Long-Acting Reversible Contraceptives (LARCs)

Tracy P. George, DNP, APRN-BC, CNE
Francis Marion University and
S.C. Department of Health and Environmental Control

Disclosure Statement

I have no conflicts of interest to disclose.

Objectives

1. Identify the LARCs available in the United States.
2. Discuss Centers for Disease Control and Prevention's (CDC) US Medical Eligibility Criteria for Contraception.
3. Discuss how to provide contraceptive counseling without coercion.
4. Explain how to manage the common side effects of LARCs.
Clinical Issue

- Nearly half of all pregnancies in the U.S. are unintended (Parks & Peipert, 2016).
- LARCs are highly effective. No issues with patient adherence (Trussell et al., 2013).
- LARCs are among the most cost-effective methods available (Parks & Peipert, 2016).
- LARC use is low in the United States, at less than 10% (Gilliam et al., 2014).

Types of Long-Acting Reversible Contraceptive Methods (LARCs)

- Intrauterine devices (IUDs)
- Contraceptive implants

LARCs

  - IUDs and Implants can be safely used in teens.
  - IUDs can be inserted in nulliparous women.
  - Providers should counsel patients about LARCs and make these options available to them.

- ACOG (2015) recommends that providers consider LARCS as a first-line contraceptive option for most patients.
Satisfaction & Continuation Rates with LARCs

- LARCs have high continuation rates (ACOG, 2015).

  Continuation Rates at 12 Months:
  - Levonorgestrel (LNG) IUD: 88%
  - Copper (Cu) IUD: 85%
  - Non-LARC Methods: 57%

  Satisfaction rates at 12 Months:
  - LNG-IUD: 86%
  - Cu-IUD: 81%
  - Non-LARC Methods: 53% (Levine, 2015).

Non-Hormonal IUD

- Cu-IUD (Paragard):
  - Non-hormonal
  - Approved for 10 years
  - 32 x 36 mm in size (“LARC Options,” 2016).
  - >99% effective
  - Most women have longer and heavier menstrual cycles, but this may decrease by the first year (“Use Effective,” 2016).
  - There is only one non-hormonal IUD available.

Hormonal (LNG) IUDs (1 of 4)

- Mirena IUD:
  - Contains 52 mg Levonorgestrel (“LARC Options,” 2015).
  - Approved for 5 years
  - 32 x 32 mm in size
  - >99% effective
  - Approved for treatment of heavy menstrual bleeding.
  - 20% of women have amenorrhea after 1 year (Raphaelidis, 2015).
Hormonal (LNG) IUDs (2 of 4)

- **Liletta IUD:**
  - Contains 52 mg of Levonorgestrel
  - Approved for 3 years of use
  - 32 x 32 mm in size
  - >99% effective
  - Now available with a single-handed inserter (Allergan, 2016).

Hormonal IUDs (3 of 4)

- **Skyla IUD:**
  - Contains 13.5 mg of Levonorgestrel ("LARC Options," 2016).
  - 28 x 30 mm in size
  - >99% effective
  - Approved for 3 years.
  - Nulliparous women were included in the clinical trials for Skyla.
  - Approved for use in women regardless of childbearing status.
  - Fewer women have amenorrhea with Skyla due to lower dose of Levonorgestrel (Raphaelidis, 2015).

Hormonal (LNG) IUDs (4 of 4)

- **Kyleena IUD:**
  - Contains 19.5 mg Levonorgestrel
  - 28 x 30 mm in size
  - >98.5% effective
  - Approved for 5 years
  - Available October 2016
  - Bleeding and spotting may increase for 3-6 months and stay irregular.
  - Over time, periods may be shorter, lighter or stop ("LARC Options," 2016).
## IUD Comparison Table

<table>
<thead>
<tr>
<th>IUD</th>
<th>Duration of Use</th>
<th>Levonorgestrel Dosage</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>Skyla</td>
<td>3 years</td>
<td>13.5 mg</td>
<td>28 x 30 mm</td>
</tr>
<tr>
<td>Kyleena</td>
<td>5 years</td>
<td>19.5 mg</td>
<td>28 x 30 mm</td>
</tr>
<tr>
<td>Liletta</td>
<td>3 years</td>
<td>52 mg</td>
<td>32 x 32 mm</td>
</tr>
<tr>
<td>Mirena</td>
<td>5 years</td>
<td>52 mg</td>
<td>32 x 32 mm</td>
</tr>
<tr>
<td>Copper</td>
<td>10 years</td>
<td>none</td>
<td>32 x 36 mm</td>
</tr>
</tbody>
</table>

## Contraceptive Implant (1 of 4)

- **Contraceptive Implant (Nexplanon):**
  - 68 mg Etonorgestrel
  - Approved for 3 years
  - Placed subdermally on inner aspect of upper, nondominant arm
  - 4 cm (length) x 2 cm (diameter)
  - >99% effective (Merk, 2016)

## Contraceptive Implant (2 of 4)

- Not studied in women who were >130% of their ideal body weight. Lack of data on effectiveness in overweight women (Merk, 2016).
- The most common side effects were menstrual changes, especially irregular bleeding (“Update,” 2016).
- Half of women with irregular bleeding during the first 3 months will improve over time (“Update,” 2016).
- 6-12% of women have weight gain with the implant (“Update,” 2016). Most women do not have implant removed due to weight gain.
- There is only one contraceptive implant available.
To insert contraceptive implants, health care providers must attend a Clinical Training Program (Merck, 2016).


Nexplanon is Radiopaque
- If unable to palpate the implant, it can be visualized by a variety of methods.
- X-Ray & Ultrasound are less expensive.
- CT & MRI can also be used (Merck, 2016).

The US MEC is a group of criteria intended to assist health care providers when counseling patients on their choice of contraception.
- Updated in 2016
- The US MEC provides guidance on who can use selected methods of contraception (Centers for Disease Control and Prevention, 2016a).
US SPR

- The US SPR provides guidance on:
  - How contraceptive methods can be used
  - Updated in 2016
  - How to remove unnecessary barriers for patients in accessing and successfully using contraception (Centers for Disease Control and Prevention, 2016b).

Accessing MEC and SPR

- Free App for iPhone and Android
- US MEC Chart
- CDC website
  - [https://www.cdc.gov/reproductivehealth/contraception/usmec.htm](https://www.cdc.gov/reproductivehealth/contraception/usmec.htm)

MEC: 4 Categories

1 = A condition for which there is no restriction for the use of the contraceptive method.

2 = A condition for which the advantages of using the method generally outweigh the theoretical or proven risks.

3 = A condition for which the theoretical or proven risks usually outweigh the advantages of using the method.

4 = A condition that represents an unacceptable health risk if the contraceptive method is used (CDC, 2016a)
Category 1

1 = A condition for which there is no restriction for the use of the contraceptive method.

Green light! Ok to use!

Category 2

2 = A condition for which the advantages of using the method generally outweigh the theoretical or proven risks.

Method generally can be used, although careful follow-up might be required.

Yellow light! Probably ok!

Category 3

3 = A condition for which the theoretical or proven risks usually outweigh the advantages of using the method.

Use of method usually is not recommended unless other more appropriate methods are not available or acceptable.

Yellow light! Likely should not use!
Category 4

4 = A condition that represents an unacceptable health risk if the contraceptive method is used.

Red Light! Stop - Do not use!

Health Conditions Addressed by US MEC Include:
- Hypertension
- Diabetes
- Breast-feeding status
- Epilepsy
- Migraine headaches
- Smoking
- Cystic Fibrosis

LNG & Cu-IUDs: US MEC (1 of 3)
- Menarche to age 20:
  - Category 2 - Benefits of use generally outweigh risks
- Ages 20 and older:
  - Category 1 - Ok to Use
- Nulliparous:
  - Category 2 - Benefits of use generally outweigh risks
- Parous:
  - Category 1 - Ok to Use (CDC, 2016a)
LNG & Cu-IUDs: US MEC (2 of 3)

- Postpartum <10 minutes after delivery of placenta (including cesarean delivery):
  - If breastfeeding:
    - Cu-IUD: Category 1
    - LNG-IUD: Category 2
  - If not breastfeeding:
    - Category 1 for both Cu-IUD and LNG-IUD (CDC, 2016a)

LNG & Cu-IUDs: US MEC (3 of 3)

- Postpartum 10 min to < 4 weeks (breastfeeding or non-breastfeeding, including cesarean delivery):
  - Category 2 for both Cu-IUD and LNG-IUD
- Postpartum >4 weeks (breastfeeding or non-breastfeeding, including cesarean delivery):
  - Category 1 for both Cu-IUD and LNG-IUD (CDC, 2016a)

Implant: US MEC (1 of 2)

- Menarche to 18 years of age
  - Category 1 – Ok to Use
- Nulliparous
  - Category 1 – Ok to Use (CDC, 2016a)
Implant: US MEC (2 of 2)

- Postpartum and Bottle Feeding
  - Category 1 - Ok to Use
- Postpartum and Breastfeeding
  - Category 2 if <21 days postpartum
  - Category 2 if 21 to <30 days postpartum with or without risk factors for VTE
  - Category 1 if 30-42 days postpartum with or without risk factors for VTE
  - Category 1 if >42 days postpartum (CDC, 2016a)

LARCs in Postpartum Patients (1 of 2)

- LARCs can be offered safely to most women who are immediately postpartum (Rodriguez, Evans, & Espey, 2014).
- According to ACOG (2016, p. 1):
  "Immediate postpartum LARC should be offered as an effective option for postpartum contraception; there are few contraindications to postpartum intrauterine devices and implants."

LARCs in Postpartum Patients (2 of 2)

- The expulsion rates for immediate postpartum IUD insertions can be as high as 10-27%, which is higher than for usual IUD insertions (ACOG, 2016).
- 40-57% of women have sex before the 6-week postpartum visit (ACOG, 2016).
- Repeat pregnancies may occur as early as 12-18 months after delivery if a woman does not start a contraceptive method (Rodriguez, Evans, & Espey, 2014).
Case Study #1 (1 of 3)
- Lisa is a 32 year old patient with high blood pressure. She smokes 1 pack of cigarettes per day. She quit taking her blood pressure medication because she says that she “felt fine.”
- She wants to continue her combined oral contraceptive pills.
- Based on the US MEC, what do you tell Lisa about her birth control pills?

Case Study #1 (2 of 3)
- Lisa restarts her Lisinopril and returns to see you about her birth control.
- Her Blood Pressure today is 130/76.
- She recently has started having unilateral, severe headaches. She has nausea and vomiting with the headaches. She has to lie down in a dark room with the headaches. She said that she sees flashing lights before the headache comes on.
- Based on the US MEC, which methods might be appropriate for Lisa? (Hint: IUDs & Progestin only methods)

Case Study #1 (3 of 3)
- Lisa brings in her step-daughter Jasmine who is 16 and has cystic fibrosis (CF).
- She has a boyfriend and wants to get on a birth control method “just in case.”
- She wants to take the “safest” birth control for her CF.
- According to the US MEC, what are the birth control options for Jasmine?
Shared decision-making is an approach that can be used when counseling a patient about contraceptive options.

1. Ask about future reproductive plans.
   - Oregon Reproductive Health Foundation (2012): “One Key Question”
   - Would you like to become pregnant in the next year?
   - Primary care providers should ask this question of all women of reproductive age.
   - Based on the patient’s answer, offer folic acid supplementation, preconception care, and contraception.

2. Ask open-ended questions to ask about the patient’s needs and concerns.
3. Compare the effectiveness of contraceptive methods.
   - Use a chart (see next slide)
   - Show her the most effective to least effective methods.
Counseling Patients (3 of 5)

3. Provide information about effectiveness and how method is used.
4. Counsel on possible side effects.
   - Cu-IUD: Increase in amount and duration of bleeding, which may improve over the first year.
   - LNG-IUDs: Irregular bleeding, spotting especially first 3-6 months. May have reduced bleeding or even amenorrhea by 1 year of use.
   - Implant: Irregular bleeding is a common side effect with the Implant.
   - LNG-IUD & Implant: Side effects may include headaches, nausea, depression, breast tenderness due to hormones (ARHP, 2015).

Counseling Patients (4 of 5)

5. Discuss common risks with LARCs.
   - Implant: Rare problems related to insertion or removal.
   - IUD: These issues are more common after insertion.
     - Expulsion (5%)
     - Perforation of the uterus (1/1,000 insertions)
     - Increased risk of PID for the first 3 weeks (1%)
   - If pregnancy occurs with IUD or Implant, there is a slightly increased risk of ectopic pregnancy (ARHP, 2015).

Counseling Patients (5 of 5)

6. Ensure understanding.
   - Use written materials at the appropriate literacy level and in the correct language.
   - Low-literacy shared decision aids resulted in an increase the use of LARCs, when used with a shared decision making approach (George, DeCristofaro, Dumas, & Murphy, 2015).
   - Apps are another way to enhance counseling (Gillian et al., 2014). Patients had improved knowledge and interest in the implant after the use of apps.
   - Use teach-back.
   - Answer patient’s questions.
   - Let the patient to hold models or devices if possible.
7. Allow the patient to make her choice (ARHP, 2015).
Management of Common Side Effects with LARCS (1 of 3)

- Sporting and Irregular Bleeding with Implant:
  - Counseling and reassurance.
  - Anti-inflammatory medications (unlabeled use)
    - Trial of Ibuprofen 400-800 mg tid for 5-10 days.
    - Other options include Celecoxib 200 mg daily or Mefenamic acid 500 mg tid (Edelman & Kaneshiro, 2016).
  - 1-3 cycles of oral contraceptives (Hou, Creinin, & McNicholas, 2016; Edelman & Kaneshiro, 2016) (unlabeled use).
  - Oral conjugated estrogen 1.25 mg or estradiol 2 mg once a day for 7 days (Edelman & Kaneshiro, 2016). (unlabeled use)

Management of Common Side Effects with LARCS (2 of 3)

- Dysmenorrhea and Abnormal Bleeding During First 3-6 Months with Cu-IUD:
  - Counseling and reassurance.
  - Anti-inflammatory medications (unlabeled use)
    - Ibuprofen or naproxen for 5-7 days ("Short-term bleeding," 2014).
  - Abnormal Bleeding During First 3-6 Months with LNG-IUD:
    - Counseling and reassurance
    - 1-3 cycles of oral contraceptive pills (unlabeled use)
    - Doxycycline for 7-14 days (unlabeled use). This is thought to treat nonspecific endometritis (Edelman & Kaneshiro, 2016).
Management of Common Side Effects with LARCS (3 of 3)

- New Onset of Bleeding with a Long-Term IUD:
  - Perform pregnancy testing.
  - Pelvic exam:
    - Ensure placement of IUD
    - Rule out infection and cervical disorders (polyps, endometrial hyperplasia, fibroids etc).
  - Pelvic ultrasound if indicated (Feldman & Kaneshiro, 2016).

Case Study #2 (1 of 3)

Brittany is an 18 year old college freshman who comes to see you because her period is 2 weeks late.

- After performing a pregnancy test, you tell her that it is negative.
- You ask her “One Key Question:” Would you like to become pregnant in the next year?
- She says no. She wants to finish her degree and get married first. She wants a method that is “very effective.” She does not want anything in her arm because she thinks it would be “weird.”
- Her periods are very heavy for 7-8 days, with cramps that are severe.
- Which options might be good for her?
- How might you counsel her about her options?
- How would you use the US MEC?

Case Study #2 (2 of 3)

Brittany chooses a LNG-IUD. She returns to see you 3 months after the IUD was inserted because she does not like all the spotting and bleeding between her periods. She does not have cramps or heavy bleeding.

- She wants to know if there is anything that might help. She has spring break and doesn’t want to deal with the spotting and bleeding while in Florida.
- You counsel and reassure her that this side effect may get better over time.
- What are management options?
Brittany's roommate Leslie comes to see you because she is having some irregular bleeding with the contraceptive implant.

What are some management options?