Immediate Postpartum Long-Acting Reversible Contraception

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TFM Rural Fellowship project
Objectives

- Define LARC and immediate postpartum insertion
- Understand the public health benefit
- Advantages/Disadvantages
- Contraindications
- Instruction on proper placement
- Implementation process at MultiCare
Epidemiology

- The United States and the state of Washington continue to have high rates of unintended pregnancies and low use of LARCs.
  - 50% of all pregnancies are unintended
  - ½ of unintended pregnancies occur within 2 years following delivery

Teen Pregnancy

- 80% of teen pregnancies are unintended
- 1 in 5 teen births is a repeat birth
- Only 7.2% of all women and less than 5% of teens use LARCs

Figure 2: Teenage birth rates for 15 – 19 year olds by state, 2014

Unintended pregnancy

- Substantial social and economic consequences
  - for individual women, families, and society
  - increased risk for adverse birth outcomes
  - increased health care costs

1. American College of Obstetricians & Gynecologists. Increasing access to contraceptive implants and intrauterine devices to reduce unintended pregnancy. ACOG Committee on Gynecologic Practice. 2015;642.
Government expenditures on unintended pregnancies totaled $21 billion in 2010, and surpassed $400 million in 19 states.

Public costs for unintended pregnancies, 2010:
- $25–100 million
- $100–400 million
- $400–800 million
- $800 million to $3 billion

Source: guttmacher.org
Birth control use in US

Long-acting reversible contraception

- Intrauterine Device
  - Copper IUD
  - Paragard
  - Levonorgestrel IUD
    - Mirena (52mg)
    - Skyla (13.5mg)
    - Liletta (52mg)
- Typically placed at 6 weeks postpartum or interval
Long-acting reversible contraception

- Implanted contraceptive rod
  - Etonogestrel implant
    - Nexplanon (68mg)
- Subdermal implant
- Typically placed at 4 weeks postpartum or timed with menstrual cycle
The contraceptive CHOICE project

- St. Louis, Missouri provided counseling and no-cost reversible contraception to more than 9,200 diverse women and adolescents wanting to prevent pregnancy for at least 12 months.
  - After standardized counseling on contraceptive methods, 75% of women chose a LARC method.
St. Louis CHOICE Study

CHOICE project

- 86% of women who chose a LARC were still using that method one year later, compared to 55% of women who chose a non-LARC method.
- Rates of unintended pregnancy were 20 times higher among women using a non-LARC method (birth control pill, patch, or ring).
- The abortion rate among the CHOICE participants was less than half the national and regional rates.
- The teen birth rate among the CHOICE participants was 6.3 births per 1,000, compared to the national rate of 34.3 births per 1,000.

Why LARC?

- LARC are the most effective methods of reversible contraception, endorsed by the ACOG, AAP, and AAFP.
  - Fewer than 1 in 100 women using an IUD or contraceptive implant will get pregnant within one year.
    - With typical use, 9 out of 100 women using the birth control pill and 18 out of 100 using male condom will get pregnant within one year.
  - Women who used LARC had almost 4 times the odds of achieving an optimal birth interval.

Adolescent LARC use

- Decreases teen pregnancy rate
  - Any LARC method decreases odds of rapid repeat pregnancy
  - Further decreased odds if initiated in immediate postpartum period
    - 18.6% vs 2.6% (implant)
How Colorado Dropped Teen Birth Rate by 40 Percent in Four Years

Source: National Center for Health Statistics, Centers for Disease Control and Prevention.
Graphic: Tobey - The Washington Post
Barriers to postpartum contraception

- Missed postpartum appointment
  - Childcare
  - Transportation
  - Communication
- LARC may not be available at time of appointment
- Insurance coverage
- Patient fear
- Many women resume sexual activity prior to their 6 week visit
Removing Barriers to LARC access

- **ACOG Strategies to increase uptake of LARCs:**
  - Offering continuing physician education on current practice guidelines, improvements in the current devices, and insertion procedures
  - Providing comprehensive patient counseling on the safety and effectiveness of LARCs
  - Reducing high up-front costs for devices (through the Affordable Care Act and Medicaid)
  - **Changing clinical protocols to permit postpartum insertions and single-visit outpatient insertions**

1. American College of Obstetricians & Gynecologists. Increasing access to contraceptive implants and intrauterine devices to reduce unintended pregnancy. ACOG Committee on Gynecologic Practice. 2015;642.
Definitions

- **Immediate Postpartum Insertion**: Insertion within 48 hours of delivery
  - **Post-placental Insertion**: Insertion within 10 minutes following placental delivery
  - **Trans-Cesarean Insertion**: Insertion through the uterine incision at the time of Cesarean delivery
- **Delayed postpartum insertion**: 4-6 weeks postpartum
- **Interval placement**: Not related to timing of childbirth
Advantages of Immediate Postpartum Insertion

- Start immediately following delivery
- Reversible
- Improved access
- Convenient
- No additional supplies required
- Decreased side effects
- Less risk of perforation
Contraindications

- Immediate Postplacental:
  - Chorioamnionitis
  - Greater than 18 hours amniotic fluid rupture
  - Unresolved postpartum hemorrhage

- Immediate Postpartum:
  - Sepsis
  - Postpartum endometritis/myometritis
  - Continued postpartum hemorrhage
  - Significant perineal trauma
Immediate postpartum LARC

- Cochrane Review 2015
  - Safe, effective
    - No increase in bleeding, infection, perforation risk
  - Expulsions
    - Higher rate with immediate postpartum vs delayed placement
      - 16% vs 3%
      - Not affected by instrument vs hand insertion, IUD type
  - Convenient
    - “The benefit of effective contraception immediately after delivery may outweigh the disadvantage of increased risk of expulsion”

Analysis 2.3. Comparison 2 Immediate postplacental insertion versus standard insertion, Outcome 3 Use at 6 months.

Review: Immediate postpartum insertion of intrauterine device for contraception
Comparison: 2 Immediate postplacental insertion versus standard insertion
Outcome: 3 Use at 6 months

<table>
<thead>
<tr>
<th>Study or subgroup</th>
<th>Immediate</th>
<th>Standard</th>
<th>Odds Ratio M-H, Random 95% CI</th>
<th>Weight</th>
<th>Odds Ratio M-H, Random 95% CI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chen 2010</td>
<td>43/51</td>
<td>39/51</td>
<td>36.0 %</td>
<td>1.65 [0.61, 4.47]</td>
<td></td>
</tr>
<tr>
<td>Dahike 2011</td>
<td>13/15</td>
<td>15/16</td>
<td>7.3 %</td>
<td>0.43 [0.04, 5.35]</td>
<td></td>
</tr>
<tr>
<td>Lester 2015</td>
<td>27/34</td>
<td>16/34</td>
<td>32.3 %</td>
<td>4.34 [1.49, 12.65]</td>
<td></td>
</tr>
<tr>
<td>Whitaker 2014</td>
<td>14/20</td>
<td>13/22</td>
<td>24.4 %</td>
<td>1.62 [0.45, 5.81]</td>
<td></td>
</tr>
<tr>
<td><strong>Total (95% CI)</strong></td>
<td>120</td>
<td>123</td>
<td>100.0 %</td>
<td>2.04 [1.01, 4.09]</td>
<td></td>
</tr>
</tbody>
</table>

Total events: 97 (Immediate), 83 (Standard)
Heterogeneity: Tau² = 0.09; Chi² = 3.67, df = 3 (P = 0.30); I² = 18%
Test for overall effect: Z = 2.00 (P = 0.046)
Test for subgroup differences: Not applicable
## Review: Immediate postpartum insertion of intrauterine device for contraception

**Comparison:** Immediate postplacental insertion versus standard insertion  
**Outcome:** Expulsion by 6 months

<table>
<thead>
<tr>
<th>Study or subgroup</th>
<th>Immediate n/N</th>
<th>Standard n/N</th>
<th>Odds Ratio M-H, Random, 95% CI</th>
<th>Weight</th>
<th>Odds Ratio M-H, Random, 95% CI</th>
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</thead>
<tbody>
<tr>
<td>Chen 2010</td>
<td>10/45</td>
<td>2/46</td>
<td></td>
<td>51.6%</td>
<td>6.29 [1.29, 30.57]</td>
</tr>
<tr>
<td>Dahlke 2011</td>
<td>4/15</td>
<td>0/15</td>
<td></td>
<td>15.4%</td>
<td>12.13 [0.59, 248.49]</td>
</tr>
<tr>
<td>Lester 2015</td>
<td>1/34</td>
<td>1/18</td>
<td></td>
<td>17.4%</td>
<td>0.52 [0.03, 8.75]</td>
</tr>
<tr>
<td>Whitaker 2014</td>
<td>4/19</td>
<td>0/18</td>
<td></td>
<td>15.6%</td>
<td>10.74 [0.54, 215.47]</td>
</tr>
<tr>
<td><strong>Total (95% CI)</strong></td>
<td><strong>113</strong></td>
<td><strong>97</strong></td>
<td><strong>100.0%</strong></td>
<td></td>
<td><strong>4.89 [1.47, 16.32]</strong></td>
</tr>
</tbody>
</table>

Total events: 19 (Immediate), 3 (Standard)  
Heterogeneity: Tau² = 0.08; Chi² = 3.15, df = 3 (P = 0.37); P = 5%  
Test for overall effect: 2 = 2.58 (P = 0.0098)  
Test for subgroup differences: Not applicable
Expulsion rates (standard insertion)

- Interval insertion expulsion rates:
  - Mirena expulsion over 5 years is 4.5%
  - Paragard up to 5.7% within the first year
    - Usually during menses and first few months following insertion

Paragard Prescribing information: http://www.paragard.com/Pdf/ParaGard-PI.pdf
Expulsion rates (Immediate insertion)

- Average postpartum risk 11%
- Risk increased:
  - Multiparous women >> nulliparous women
  - Age 14-19 >> Age 20 and older
  - Less experienced insertion provider
  - Placed >10 minutes postplacental

**Post Placental IUD Provider Experience**

**IUD expulsion rates at 6 months postpartum**

- 12.0% for inexperienced practitioners
- 6.9% for experienced practitioners

*p < 0.001*
Expulsion rates

- Newer studies report lower rates of expulsion
  - Zambia study in 2010
  - Total expulsion rate = 5.6%
  - High satisfaction rates (94.1%)
  - Requested removal rate 3%

Expulsion rates

- Expulsion rate would **have to be 38%** to meet the same rate of unintended pregnancy due to failure to present to postpartum visit or birth control failure via other methods.
The procedure
Techniques of insertion

Key points for insertion procedure

- Place hand on fundus
  - Confirms high fundal placement
  - Reduces chance of perforation
  - Helps provider know where to aim
- Direct forceps straight up toward umbilicus
  - Not toward the patient’s head
  - Drop the wrist
- Know the orientation of the IUD with respect to the orientation of the forceps
- Cut strings at external os
  - Different length strings with different IUD devices
  - Different depths of postpartum uterus
Procedure video

- SPIRES Postpartum IUD insertion training video
Immediate postpartum contraception is **safe** and **effective**

Rates of **expulsion** of IUD are increased compared to delayed postpartum or interval placement

**Weigh** the risk of expulsion vs. other benefits of immediate placement and risk of patients not returning for postpartum follow up

 Might not be the right choice for all women in every clinical setting, but is a good choice for many, and should be included as an **option** for women
Implementation at MultiCare
Working Group

- Workgroup:
  - OBAC fellows
  - Susan Bishop
  - Rebecca Benko
  - Esther Park-Hwang

- Physician champions
- Pharmacy working group
- Payment, Coding, Billing
- Research as we continue implementation
<table>
<thead>
<tr>
<th>When</th>
<th>Task</th>
<th>Notes</th>
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</table>
| 28 wk apt    | Identify candidate at risk for unintended pregnancy and/or desires IPPLARC  
☑ insurances/get authorization (OPOS)  
Order in Epic: PPLARC OS as part of admission OS  
Consent signed and in Epic  
Epic “flag” as patient with PP LARC orders |                                                            |
| L&D Admission| Confirm signed consent  
Flag -> PP LARC checklist  
RN confirms PP LARC availability on unit (Pyxis) | Need process for nursing staff/providers  
Need process for IUD replacement, if needed  
ID process for coding/billing of device  
Del note: PPIUD Placed ☐ Y ☐ N |
| Vag Delivery IUD | IUD placed on delivery table with 2nd nurse arrival as 2nd pair of hands  
IUD placed within 10 minutes of placental delivery **If no complications contraindicating  
Documentation per vag delivery note  
RN documentation of placement  
MD->RN communication in OS to watch closely for IUD expulsion with fundal checks and peri checks |                                                            |
| C/S Delivery IUD | IUD pulled from Pyxis by RN. Opens packaging when instructed by surgeon  
IUD placed after delivery of placenta and uterus is firm  
Surgeon documents in c/s delivery note  
RN documentation of placement | Need process for reminder to place IUD when urgent/unplanned C/S  
ID process for coding/billing of device |
| PP Nexplanon | Placed 1st day PP at patient bedside?? Or after delivery in L&D??  
Equipment needed: lidocaine, coban, betadine swabs, tape measure, drape, steri-strips, Nexplanon package | Need to identify process |
| PP Care      | MD ->RN Communication in OS to watch closely for IUD expulsion with fundal checks and peri checks; also teach patient to watch for expulsion |                                                            |
| 6 Week PP Visit “No String” | Develop protocol/OS  
Ultrasound/Flat plate of Abd  
Replacement plan | Need to develop OS |

Draft 5/31/16
Thank you

- Susan Bishop
- Rebecca Benko
- Esther Park-Hwang
- Working group
Online participant instructions

Successful completion of post test is required to obtain a certificate of participation.

Successful completion = Obtain 80% correct answers in 6 or fewer attempts.

Cut and paste this link into your browser to access the post test.
▶ http://www.surveygizmo.com/s3/2888301/WCGR0616