Window of Opportunity: Immediate Postpartum LARC

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Patient G.

A 28 yo G5P4004 at 39+3 presents in active labor.

Adamant on admission that she desires tubal ligation prior to discharge; did not receive desired tubal after 4th delivery secondary to PPH.

Uncomplicated SVD this admission, however L&D too busy with emergent cases to accommodate tubal ligation prior to discharge.
Patient M.

A 17 yo G1P0 at 34 weeks, at routine obstetric visit, provider discusses postpartum contraceptive plans.

High school senior, lives with partner and child, had been using condoms inconsistently for contraception.

Interested in non-hormonal, long-acting method.
Take Home Messages

Immediate PP LARC is safe and effective. (i.e. just do it!)

Join our coalition to help advocate for policy change for Minnesotans!
Learning Objectives

By the end of this session, participants will be able to:

• Describe the efficacy and safety of immediate postpartum initiation of IUDs and implants
• Assess systemic and financial barriers to immediate LARC provision
• Identify resources available to implement institutional policies to increase access to immediate postpartum LARC
Disclosures

• Speaker’s Bureau
  – Merck (Nexplanon)
  – Actavis/Meds360 (Liletta)
Pregnancy in the USA

6.4 million pregnancies

Pregnancy in the USA

6.4 MILLION PREGNANCIES

Intended: 51%

Unintended: 49%

3.3 million

3.1 million

Unintended Pregnancy in the USA

- Birth (47%): 1.6 million
- Abortion (40%): 1.2 million
- Early pregnancy loss (13%): 0.4 million

Unintended: 49%

Pregnancy Spacing

• More than half of unintended pregnancies occur within 2 years following a delivery

• 35% of all pregnancies (NSFG 2006-2010) were RRP (conceived <18 mo. from previous birth)
  – 75% were mistimed, unintended
  – Healthy People 2020 objective: 10% decrease

Sources: Thiel de Bocanegra et al. AJOG. 2011; Gemill et al. Obstet Gynecol. 2013
Inter-Pregnancy Intervals

• Inter-pregnancy interval of <6 mo. Associated with highest rate of adverse maternal and neonatal outcomes

• Neonatal Adverse Outcomes
  – SGA, LBW, PTB
  – <18 months
  – <6 months associated with highest level

• Maternal Adverse Outcomes
  – Anemia, bleeding, HTN, mortality
  – <24 months

Sources: Zhu X. NEJM. 1999; Conde-Agudelo A. JAMA 2006
Inter-Pregnancy Intervals

- 80% of PP women desire birth >2 years
- People who used immediate postpartum LARC had 80% reduction in odds of short IPI (compared to no contraceptive use)
- People who use SARC (pill, patch, ring) had 20% reduction in odds of short IPI (same comparison, statistically the same)

Sources: Tang J. Contraception. 2013; ; Brunson et al AJOG 2017
Peripartum Risk

- Resumption of ovulation
  - Non-breastfeeding: as early as 25d, mean 45d
  - 40% by 6 weeks PP
- LAM
  - On demand
  - No pacifiers
  - Pumps?

Peripartum Risk

• Resumption of sexual intercourse
  – Majority by 6 weeks PP
  – Teens more likely to resume by 6 weeks, especially if living with partner
  – Cesarean delivery (scheduled?) earlier than SVD
• Low show rate to postpartum visits (35%+)
• PPV IUD and Implant barriers
• 47% unfulfilled sterilization requests pregnant within one year

Adolescents

• 35% teen moms will become pregnant again in next 2 years

• Adverse socioeconomic outcomes
  – Teens delivering 2 or more children within 5 years more likely to depend on public assistance and forego education
  – Just 38% of teens who give birth <18 yo finish high school

Sources: Baldwin M et al. *J Adol Hlth* 2013; CDC MMWR 2013; thenationalcampaign.org
Adolescents

- Adverse neonatal outcomes
  - 17% of second births preterm (v. 12.6% for first)
  - 11% of second births LBW (v. 9% of first)
- Adolescents more likely to present late to PNC
- Adolescent mothers more likely to have adverse birth outcomes because of short IPI

Source: Baldwin M. *J Adol Hlth*. 2013; thenationalcampaign.org
Pregnancy in the USA

Unintended Pregnancy Rates, by State, in 2010


Source: Kost K. AGI. 2015
Contraception in the USA

Tier 1:
- Implants
- IUD
- Female sterilization
- Vasectomy

Tier 2:
- Injectables
- LAM
- Pills
- Patch
- Vaginal ring

Tier 3:
- Male condoms
- Diaphragm
- Female condoms
- Fertility awareness methods

Tier 4:
- Withdrawal
- Spermicides

Source: Adapted from WHO - Family Planning: A Global Handbook.
Contraceptive Use in the USA

- Using contraception, 62%
- Not using contraception, 38%
- 61 million women aged 15-44 yrs

- 15.5% Female sterilization
- 16% Pill
- 21% Condom
- 9.4% All other contraceptive methods
- 19% Pregnant/post partum/seeking
- 10% All other reasons for nonuse
- No sex ever/last 3 months

Source: Daniels K. NCHS Data Brief. 2014
Contraceptive Use By Effectiveness

% of US women 15-44 years

- None: 38%
- Sterilization: 21%
- Pill: 16%
- Condom: 9.4%
- LARC: 7.2%
- Injectable, patch, ring: 4.4%

Source: Daniels K. NCHS Data Brief. 2014
Contraceptive Use by Age

Source: Daniels K. NCHS Data Brief. 2014

All percentages are significantly different from each other across age groups.

*Percentages for age groups 15–24 and 25–34 are significantly different from age group 35–44.

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NOTES: Women currently using more than one method were classified according to the most effective method they were using. Long-acting reversible contraceptives.
LARC Use Trends

Source: Daniels K. NCHS Data Brief. 2014

NOTES: Linear decrease from 1982 to 1988 and linear increase from 2002 to 2011–2013 for all LARCs are statistically significant; linear increase in IUD use from 1995 to 2011–2013 is statistically significant. IUD is intrauterine device; LARC is long-acting reversible contraceptive.


1Implants were not available in 1982 and 1988.
LARC Use Trends

Source: Kavanaugh ML. Obstet Gynecol. 2015
LARC Continuation Rates

<table>
<thead>
<tr>
<th>Device</th>
<th>Continuation (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Condom</td>
<td>53</td>
</tr>
<tr>
<td>Injection</td>
<td>56</td>
</tr>
<tr>
<td>OC + POP</td>
<td>68</td>
</tr>
<tr>
<td>Copper T</td>
<td>78</td>
</tr>
<tr>
<td>LNG-IUS</td>
<td>80</td>
</tr>
<tr>
<td>Implant</td>
<td>84</td>
</tr>
</tbody>
</table>

LARC Satisfaction

Postpartum Contraception

Effective contraception –
Limiting family size
Adequate birth spacing

Avoid causing harm –
Avoid VTE
Support breastfeeding
Postpartum Contraception

LARC – highly effective, reversible, forgettable

Failure rate: 0.1-0.2%  Mechanism of action: thickened cervical mucous

Failure rate: 0.7%  Mechanism of action: sterile inflammation

Failure rate: <0.1%  Mechanism of action: prevents ovulation
Postpartum LARC

Interval Continuation

CU-IUD: 77%
LNG-IUS: 79%
Implant: 69%
Pill/patch/ring: 41%

Immediate Postpartum Continuation

IUDs: 89%
Implants: 87%

Overall, high satisfaction rates with LARC use.

Adolescent Postpartum LARC

- Adolescent use of LARC (in general) reduces adolescent teen pregnancy rate
  - Decreases odds of rapid repeat pregnancy by ~70%
- Odds even further reduced when initiated immediately PP
  - (implants) immediate PP insertion risk of RRP 2.6% versus interval placement 18.6%

Adolescent Postpartum LARC

- Colorado reduced teen birth rate by 40% in 4 years

Source: CO Family Planning Initiative

Source: National Center for Health Statistics, Centers for Disease Control and Prevention, Graphic: Tobey - The Washington Post
Postpartum IUDs

• Post-placental
  – Within 10 minutes of placental delivery

• Immediate postpartum
  – 10 minutes to 48 hours after delivery

• Interval placement
  – 6 weeks or more after delivery
Postpartum IUDs

- Why 10 minutes?

Source: Chi I-C. Contraception 1985
## Postpartum IUDs

<table>
<thead>
<tr>
<th>Postpartum*</th>
<th>LNG IUS</th>
<th>Copper IUD</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;10 minutes after delivery of the placenta</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>10 minutes after delivery of the placenta to &lt;4 weeks</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>≥4 weeks</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Puerperal sepsis</td>
<td>4</td>
<td>4</td>
</tr>
</tbody>
</table>

Source: CDC Medical Eligibility Criteria
Postpartum IUDs


• Safe and Effective
  – No increase in infection, perforation, bleeding
• Higher expulsion rates (v. interval placement)
• Use of instruments, manual insertion, IUD modifications did not change expulsion rates
• Convenient for woman and clinician

“The benefit of effective contraception after delivery may outweigh the disadvantage of increased risk of expulsion.”

Postpartum IUDs

Advantages

• Patient motivation
• Not pregnant!
• No additional visits
• Negligible time for insertion
• Potential side effects in post-insertion period masked by postpartum status
• Public health value of provision (v. cost of expulsion)
Postpartum IUDs

Disadvantages/Barriers

• Higher rates of expulsion and missing strings
  – Vaginal delivery (5-30%), Cesarean delivery (8%)
  – LNG-IUS > CU-IUD (mechanism?)
  – Majority (80-90%) by 6 weeks
  – Offset by higher proportion with insertion (?)

• Insertion techniques

• Lactation?

• Financial barriers (insurance)

Postpartum IUDs

• Cost effective analysis (IPP v. interval)
• Analysis most sensitive to:
  – Probability of interval IUD insertion (64%)
• Save $2.94 per every dollar spent on device
• Cost effective unless:
  – probability of interval IUD placement >88%
  – Expulsion/discontinuation rate reaches 56-70%

PP IUD Technique

Two techniques of postplacental IUD insertion and proper location of IUD after insertion

1. A) IUD strings placed in palm of hand
   B) Manual insertion at top of fundus

2. Use of ring forceps to insert IUD
PP IUD Technique

- Manual Technique
  Betadine,
  4x4s or cotton swabs,
  scissors
PP IUD Technique

- Ring Forceps Technique
  Graves speculum,
  Betadine,
  4x4s or cotton swabs,
  long curved ring
  forceps, scissors
PP IUD Technique

- Ring Forceps
  Graves speculum, Betadine, 4x4s or cotton swabs, long curved ring forceps (kelly placenta forceps), scissors
Postpartum IUD Insertion

- SPIRES
  https://www.youtube.com/watch?v=uMcTsu8XxO
- Mama U
  https://www.youtube.com/watch?v=-xNIKU15v_o
LNG IUD & Breastfeeding

- No difference between interval v. immediate postplacental insertion (RCT)
  - Lactogenesis
  - Breastfeeding rates at 8 weeks
  - Not clear difference in breastfeeding rates at 6 months

Source: Sothornwit et al. Cochrane Syst Rev 2017, Turok DK et al. AJOG 2017
Postpartum Implants

Advantages

• Patient motivation
• Not pregnant!
• No additional visits
• Negligible time for insertion
• Potential side effects in post-insertion period masked by postpartum status
• Public health value of provision (v. cost of expulsion)
• Same insertion technique
Postpartum Implants

Disadvantages/Barriers

• Time
• Lactation?
• Financial issues (Insurance)
Postpartum Implants

- Anytime during hospital stay
- Technique identical to interval insertion
- Associated with significantly lower rates of rapid repeat pregnancy (<1 year) in adolescents (18.6% v. 2.6%)

Source: Tocce K. *AJOG*. 2012
Postpartum Implants

• Cost effective analysis (PP v. interval)
• Analysis most sensitive to:
  – Probability of interval implant insertion
  – Pregnancy rate at 1 year (2.4 v 21.6%)
• Prevents 191 unintended pregnancies per 1000 women
• Immediate implant insertion is cost effective, saves $1263 per patient

Source: Gariepy A. Obstet Gynecol. 2015
Implant & Breastfeeding

• No difference between interval v. immediate PP (prior to discharge)
  – Lactogenesis
  – Volume of breastmilk intake by newborns
  – Breastfeeding rates at 3/6/9/12 months (including adolescents)
  – Infant weight at 12 months

Postpartum LARC Financial Barriers

- Delivery facilities
  - Global DRG
  - "Why would we want to reduce pregnancy rates? That means fewer deliveries." - Administrator
- Providers
- Other staff

Source: Personal communication, Moniz et al. Contraception 2015
Postpartum LARC Financial Barriers

- Medicaid reimbursement
  - Separate or increased bundled payment
- Commercial insurance
  - Pharmacy benefit
  - Device sent to office

Source: Moniz et al. *Contraception* 2015
ACOG Says...

“All women should have unhindered and affordable access to all U.S. Food and Drug Administration-approved contraceptives.”

Committee Opinion #615

Source: ACOG. Committee Opinion 615. Obstet Gynecol. 2015
ACOG Says...

“When choosing contraceptive methods, adolescents should be encouraged to consider LARC methods.”

Committee Opinion #539

“Encourage consideration of implants and IUDs for all appropriate candidates, including nulliparous women and adolescents.”

Committee Opinion #642

"The immediate postpartum period is a particularly favorable time for IUD or implant insertion. Women who have recently given birth are often highly motivated to use contraception, they are known not to be pregnant, and the hospital setting offers convenience for both the patient and the health care provider."

Practice Bulletin #121

Sources: ACOG. Practice Bulletin 121
“Opposition to any limitations on access to essential services, such as.... family planning.”

Position Statement on Adolescent Health Care

Source: ACNM. Position Statement on Adolescent Health Care.
MMA Says...

“Recognizes that LARC are safe and highly effective... use in the immediate pospartum setting has the potential to provide cost savings and decrease the incidence of adverse maternal and child health outcomes. The MMA urges MN payers, particularly Medical Assistance/MinnesotaCare, to implement or revise those policies that bundle payments for delivery with payment for LARC to optimize the use of LARCs in the inpatient postpartum setting.”

MMA Policy Recommendation

“Although many women plan to access a contraceptive method at their postpartum visit, research indicates that up to 40 percent do not attend their follow-up appointment and, therefore, never receive contraception. LARCs are safe and effective options for contraception for many women. These products include Intrauterine Devices (IUD) and hormonal implants. LARC methods can prevent unintended pregnancy for 3-to-10 years, depending on the product selected. These methods can reduce the risk of preterm birth, low birth weight, and perinatal death.”

Patient G.

A 28 yo G5P4004 at 39+3 presents in active labor.

Adamant on admission that she desires tubal ligation prior to discharge; did not receive desired tubal after 4th delivery secondary to PPH.

Uncomplicated SVD this admission, however L&D too busy with emergent cases to accommodate tubal ligation prior to discharge.
Patient G.

Uncomplicated SVD at 39+3 weeks (in SC!)

Postpartum etonogestrel contraceptive implant insertion on day of discharge

Plans to discuss interval tubal sterilization discussion at postpartum visit
Patient M.

A 17 yo G1P0 at 34 weeks, at routine obstetric visit, provider discusses postpartum contraceptive plans.

High school senior, lives with partner and child, had been using condoms inconsistently for contraception.

Interested in non-hormonal, long-acting method.
Patient M.

Uncomplicated SVD at 40+5 weeks (in CO!)

Immediate postpartum copper IUD insertion with ring forceps and ultrasound guidance

Quick visit at 2 weeks postpartum for string trim
Summary

- Safe, patient-centered
- Higher IUD expulsion rates (SVD > C/S)
- Cost-effective, especially in at-risk populations
- Insurance coverage needed for Minnesotans!
Questions?
ACOG Resources

- Medicaid reimbursement by state
- ASTHO LARC learning community links
- SC Postpartum LARC Toolkit
- IUDs and Implants Guide to Reimbursement
- http://www.astho.org/Post-placental-IUD-protocol-CO/
Other Resources

- ASTHO
- Protocols http://www.astho.org/Post-placental-IUD-protocol-CO/