td>N = 124</td>
</tr>
<tr>
<td>Intrauterine device (hormonal)</td>
<td>40.7% (46)</td>
<td>29.6% (32)</td>
<td>41.7% (40)</td>
<td>88.4% (107)</td>
</tr>
<tr>
<td></td>
<td>N = 113</td>
<td>N = 108</td>
<td>N = 115</td>
<td>N = 121</td>
</tr>
</tbody>
</table>
ACOG committee opinion 539: Adolescents and Long-Acting Reversible Contraception: Implants and Intrauterine Devices

• About 42% of adolescent females ages 15–19 in the US have had sexual intercourse.

• Implants and intrauterine devices (IUDs) should be offered as first-line contraceptive options for sexually active adolescents, according to guidelines issued in 2012.

Committee Opinion #539 “Adolescents and Long-Acting Reversible Contraception: Implants and Intrauterine Devices” was published in the October 2012 issue of Obstetrics & Gynecology.
### Advantages and Obstacles of IUDs

<table>
<thead>
<tr>
<th>Advantages</th>
<th>Obstacles</th>
</tr>
</thead>
<tbody>
<tr>
<td>• More than 99% effective in preventing pregnancy</td>
<td>• Requires a trained clinician to insert</td>
</tr>
<tr>
<td>• Easy to use, forgettable</td>
<td>• Does not protect against STIs</td>
</tr>
<tr>
<td>• Does not require partner cooperation</td>
<td>• Depending on insurance, device may have to be purchased by the practice and reimbursed by insurance</td>
</tr>
<tr>
<td>• Return to fertility with first ovulation after removal</td>
<td></td>
</tr>
<tr>
<td>• LNG-IUS: relieves menstrual cramps and bleeding</td>
<td></td>
</tr>
<tr>
<td>• CuT: can be used for emergency contraception</td>
<td></td>
</tr>
<tr>
<td>• Most cost effective method over time</td>
<td></td>
</tr>
<tr>
<td>• Available through patient assistance programs for those without insurance</td>
<td></td>
</tr>
</tbody>
</table>
LARC continuation rates are the highest of all reversible methods

Long Acting Reversible Contraception (LARC) satisfaction at 1 year

IUC Use for Adolescents

• Most are appropriate candidates
• Follow-up and side-effect monitoring are important
• Encourage use of condoms with new partners

IUCs available in US: LNG IUS

**LNG 52 IUS**
- Mirena® and Liletta™
- Release LNG 20 μg/d
- Approved use:
  - Mirena: 5 yrs
  - Liletta: 3 yrs

**LNG 13.5 IUS**
- Skyla®
- Releases LNG 14 μg/d
- Approved use: 3 yrs

Mirena® PI. 2014; Skyla® PI. 2013; Liletta™ PI. 2015.
Hot off the press: LNG-52 effectiveness for 7 years

<table>
<thead>
<tr>
<th>Pregnancy rate (per 100)</th>
<th>LNG-52</th>
<th>CuT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cumulative 7 years</td>
<td>0.5 (SE 0.2)</td>
<td>2.5 (SE 0.4)</td>
</tr>
</tbody>
</table>

Bleeding/spotting for the first year after Skyla/Mirena

A  Skyla

B  Mirena

IUC available in US: Copper-T IUD

- ParaGard™
- Copper ions
- Approved for 10 years of use; effective for up to 12
- Most effective method of emergency contraceptive

# IUC mechanism of action

<table>
<thead>
<tr>
<th>Mechanism of Action</th>
<th>Copper T IUD</th>
<th>LNG 52 IUS</th>
<th>LNG 13.5 IUS</th>
</tr>
</thead>
</table>
| Primary             | - Prevents fertilization  
                    - Reduces sperm motility and viability  
                    - Impairs oocytes  
                    - Inhibits fertilization  
                    - Causes cervical mucus to thicken  
                    - Inhibits sperm motility and function  |
| Secondary           | - Inhibits implantation  
                    | - Inhibits implantation  |

Counseling for individual preferences

<table>
<thead>
<tr>
<th>Copper T IUD</th>
<th>LNG 52 IUS</th>
<th>LNG 13.5 IUS</th>
</tr>
</thead>
</table>
| - Women who don’t want hormonal contraception  
- Women who want regular periods  
- Women seeking emergency contraception | - Women who:  
  - want less menstrual flow  
  - experience dysmenorrhea  
  - have dysfunctional uterine bleeding | - Women who want a lower-dose LNG IUD |

ParaGard™ PI. 2013; Mirena® PI. 2013; Skyla® PI. 2013.
Risks?
European Active Surveillance Study on Intrauterine Devices

61,448 women in six European countries were followed (between 2006 and 2013)

- 70% LNG, 30% copper devices

- Perforation
  - 81 (0.1%) uterine perforations were reported: similar rate for LNG-IUSs and copper IUDs
  - 63/81 perforations were associated with previously suspected risk factors (e.g., breastfeeding)
Expulsions

- **Skyla**
  - In clinical trials, 3-year expulsion rate of 3.2% (54 out of 1665 subjects)

- **Mirena**
  - In clinical trials, a 4.5% expulsion rate was reported over the 5-year study duration

- **Paragard**
  - In clinical trials, a 8.6% over 10 yrs (with 60% in 1st year)

- **Liletta**
  - In clinical trials, a 3.5% expulsion rate over 3 years with 2% in nullips and 5.6% in parous

Product Labeling
U.S. Medical Eligibility Criteria for Contraceptive Use, 2010
Adapted from the World Health Organization
Medical Eligibility Criteria for Contraceptive Use, 4th edition
## US Medical Eligibility Criteria: Categories

<table>
<thead>
<tr>
<th></th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>No restriction for the use of the contraceptive method for a woman with that condition</td>
</tr>
<tr>
<td>2</td>
<td>Advantages of using the method generally outweigh the theoretical or proven risks</td>
</tr>
<tr>
<td>3</td>
<td>Theoretical or proven risks of the method usually outweigh the advantages – not usually recommended unless more appropriate methods are not available or acceptable</td>
</tr>
<tr>
<td>4</td>
<td>Unacceptable health risk if the contraceptive method is used by a woman with that condition</td>
</tr>
</tbody>
</table>

Jenny

19 year old female presents for contraception

- New relationship; boyfriend of 2 months, using condoms most of the time; third partner
- PMH: none
- Meds: ibuprofen with days 1-3 of periods
- No known allergies
- Monthly cycles lasting 7 days, with 5 soaked large pads on days 1-3, ibuprofen
- LMP 10 days ago

- Best friend has an IUD and she’s been considering one too
Which would you recommend?

A. Liletta
B. Mirena
C. ParaGard
D. Skyla

Concerns:
- Contraindications: let’s check the CDC’s Medical Eligibility Criteria
- Bleeding profile preferred?
  - Liletta/Mirena vs. Skyla
### Summary Chart of U.S. Medical Eligibility Criteria for Contraceptive Use, 2010

This summary chart only contains a subset of the recommendations from the US MEC. For complete guidance, see [www.cdc.gov/blkpd/product/medhealth/](http://www.cdc.gov/blkpd/product/medhealth/).

Most contraceptive methods do not protect against sexually transmitted infections (STIs). Consistent and correct use of the male latex condom reduces the risk of STIs and HIV.

#### Key
1. No restrictions (method can be used)
2. Advantages generally outweigh potential or proven risk
3. Theoretical or proven risks generally outweigh the advantages
4. Unacceptable, health risk involved and not in order

#### Conditions and Contraceptives

<table>
<thead>
<tr>
<th>Condition</th>
<th>Oral Contraceptives</th>
<th>Long-Acting Injectable</th>
<th>Intrauterine Devices</th>
<th>Barrier Methods</th>
<th>Male Condoms</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>Diabetes</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Hypertension</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Cancer</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Heart Disease</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Severe Liver Disease</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Severe Renal Disease</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Cancer in Family</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>HIV</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Pregnancy</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Breast Cancer</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Other</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
</tbody>
</table>

#### Notes
- The chart is divided into sections based on the conditions and contraceptive methods.
- Each condition is evaluated for the use of various contraceptive methods.
- The chart uses a color-coded system to indicate the acceptability of each method.
- The chart provides a comprehensive guide for determining the medical eligibility of contraceptive use.

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*Disclaimer: The content of this image is illustrative and not intended for medical advice.*
She asks if it can be inserted today.

- **What do you want to know?**
  - LMP: started 10 days ago
  - Urine pregnancy test today: negative
  - Using condoms consistently this cycle

- **Concerns with same day insertion**
  - Is insertion easier or less uncomfortable during menstruation?
  - Could she be pregnant?
  - Does she have an STI?
How to be reasonably certain a woman is not pregnant...

A health-care provider can be reasonably certain that a woman is not pregnant if she has no symptoms or signs of pregnancy and meets any one of the following criteria:

- is ≤7 days after the start of normal menses
- has not had sexual intercourse since the start of last normal menses
- has been correctly and consistently using a reliable method of contraception
- is ≤7 days after spontaneous or induced abortion
- is within 4 weeks postpartum
- is fully or nearly fully breastfeeding (exclusively breastfeeding or the vast majority [≥85%] of feeds are breastfeeds), amenorrheic, and <6 months postpartum

http://www.cdc.gov/mmwr/pdf/rr/rr6205.pdf
Does she need a gonorrhea and chlamydia test? Not necessarily.

Most women do not require additional STI screening at the time of IUD insertion if they have already been screened according to CDC’s STD Treatment Guidelines

- Chlamydia and gonorrhea screening recommended for sexually active women
  - younger than 25 years (annually, with new partner, or a partner with a STI)
  - 25+ with risk factors (new or multiple sex partners, or a partner with a STI)

- If a woman has not been screened according to guidelines, screening can be performed at the time of IUD insertion and insertion should not be delayed.

When to delay IUD insertion:
- Purulent cervicitis
- Known current chlamydial or gonorrheal infection
- High individual likelihood of STI exposure (e.g., those with a currently infected partner); insert after testing and treatment

http://www.cdc.gov/std/treatment
You proceed with the IUD insertion (after ibuprofen 600 mg and a 30 minute wait)

She asks for guidance: when will she be protected against pregnancy?

<table>
<thead>
<tr>
<th>Contraceptive method</th>
<th>When to start (if the provider is reasonably certain that the woman is not pregnant)</th>
<th>Additional contraception (i.e., back up) needed</th>
<th>Examinations or tests needed before initiation¹</th>
</tr>
</thead>
<tbody>
<tr>
<td>Copper-containing IUD</td>
<td>Anytime</td>
<td>Not needed</td>
<td>Bimanual examination and cervical inspection²</td>
</tr>
<tr>
<td>Levonorgestrel-releasing IUD</td>
<td>Anytime</td>
<td>If &gt;7 days after menses started, use back-up method or abstain for 7 days.</td>
<td>Bimanual examination and cervical inspection²</td>
</tr>
</tbody>
</table>

¹ Depending on the type of IUD, additional precautions may be required.

http://www.cdc.gov/mmwr/pdf/rr/rr6205.pdf
She asks for guidance: when should she return for follow-up?

* Specific populations that might benefit from more frequent follow-up visits include adolescents, those with certain medical conditions or characteristics, and those with multiple medical conditions.

<table>
<thead>
<tr>
<th>Action</th>
<th>Contraceptive Method</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>LNG-IUD or Cu-IUD</td>
</tr>
<tr>
<td></td>
<td>Implant</td>
</tr>
<tr>
<td></td>
<td>Injectable</td>
</tr>
<tr>
<td></td>
<td>CHC</td>
</tr>
<tr>
<td></td>
<td>POP</td>
</tr>
<tr>
<td>General Follow-Up</td>
<td>X</td>
</tr>
<tr>
<td>Advise a woman to return at any time to discuss side effects or other problems or if they want to change the method. Advise women using IUDs, implants, or injectables when the IUD or implant needs to be removed or when reinsertion is needed. No routine follow-up visit is required.</td>
<td>X</td>
</tr>
<tr>
<td>Other Routine Visits</td>
<td>X</td>
</tr>
<tr>
<td>Assess the woman's satisfaction with her current method and whether she has any concerns about method use.</td>
<td>X</td>
</tr>
<tr>
<td>Assess any changes in health status, including medications, that would change the method's appropriateness for safe and effective continued use based on the U.S. MEC (i.e., category 3 and 4 conditions and characteristics).</td>
<td>X</td>
</tr>
<tr>
<td>Consider performing an examination to check for the presence of IUD strings.</td>
<td>X</td>
</tr>
<tr>
<td>Consider assessing weight changes and counseling women who are concerned about weight change perceived to be associated with their contraceptive method.</td>
<td>X</td>
</tr>
<tr>
<td>Measure blood pressure.</td>
<td>-</td>
</tr>
</tbody>
</table>

Abbreviations: CHC = combined hormonal contraceptive; Cu-IUD = copper-containing intrauterine device; IUD = intrauterine device; LNG-IUD = levonorgestrel-releasing intrauterine device; POP = progestin-only pills; U.S. MEC = U.S. Medical Eligibility Criteria for Contraceptive Use, 2010.
Difficult insertions

• Os finder
• Paracervical block
  – Lidocaine 1%, 10 cc at 5 and 7 o’clock
• Dilators
  – Denniston 5/6
  – Pratt 13/15
• Ultrasound guidance
Problem management

• Bleeding/cramping
  – Reassurance
  – Ibuprofen or naproxen
  – Mefenamic acid (ponstel)
  – Tranexamic acid (lysted)

• String felt by partner

• Other side effects that seem temporarily related to IUD insertion
IUD removal

• Ring forceps usually suffice
• If strings missing
  – Cytobrush
• If unsuccessful with cytobrush, confirm IUD is in-situ with ultrasound and then proceed
  – IUD hook
  – Alligator forceps
  – Aspiration

• Contraceptive concern with removals
  – Need for emergency contraception
Purchasing

• Buy and bill: buy devices and bill insurances
  – Advantages
    • keep devices stocked
    • quickstart: same day insertion possible
  – Disadvantages
    • Devices are expensive
    • Processes should be in place for compensation

• Third party ordering
  – Advantages
    • Financial
  – Disadvantages
    • Delayed insertion with associated pregnancy risk
Purchasing

• Coverage is mandated by the Affordable Care Act (some exceptions)
• Typically under medical benefits (contraception is preventive care), but not always
• Insurances can mandate buy and bill
• Patient assistance programs – need to provide assurance of need or financial documentation in support of need
  – Arch (Mirena, Skyla)
  – ParaGard
  – Liletta
• FQHC and other practices with 340b
  – Liletta deeply discounted at about $50
IUD INSERTION TECHNIQUES
• General
  – Sterile versus no-touch technique
  – Importance of tenaculum to straighten the uterus and insert to fundus

• Common steps
  – Bimanual
  – Speculum insertion
  – Antiseptic
  – Tenaculum
  – Sound
  – Insert IUD
  – Cut strings
Insertion techniques
Questions